Village Farms Davis Project

SCH# 2023110006

Draft Environmental Impact Report

Prepared for
City of Davis

January 2025

Prepared by
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Draft Environmental Impact Report

SCH# 2023110006

Lead Agency

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1. Introduction

1. INTRODUCTION

1.1 TYPE AND PURPOSE OF THE EIR

The Village Farms Davis Project Environmental Impact Report (EIR) has been prepared in accordance with the California Environmental Quality Act (CEQA) of 1970, Public Resources Code (PRC) Sections 21000-21189, as amended, and the Guidelines for Implementation of the California Environmental Quality Act, California Code of Regulations (CCR) Title 14, Sections 15000-15387 (CEQA Guidelines). The City of Davis is the lead agency for the environmental review of the Village Farms Davis Project (Proposed Project) evaluated herein and has the principal responsibility for approving the Proposed Project. As required by Section 15121 of the CEQA Guidelines, this EIR will (a) inform public agency decision-makers, and the public generally, of the significant environmental effects of the project, (b) identify possible ways to minimize the significant adverse environmental effects, and (c) describe reasonable and feasible project alternatives that reduce environmental effects. The public agency shall consider the information in the EIR along with other information that may be presented to the agency and must certify the EIR prior to taking action on the project entitlements.

As provided in the CEQA Guidelines Section 15021, public agencies are charged with the duty to avoid or minimize environmental damage where feasible. The public agency has an obligation to balance a variety of public objectives, including economic, environmental, and social issues. CEQA requires the preparation of an EIR prior to approval of any project that may have a significant effect on the environment. For the purposes of CEQA, the term *project* refers to the whole of an action, which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]). With respect to the Proposed Project, the City has determined that the proposed development is a *project* within the definition of CEQA, which has the potential for resulting in significant environmental effects.

The lead agency is required to consider the information in the EIR along with any other available information in deciding whether to approve the Proposed Project. The basic requirements for an EIR include discussions of the environmental setting, environmental impacts, mitigation measures, alternatives, growth-inducing impacts, and cumulative impacts.

The CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR has been prepared as a *project-level EIR* pursuant to CEQA Guidelines Section 15161, which is an analysis that examines the environmental impacts of a specific development project. A *project-level EIR* focuses primarily on the changes in the environment that would result from the development of the project, and examines all phases of the project, including planning, construction, and operation. The focus of the EIR, and the topics addressed herein, are described under Section 1.5, Scope of the EIR, of this chapter, below.

1.2 KNOWN RESPONSIBLE AND TRUSTEE AGENCIES

“Responsible agency” means a public agency that proposes to carry out or approve a project for which a lead agency is preparing or has prepared an EIR or Negative Declaration. For the purpose of CEQA, the term responsible agency includes all California public agencies other than the lead

agency that have discretionary approval power over the project or an aspect of the project. The Central Valley Regional Water Quality Control Board (RWQCB), Yolo-Solano Air Quality Management District (YSAQMD), Yolo Habitat Conservancy, and Yolo Local Agency Formation Commission (LAFCo) are identified as potential responsible agencies.

"Trustee agency" means a State agency having jurisdiction by law over natural resources affected by a project, which are held in trust for the people of the State of California. The only known possible trustee agency is the California Department of Fish and Wildlife (CDFW).

Although not subject to California law and, thus, outside the definitions of responsible agency or trustee agency, the U.S. Army Corps of Engineers (USACE), U.S. Fish and Wildlife Service (USFWS), and Federal Emergency Management Agency (FEMA) may also be called upon to grant approvals under federal law necessary for the development of the Proposed Project. The above agencies do not have duties under CEQA but, rather, are governed by a variety of federal statutes, such as the Clean Water Act, which governs the dredging and filling of waters of the U.S. (e.g., wetlands), and the federal Endangered Species Act, which requires USACE to consult with the USFWS as part of the review process for any wetland or fill permits that may be required.

1.3 PROPOSED PROJECT SUMMARY

A summary of the project location, description, and approvals is provided below. Please refer to Chapter 3, Project Description, of this EIR for a detailed description of the Proposed Project and entitlements, as well as a full list of the project objectives.

Project Location and Setting

The approximately 497.6-acre project site is located north of East Covell Boulevard, east of F Street, and west of Pole Line Road in a currently unincorporated portion of Yolo County, California. The project site consists of a 382.72-acre parcel identified by Assessor's Parcel Number (APN) 035-970-033, and a 114.88-acre portion of a larger 169.9-acre parcel (APN 042-110-029) located in the northwest corner of the site. With the exception of APN 042-110-029, the project site is within the City of Davis Sphere of Influence (SOI). The Yolo County General Plan designates APN 035-970-033 as Specific Plan (S-P), and the parcel is similarly zoned S-P by the County. APN 042-110-029 is designated as Agricultural and zoned as Agricultural-Intensive (A-N) by the County.

The project site consists of generally flat, agricultural land. In addition, one agricultural structure is located in the southern portion of the site. The project site is bisected by a north-to-south private access road (L Street), which also pivots to proceed in an east-to-west direction through a portion of the site. A City of Davis drainage course (Channel A) also flows east to west through the site. Additionally, a Pacific Gas and Electric Company (PG&E) easement occurs along the western and northern site boundaries.

The project site is bounded by Pole Line Road to the east; East Covell Boulevard to the south; the Union Pacific Railroad (UPRR) mainline, F Street, and Cannery development to the west; and Davis Paintball, Blue Max Kart Club, and agricultural land to the north. Other surrounding uses include single- and multi-family residences, the Nugget Fields sports center, Wildhorse Golf Club, and commercial offices to the east, across Pole Line Road; and commercial uses, single- and multi-family residences, and commercial offices to the south, across East Covell Boulevard. The Davis Paintball business is located on the City's former wastewater treatment plant (WWTP) site and the Blue Max Kart Club are located at the site of a former landfill, the Old Davis Landfill.

Proposed Project Description

In general, the Proposed Project would consist of a mixed-use development community, including a total of 1,800 dwelling units, comprised of both affordable and market-rate single- and multi-family residences, across various residential neighborhoods. In addition, the Proposed Project would include neighborhood services; public, semi-public, and educational uses; associated on-site roadway improvements; utility improvements; parks, open space, and greenbelts; and off-site improvements.

Primary site access would be provided from Pole Line Road and East Covell Boulevard. In addition, from Pole Line Road, the following roads would be extended into the site in an east-to-west direction: Moore Boulevard, Donner Avenue, and Picasso Avenue. An additional entrance from Pole Line Road would be constructed in the northeast portion of the site, providing access to a new street that would extend westward through the proposed East Village. Overall, the proposed internal streets would connect to form a semi-grid pattern within the project site. In addition, the applicant is proposing to construct new intersection improvements along Pole Line Road and a new traffic signal at the intersection of East Covell Boulevard and L Street. If determined feasible, the Proposed Project would also include a pedestrian/bicycle crossing through an undercrossing near the Pole Line Road/Moore Boulevard intersection.

The Proposed Project would require discretionary approvals, including an SOI Amendment, Annexation, General Plan Amendment, Pre-Zoning, and Development Agreement. The project would also include a Baseline Project Features agreement into which the developer would enter and be bound by to ensure inclusion of the agreed-to project features. The SOI Amendment and Annexation are ultimately subject to approval by the Yolo LAFCo. The City of Davis would be responsible for approving a resolution authorizing the project applicant to submit an SOI Amendment and Annexation application to Yolo LAFCo.

The details of the Proposed Project, including required approvals, are described in further detail in Chapter 3, Project Description, of this EIR.

1.4 BIOLOGICAL RESOURCES PRESERVATION ALTERNATIVE SUMMARY

This EIR also evaluates the potential physical environmental impacts associated with the Biological Resources Preservation Alternative (BRPA). The EIR evaluates the BRPA at a level equal to that of the Proposed Project. The BRPA would consist of a mixed-use development community on the same 497.6-acre project site. Similar to the Proposed Project, the BRPA would include a total of 1,800 dwelling units, comprised of both affordable and market-rate single- and multi-family residences across various residential neighborhoods. However, the BRPA would preserve a 47.1-acre Natural Habitat Area comprised of the Alkali Prairie Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) land cover that occurs south of Channel A. In addition, the BRPA would include the development of neighborhood services; public, semi-public, and educational uses; associated on-site roadway improvements; utility improvements; parks, open space, and greenbelts; and off-site improvements.

The BRPA would require the same discretionary approvals from the City as the Proposed Project (SOI Amendment, Annexation, General Plan Amendment, Pre-zoning, Development Agreement, and Baseline Project Features agreement). The details of the BRPA, including required approvals, are described in further detail in Chapter 3, Project Description, of this EIR.

1.5 EIR PROCESS

The EIR process begins with the decision by the lead agency to prepare an EIR, either during a preliminary review of a project or at the conclusion of an Initial Study. Once the decision is made to prepare an EIR, the lead agency sends a Notice of Preparation (NOP) to appropriate government agencies and, when required, to the State Clearinghouse (SCH) in the Office of Land Use and Climate Innovation (LCI), which will ensure that responsible and trustee State agencies reply within the required time. Please see Section 1.8 regarding the NOP process for the Proposed Project. The SCH assigns an identification number to the project, which then becomes the identification number for all subsequent environmental documents on the project. Commenting agencies have 30 days to respond to the NOP and provide information regarding alternatives and mitigation measures they wish to have explored in the Draft EIR and to provide notification regarding whether the agency will be a responsible agency or a trustee agency for the project.

As soon as the Draft EIR is completed, a Notice of Completion will be filed with the SCH and a public notice of availability will be published to inform interested parties that a Draft EIR is available for agency and public review. In addition, the notice provides information regarding the location of copies of the Draft EIR available for public review and any public meetings or hearings that are scheduled. The Draft EIR is circulated for a period of 45 days, during which time reviewers may submit comments on the document to the lead agency. The lead agency must respond to comments in writing. If significant new information, as defined in CEQA Guidelines Section 15088.5, is added to an EIR after public notice of availability is given but before certification of the EIR, the revised EIR or affected chapters must be recirculated for an additional public review period with related comments and responses.

A Final EIR will be prepared, containing comments and responses to comments on the Draft EIR. The Final EIR will also include any changes to the Draft EIR text made as a result of public comment, as warranted. The Final EIR will also include the Mitigation Monitoring Program (MMP) prepared in accordance with PRC Section 21081.6. Before approving a project, the lead agency must certify that the Final EIR has been presented to the decision-making body of the lead agency, which has reviewed and considered the EIR. The lead agency shall also certify that the Final EIR reflects the lead agency's independent judgment and analysis.

Pursuant to CCR Title 14, Section 15091, a public agency shall not approve or carry out a project for which an EIR has been certified which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding. The findings prepared by the lead agency must be based on substantial evidence in the administrative record and must include an explanation that bridges the gap between evidence in the record and the conclusions required by CEQA. If the decision-making body elects to proceed with a project that would have unavoidable significant impacts, then a Statement of Overriding Considerations explaining the decision to balance the benefits of the project against unavoidable environmental impacts must be prepared.

1.6 SCOPE OF THE EIR

An Initial Study has not been prepared for the Proposed Project or BRPA, as the EIR addresses all CEQA-required environmental topics identified in the CEQA Guidelines. The following environmental issue areas are addressed in the EIR:

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

In addition to the foregoing resource areas, Chapter 5, Effects Not Found to be Significant, has been prepared to present information regarding resource areas that do not have the potential to be affected by the Proposed Project or BRPA.

The evaluation of effects is presented on a resource-by-resource basis in Chapters 4.1 through 4.15 of the EIR. Each chapter is divided into the following four sections: Introduction, Existing Environmental Setting, Regulatory Context, and Impacts and Mitigation Measures. Impacts that are determined to be significant in Chapters 4.1 through 4.15, and for which feasible mitigation measures are not available to reduce those impacts to a less-than-significant level, are identified as *significant and unavoidable*. Chapter 5 of the EIR presents a discussion of the environmental effects not found to be significant. Chapter 6 of the EIR presents a discussion of growth-inducing impacts, summary of cumulative impacts, and significant irreversible environmental changes associated with the project. Alternatives to the Proposed Project are discussed in Chapter 7 of the EIR, with the exception of the BRPA, which is analyzed throughout Chapters 4.1 through 4.15 at a level equal to that of the Proposed Project.

1.7 DEFINITION OF BASELINE

According to CEQA Guidelines Section 15125, an EIR must include a description of the existing physical environmental conditions in the vicinity of the project to provide the "baseline physical conditions" against which project-related changes can be compared. In addition, CEQA Guidelines Section 15126.2(a) states that an EIR shall identify and focus on the significant environmental effects of the Proposed Project. The CEQA Guidelines Section 15126.2(a) states:

> An EIR shall identify and focus on the significant effects of the proposed project on the environment. In assessing the impact of a proposed project on the environment, the Lead Agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published, or where no notice of preparation is published, at the time environmental analysis is commenced.

Normally, the baseline condition is the physical condition that exists when the NOP is published. The NOP for the Proposed Project was published on October 24, 2023. Therefore, conditions existing at that time are considered to be the baseline against which changes that would result from the Proposed Project or BRPA are evaluated. Impacts could include both direct and indirect

physical changes to the baseline condition. The baseline condition for the project site/BRPA site is described in Chapter 3, Project Description, of this EIR. The baseline conditions pertaining to each resource area are described in the "Existing Environmental Setting" sections throughout this EIR.

1.8 NOTICE OF PREPARATION AND SCOPING

In accordance with CEQA Guidelines Section 15082, an NOP was circulated to the public, local, State and federal agencies, and other known interested parties in excess of the 30-day-minimum public and agency review period from October 24, 2023 to December 8, 2023 for a total of 45 days (see Appendix A of this EIR). The purpose of the NOP was to provide notification that an EIR for the Proposed Project was being prepared and to solicit public input on the scope and content of the document.

In addition, the City of Davis held an NOP scoping meeting for the EIR during the NOP review period on November 29, 2023, for the purpose of receiving comments on the scope of the environmental analysis to be prepared for the Proposed Project. Agencies and members of the public were invited to attend and provide input on the scope of the EIR. All comments were taken into consideration during the preparation of this EIR. A summary of the NOP comments received, including the verbal comments received at the NOP scoping meeting, is provided in Section 1.9 below.

1.9 SUMMARY OF COMMENTS RECEIVED ON THE NOP

During the NOP public review period from October 24, 2023 to December 8, 2023, the City of Davis received 74 comment letters. Two additional letters were received after the close of the public review period, for a total of 76 comment letters. In addition, 11 written comment cards were received at the public scoping meeting held on November 29, 2023. A copy of each letter is provided in Appendix B of this EIR. The comment letters and verbal comments received were issued by the following representatives of public agencies and groups, as well as individual members of the general public:

Public Agencies

- California Department of Conservation – Monique Wilber;
- California Department of Transportation (Caltrans) – Gary Arnold;
- CDFW – Tanya Sheya;
- Central Valley RWQCB – Peter Minkel;
- Davis Joint Unified School District (DJUSD) – Bruce Colby;
- Native American Heritage Commission (NAHC) – Pricilla Torres-Fuentes;
- Yolo County Department of Community Services – Leslie Lindbo;
- Yolo County Environmental Health Division – Suzie Dawley;
- Yolo Habitat Conservancy – Charlie Tschudin;
- Yolo LAFCo – Christine Crawford; and
- Yolo Transportation District – Brian Abbanat.

Groups

- Davis Community Action Network – Judy Ennis;
- North Davis Land Company LLC – Lydia Delis-Schlosser;
- R&B Delta – Marissa C. Fuentes, Taylor and Wiley; and
- Sierra Club Yolano Group.

Residents

- Adriana and Frank Khan;
- Alan Pryor;
- Alex Achimore (2);
- Alexa Bach-McElrone;
- Ann Privateer;
- Anne Myler;
- Ari Halberstadt;
- Betty Masuoka;
- BJ Klosterman;
- Callie Garritson;
- Carol Hillhouse;
- Carroll Cook;
- Charles Pickett;
- David J. Thompson;
- Dolores Blake;
- Eileen M. Samitz (2);
- Fei Li;
- George A. Barnett;
- George Heubeck;
- Georgina Valencia;
- Ginga Zeidenberg Strozyk and Kinuko Yoshida;
- Glen;
- Glen Holstein;
- Greg Rowe (3);
- James Flanigan;
- Jean Jackman;
- John Johnston;
- John Zeller;
- Judith Blum;
- Kees Hood;
- Keirsten Taillon;
- Kenneth LaGrone;
- Larry Strozyk;
- Laura Eisen;
- Margo Surovik Bohnert;
- Mike Lehner (3);
- Mohammad Sadoghi;
- Nancy Price;
- Norb Kumagai;
- Pam Heffley;
- Rena Nayyar (2);
- Richard McCann;
- Robert J. Coolbrith and Elizabeth Coolbrith;
- Ron Oertel;
- Sara Zeidenberg;
- Sherrill Futrell (2);

- Susan Rainier;
- Tim Keller;
- Tom & Sandy Jones;
- Vern Goehring; and
- Zachary Horton.

Scoping Meeting Written Comments

- Ashutosh Srivastava;
- Cai Thorman;
- Dave Bakay;
- Elizabeth Reay;
- Ellen Kolarik;
- Greg Rowe;
- Judith Feldman;
- Konshau Williams Duman;
- Peter Holman;
- Stephen Wheeler; and
- Susan Rainer.

Letters Received After the Public Comment Period

- Alex Achimore; and
- Eileen M. Samitz.

The following list, categorized by issue, summarizes the environmental concerns brought forth in the comment letters received on the scope of the EIR. Comments outside of the purview of CEQA or that are speculative in nature have not been included, as, according to Section 15145 of CEQA Guidelines, CEQA does not require evaluation of speculative impacts.

Aesthetics (Chapter 4.1)	Concerns related to: • Adverse aesthetic impacts of working and living near parking lots. • The Proposed Project's visual character and consistency with City standards. • Permanent loss of views from La Buena Vida residences of existing fields and sunsets.
Agricultural Resources (Chapter 4.2)	Concerns related to: • Permanent conversion of agricultural land and the need to preserve such land. • Use of the off-site area as agricultural mitigation. • Increasing the agricultural buffer from the minimum. • Compliance with the County's Right-to-Farm Ordinance. • Water retention basins qualifying as agricultural mitigation. • Preservation of the land north of Channel A as agricultural mitigation and open space. • Impacts to open space at the north end of the Cannery designated as Urban Agricultural Transition Area (UATA).

Air Quality, Greenhouse Gas Emissions, and Energy (Chapter 4.3)	Concerns related to: • Conducting a health risk assessment (HRA) at busy intersections to evaluate health risks associated with air pollutants. • How the project and alternatives advance or inhibit the City's ability to achieve its climate goals as documented in the City's Climate Action and Adaptation Plan (CAAP). • Air quality impacts on children and seniors living in proximity to the project site. • Air quality impacts associated with an increased number of vehicle trips. • Construction stirring up dust and soil, requiring site preparation to avoid impacting surrounding areas. • Generation of significant greenhouse gas (GHG) emissions. • Inclusion of GHG reduction measures consistent with City's CAAP in a Transportation Demand Management (TDM). • Consistency with all Tier 1 requirements established by the California Green Building Standards Code (CALGreen) and all City of Davis residential and commercial Energy Reach Code standards. • Provision of a renewable energy microgrid to reduce emissions. • Support for electric vehicles (EVs), public transport charging, and bidirectional charging.
Biological Resources (Chapter 4.4)	Concerns related to: • Preservation of open space and wildlife habitat, including the on-site vernal pools in the northwest portion of the project site and other aquatic resources (e.g., streambeds). • Impacts to protected wildlife and plant species. • Environmental evaluation should be performed with the Yolo Regional Resource Conservation Investment Strategy/Land Conservation Plan (RCIS/LCP) and Yolo HCP/NCCP in mind. • Unique alkali soil-type vernal pools that provide suitable habitat for many special-status plant and wildlife species. • The amount of natural habitat incorporated into the development. • Wetland delineation should take historical photos and previous EIRs (including the 2004 Covell Village Project EIR) into consideration. • Trees should be preserved in the southern portion of the site, along Channel A, and along the railroad tracks to the west.
Cultural and Tribal Cultural Resources (Chapter 4.5)	Concerns related to: • Tribal consultation should be conducted. • Notification and consultation should be sent to the Yoche Dehe Wintun Nation and other tribal groups. • A hand-made gravestone/memorial with cross inset and plaque is located under the oldest oak in the southern portion of the site, indicating a potential grave.
Hazards and Hazardous Materials (Chapter 4.7)	Concerns related to: • Potential contamination impacts associated with the adjacent landfill site and associated wells located northeast of the project site. • Waste cell boundaries may need to be delineated to determine gas monitoring well locations. • Existing toxins/contaminants flowing through on-site stormwater system into the wetlands east of the City of Davis.

Hazards and Hazardous Materials (Chapter 4.7)	• Compliance with any applicable buffer requirements between residential areas and the former landfill and WWTP. • Contamination impacts associated with locating the proposed groundwater recapture basins in proximity to the former landfill site. • Potential effects associated with existing contaminants, if any, within the project site. • Potential effects associated with existing PG&E gas pipeline.
Hydrology and Water Quality (Chapter 4.8)	Concerns related to: • Whether a groundwater recharge basin would retain stormwater. • Regional effects of widening Channel A. • Ensuring off-site runoff does not increase. • Impacts associated with constructing in a floodplain, including contributions to flood risks in the rest of the City. • Drainage Report should include analysis of a 200-year flood event and a 100-year flood event. • Incorporation of flood zone features, such as elevated foundations. • Stormwater runoff should be captured by bioretention facilities for filtration, flood prevention, and providing groundwater recharge. • Distinguishing between off-site retention basins versus on-site flood control and drainage systems. • Location of a PG&E pipeline through the project site, and potential conflicts with proposed water recharge basins, retention basins, and/or detention basins. • Surface water versus well water for landscaping and irrigation, and surface water capacity. • Impacts associated with exclusively using surface water. • Potential impacts to the Cannery well water supply. • Ability to efficiently use water, maintain water quality, and avoid impacts to water supply. • Contaminants in stormwater and the associated impacts to people, wildlife, and groundwater. • Impacts to the drainage canal at the boundary of the Cannery. • Impacts to the quality of surface and groundwater.
Land Use and Planning (Chapter 4.9)	Concerns related to: • Consistency with Davis General Plan policies associated with the environment.
Noise (Chapter 4.10)	Concerns related to: • Construction causing noise pollution for existing neighborhoods. • Noise levels associated with increased traffic on Pole Line Road.
Public Services and Recreation (Chapter 4.12)	Concerns related to: • Potential impacts on student enrollment in district public schools, and the resultant need to construct a new elementary school. • Emergency response times outside the five-minute response goal due to increased population associated with the Proposed Project.
Transportation (Chapter 4.13)	Concerns related to: • Cyclist/pedestrian safety hazards due to traffic increases. • Impacts on safe routes to schools. • Potential restoration of bus lines and relationship to the Proposed Project. • Impacts related to traffic safety and vehicle miles traveled (VMT). • Traffic increases on County roads within the vicinity of the site. • Compliance with City roadway standards.

Transportation (Chapter 4.13)	• Transportation mitigation should minimize walking distance to public transit. • Preparation of a TDM plan consistent with City's CAAP. • Bicycle facilities and infrastructure, including accessible sidewalks, throughout the project site. • Traffic impacts associated with the proposed roundabouts. • Right-of-way issues and potential limitations associated with the widening of East Covell Boulevard and Pole Line Road. • Accurate assessment of VMT. • Cumulative traffic impacts associated with planned commercial development at the south end of the Cannery at East Covell Boulevard.
Utilities and Service Systems (Chapter 4.14)	Concerns related to: • Potential impacts to the City's water supply. • Potential impacts to the City's wastewater treatment capacity. • The nature, timing, and funding of utilities. • Adequate infrastructure to support the proposed housing units.
Alternatives Analysis (Chapter 7)	Concerns related to: • Consideration of alternatives that preserve the vernal pool area and wildlife habitat south of Channel A, including reduced acreage alternatives. • Consideration of alternative locations and zoning densities, including an alternative replacing low-density housing areas with medium- and high-density to avoid wildlife habitat areas. • Consideration of alternatives that would emphasize alternative transportation modes. • Consideration of alternatives related to energy use and renewable energy sources. • Consideration of modified alternatives from the 2004 Covell Village Project EIR. • Including drainage system options in each of the project alternatives. • The majority of the alternatives not constituting lesser impacts. • 1,800 units on 135 acres being an infeasible alternative given the relative lack of open space involved. • Consideration of an alternative dividing the Proposed Project into two projects. • Consideration of an alternative to replace the proposed fire station with an EMT station.

All of the above issues are addressed in this EIR, in the relevant sections identified in the first column.

1.10 DRAFT EIR AND PUBLIC REVIEW

This Draft EIR is being circulated for public review and comment for a period of 45 days. During this period, the general public, organizations, and agencies can submit comments to the Lead Agency on the Draft EIR's accuracy and completeness. Release of the Draft EIR marks the beginning of a 45-day public review period pursuant to CEQA Guidelines Section 15105. The public can review the Draft EIR through the City's website at:

https://www.cityofdavis.org/city-hall/community-development/development-projects/village-farms-davis

or at the following address during normal business hours:

City of Davis
Department of Community Development
23 Russell Blvd, Suite 2
Davis, CA 95616

All comments or questions regarding the Draft EIR should be submitted in written form and addressed to:

Dara Dungworth, Principal Planner
City of Davis, Department of Community Development
(530) 757-5610
ddungworth@cityofdavis.org

1.11 ORGANIZATION OF THE DRAFT EIR

The EIR is organized into the following sections:

Chapter 1 – Introduction

Provides an introduction and overview describing the intended use of the EIR and the review and certification process, as well as summaries of the chapters included in the EIR and summaries of the issues and concerns received from the public and public agencies during the NOP review period.

Chapter 2 – Executive Summary

Summarizes the elements of the project and the environmental impacts that would result from implementation of the Proposed Project and BRPA, describes proposed mitigation measures and indicates the level of significance of impacts after mitigation. In addition, the Executive Summary chapter includes a summary of the alternatives to the Proposed Project and BRPA, and areas of known controversy.

Chapter 3 – Project Description

Provides a detailed description of the Proposed Project and BRPA, including the location, background information, major objectives, and technical characteristics of the Proposed Project and BRPA.

Chapter 4 – Existing Environmental Setting, Impacts, and Mitigation

Contains a project-level and cumulative analysis of environmental issue areas associated with the Proposed Project and the BRPA. The section for each environmental issue contains an introduction and description of the setting of the project site/BRPA site, identifies impacts for both the Proposed Project and BRPA, and recommends appropriate mitigation measures.

Chapter 5 – Effects Not Found to be Significant

The Effects Not Found to be Significant chapter of the EIR addresses the project's effects that were determined not to be significant for the Proposed Project and BRPA. CEQA Guidelines Section 15128 requires a brief discussion explaining why these effects were not found to be significant.

Chapter 6 – Statutorily Required Sections

The Statutorily Required Sections chapter of the EIR provides discussions required by CEQA regarding impacts that would result from the Proposed Project and BRPA, including a summary of cumulative impacts, potential growth-inducing impacts, significant and unavoidable impacts, and significant irreversible changes to the environment.

Chapter 7 – Alternatives Analysis

The Alternatives Analysis chapter of the EIR describes and evaluates a reasonable range of alternatives to the Proposed Project. The alternatives are analyzed at a level of detail less than that of the Proposed Project; however, the analyses include sufficient detail to allow for a meaningful comparison of impacts. The exception is the BRPA, which is evaluated throughout the Draft EIR in Chapters 4.1 through 4.15 instead of in the Alternatives Analysis chapter of the Draft EIR.

Chapter 8 –EIR Authors and Persons Consulted

The EIR Authors and Persons Consulted chapter of the EIR lists EIR and technical report authors who provided technical assistance in the preparation and review of the EIR.

Chapter 9 – References

The References chapter of the EIR provides bibliographic information for all references and resources cited.

Appendices

The Appendices include the NOP, comments received during the NOP comment period, and technical reports prepared for the Proposed Project and BRPA.

2. Executive Summary

2. EXECUTIVE SUMMARY

2.1 INTRODUCTION

The Executive Summary chapter of the EIR provides an overview of the proposed project and the equal-weight Biological Resources Preservation Alternative (BRPA) (see Chapter 3, Project Description, for further details) and provides a table summary of the conclusions of the environmental analysis provided in Chapters 4.1 through 4.15. This chapter also summarizes the alternatives to the proposed project that are described in Chapter 7, Alternatives Analysis, and identifies the Environmentally Superior Alternative. Table 2-1 contains the environmental impacts associated with the proposed project, the significance of the impacts, the proposed mitigation measures for the impacts, and the significance of the impacts after implementation of the mitigation measures.

2.2 SUMMARY DESCRIPTION OF THE PROPOSED PROJECT AND BRPA

The approximately 497.6-acre project site/BRPA site is located north of East Covell Boulevard, east of F Street, and west of Pole Line Road in a currently unincorporated portion of Yolo County, California. The project site/BRPA site consists of a 382.72-acre parcel identified by Assessor's Parcel Number (APN) 035-970-033, and a 114.88-acre portion of a larger 169.9-acre parcel (APN 042-110-029) located in the northwest corner of the site. With the exception of APN 042-110-029, the project site is within the City of Davis Sphere of Influence (SOI).

The Yolo County General Plan designates APN 035-970-033 as Specific Plan (SP), and the parcel is similarly zoned S-P by the County. APN 042-110-029 is designated Agricultural (AG) and zoned Agricultural Intensive (A-N) by the County.

The project site/BRPA site consists of generally flat, agricultural land. In addition, one agricultural structures is located in the southern portion of the site. The project/BRPA site is bisected by a north-to-south private access road ("L Street"), which also pivots to proceed in an east-to-west direction through a portion of the site. A City of Davis drainage course ("Channel A") also flows east to west through the site. Additionally, a Pacific Gas and Electric Co. (PG&E) easement occurs along the western and northern site boundaries.

The project/BRPA site is bounded by Pole Line Road to the east; East Covell Boulevard to the south; the Union Pacific Railroad (UPRR) mainline, F Street, and Cannery development to the west; and Davis Paintball, Blue Max Kart Club, and agricultural land to the north. Other surrounding uses include single- and multi-family residences, the Nugget Fields sports center, Wildhorse Golf Club, and commercial offices to the east, across Pole Line Road; and commercial uses, single- and multi-family residences, and commercial offices to the south, across East Covell Boulevard. It should be noted that the Davis Paintball business is located on the City's former wastewater treatment plant (WWTP) site and the Blue Max Kart Club is located at the site of a former landfill, the Old Davis Landfill.

Proposed Project

The Proposed Project would consist of a mixed-use development community, including a total of 1,800 dwelling units, comprised of both affordable and market-rate single- and multi-family residences across various residential neighborhoods. Various associated improvements would be included in the development of the proposed project, including, but not limited to parks, trails, landscaping, and utility installation. In addition, the Proposed Project would include neighborhood services; public, semi-public, and educational uses; associated on-site roadway improvements; utility improvements; parks, open space, and greenbelts; and off-site improvements. Public, semi-public, and educational uses would include a fire station, a Davis Joint Unified School District (DJUSD) Pre-kindergarten (Pre-K) Early Learning Center, an Educational Farm, and City stormwater conveyance.

Primary site access would be provided from Pole Line Road and East Covell Boulevard. The proposed internal streets would connect to form a semi-grid pattern within the project site. The Proposed Project would include a multimodal network of bikeways, sidewalks, and transit stops including include Class I, II, and III bikeways; new grade-separated pedestrian/bicycle crossings; six-foot-wide sidewalks; and installation of a new bus stop at the East Covell Boulevard/L Street intersection. The Proposed Project would include various off-site improvements, including, but not necessarily limited to, new intersection improvements along Pole Line Road and a new traffic signal at the intersection of East Covell Boulevard and L Street. Additionally, if feasible, one pedestrian/bicycle crossing would be provided through an undercrossing near the Pole Line Road/Moore Boulevard intersection. The Pole Line Road undercrossing would land in the vicinity of the Nugget Fields parking lot. The Proposed Project also provides an opportunity to explore a grade-separated crossing at F Street.

The Proposed Project would require City of Davis approval of the following entitlements:

- Certification and Adoption of the EIR and Mitigation Monitoring Plan
- SOI Amendment;
- Annexation
- General Plan Amendment;
- Pre-zoning; and
- Development Agreement.

The Proposed Project would also include a Baseline Project Features agreement into which the developer would enter and be bound by to ensure inclusion of the agreed-to project features and upon which a future ballot measure would be based.

In addition to the above City approvals, the Proposed Project would also require the following approval by the Yolo Local Agency Formation Commission (LAFCo), as a Responsible Agency:

- Combined Municipal Service Review (MSR) and SOI Amendment in order to bring the 114.88-acre portion of APN 042-110-029 within the City of Davis SOI (Government Code Section 56428).
- Annexation of the entire 497.6-acre project site into the City of Davis (Government Code Section 56737).

Please refer to Chapter 3, Project Description, of this EIR for a detailed description of the Proposed Project and entitlements, as well as a full list of the project objectives.

Biological Resources Preservation Alternative

The BRPA would be similar to the Proposed Project for the majority of project components, with the exception of a preserved Natural Habitat Area, comprised of 47.1 acres of Alkali Prairie Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) land cover that occurs around an alkali playa south of Channel A. The areas within the BRPA site outside of the preserved Natural Habitat Area would be similar to the Proposed Project, and would consist of a mixed-use development community that includes a total of 1,800 dwelling units, comprised of both affordable and market-rate single- and multi-family residences across various residential neighborhoods. In addition, the BRPA would include the development of neighborhood services; public, semi-public, and educational uses; associated on-site roadway improvements; utility improvements; parks, open space, and greenbelts; and off-site improvements. The BRPA would include a total of 254.0 acres designated for residential uses and a total of 288.1 acres designated for non-residential uses. Similar to the Proposed Project, the BRPA would require City approval of an SOI Amendment, Annexation, General Plan Amendment, Pre-zoning, and Development Agreement. Please refer to Chapter 3, Project Description, of this EIR for a detailed description of the BRPA.

2.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Under CEQA, a significant effect on the environment is defined as a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, mineral, flora, fauna, ambient noise, and objects of historic or aesthetic significance. Mitigation measures must be implemented as part of the Proposed Project to reduce potential adverse impacts to a less-than-significant level. Such mitigation measures are noted in this EIR and are found in the following technical chapters: Aesthetics; Agricultural Resources; Air Quality, Greenhouse Gas Emissions, and Energy; Biological Resources; Cultural and Tribal Cultural Resources; Geology and Soils; Hazards and Hazardous Materials; Hydrology and Water Quality; Transportation; Utilities and Service Systems; and Wildfire. The mitigation measures required for the Proposed Project, as presented in this EIR, will form the basis of the Mitigation Monitoring Plan. Any impact that remains significant after implementation of mitigation measures is considered a significant and unavoidable impact.

A summary of the Proposed Project impacts are identified for each technical chapter (Chapters 4.1 through 4.15) of the EIR is presented in Table 2-1 at the end of this chapter. In addition, Table 2-1 includes the level of significance of each impact, any mitigation measures required for each impact, and the resulting level of significance after implementation of mitigation measures for each impact.

2.4 SUMMARY OF PROJECT ALTERNATIVES

The following section presents a summary of the alternatives evaluated in this EIR for the Proposed Project, which include the following:

- No Project (No Build) Alternative;
- Lower Number of Units – Same Footprint Alternative;
- Agricultural Resource Preservation Alternative;
- Higher Number of Units – Same Footprint Alternative; and
- Off-Site Project Alternative.

The following summary provides brief descriptions of the three alternatives to the Proposed Project that are evaluated in this EIR. For a more thorough discussion of project alternatives, please refer to Chapter 7, Alternatives Analysis.

No Project (No Build) Alternative

The No Project (No Build) Alternative assumes that the project site would remain in its current condition and would not be developed. As described in this EIR, the project site generally consists of flat, agricultural land, with an alkali playa located south of Channel A. The No Project (No Build) Alternative would not meet any of the project objectives. Because changes would not occur to the project site/BRPA site under the No Project (No Build) Alternative, impacts would not occur related to any issue areas, and mitigation would not be required.

Lower Number of Units – Same Footprint Alternative

The Lower Number of Units – Same Footprint Alternative, would consist of the development of 1,395 dwelling units, including 210 affordable housing units, on the same development footprint as the Proposed Project and BRPA, consistent with the applicant's original application for the Proposed Project. This represents 405 fewer units than currently proposed. In response to early feedback from the Davis City Council, the number of units was increased to a total of 1,800, which now represents the Proposed Project evaluated throughout the Draft EIR. Similar to the Proposed Project, the Lower Number of Units – Same Footprint Alternative would include the development of neighborhood services; public, semi-public, and educational uses; associated on-site roadway improvements; utility improvements; parks, open space, and greenbelts; and off-site improvements. Because the Lower Number of Units – Same Footprint Alternative would include development of the project site/BRPA site with the same proposed uses, all of the project objectives would be met. However, because the Alternative would result in the development of fewer residential units, fewer affordable housing units would be provided, vehicle miles traveled (VMT) per capita would be increased, and a reduced amount of property tax revenue would be generated project Objectives 1, 2, and 7 would be met to a lesser degree than under the Proposed Project. The significant impacts that would be reduced under the Alternative are as follows:

- Be located on a geological 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, or be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code, creating substantial risks to life or property;
- Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure) (remains significant and unavoidable);
- Cumulative unplanned population growth (remains significant and unavoidable);
- Conflict with a program, plan, ordinance, or policy addressing the circulation system, including pedestrian and bicycle facilities;
- Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit facilities and services (remains significant and unavoidable);
- Conflict with a program, plan, ordinance, or policy addressing the circulation system, including pedestrian and bicycle facilities, associated with cumulative development of the Proposed Project or the BRPA in combination with future buildout of the City of Davis; and
- Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit facilities and services, associated with cumulative development of the

Proposed Project or the BRPA in combination with future buildout of the City of Davis (remains significant and unavoidable).

Though the abovementioned significant and unavoidable impacts would be reduced under the Lower Number of Units – Same Footprint Alternative, the impacts would remain significant and unavoidable. Overall, all other impacts would be similar under the Lower Number of Units – Same Footprint Alternative as compared to the Proposed Project, including the other identified significant and unavoidable impacts. Because residential density would decrease under the Lower Number of Units – Same Footprint Alternative, the significant and unavoidable impacts related to VMT would increase in severity.

Agricultural Resource Preservation Alternative

Similar to the buildout of the Proposed Project, under the Agricultural Resource Preservation Alternative, the same land uses would occur, but on a reduced development footprint that would avoid, to the extent feasible, conversion of on-site high-quality agricultural land with non-agricultural uses. Unlike the Proposed Project, the Agricultural Resource Preservation Alternative would not include buildout of the approximately 20.3-acre Heritage Oak Park and Educational Farm and would not include the development of the 470 RMD units within the Central Village and Parkside Village East. As such, the Agricultural Resource Preservation Alternative would include the development of a total of 1,330 residential units, 470 fewer than the Proposed Project and the BRPA, for a residential density of 8.53 dwelling units per acre (du/ac) (net). Pursuant to the California Department of Conservation Important Farmland Finder, the project site/BRPA site contains approximately 319.7 acres of Prime Farmland, 9.2 acres of Farmland of Statewide Importance, and 117.7 acres of Unique Farmland. The Agricultural Resource Preservation Alternative would alter the site plan to avoid approximately 102 acres on-site agricultural land designated Prime Farmland. The Alternative would satisfy Objective 6 to a greater extent than the Proposed Project. However, because the Agricultural Resource Preservation Alternative would include the development of fewer residential uses than the Proposed Project, the Alternative would not satisfy Objectives 1, 3, and 7 to the same extent as the Proposed Project. The significant impacts that would be reduced under the Alternative are as follows:

- Have a substantial adverse effect on a scenic vista (remains significant and unavoidable);
- Have a substantial adverse effect on a scenic vista or conflict with applicable zoning and other regulations governing scenic quality associated with development of the Proposed Project or Biological Resources Preservation Alternative in combination with future buildout of the City of Davis (remains significant and unavoidable);
- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use or agricultural land as defined in the CKH Act (Government Code Section 56064) (remains significant and unavoidable);
- Involve changes in the existing environment which, due to their location or nature, could cumulatively result in loss of Farmland to non-agricultural use (remains significant and unavoidable);
- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs during construction;
- Have a substantial adverse effect, either directly or through habitat modifications, on special-status plant species;

- Have a substantial adverse effect, either directly or through habitat modifications, on Crotch's bumble bee;
- Have a substantial adverse effect, either directly or through habitat modifications, on burrowing owl;
- Have a substantial adverse effect, either directly or through habitat modifications, on Swainson's hawk or white-tailed kite;
- Have a substantial adverse effect, either directly or through habitat modifications, on other nesting birds and raptors protected under the MBTA and CFGC;
- Have a substantial adverse effect, either directly or through habitat modifications, on special-status roosting bats;
- Have a substantial adverse effect, either directly or through habitat modifications, on American badger;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, or have a substantial adverse effect on the environment by converting oak woodlands or impacting individual trees;
- Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to CEQA Guidelines, Section 15064.5;
- Disturb any human remains, including those interred outside of dedicated cemeteries;
- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074;
- Be located on a geological 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, or be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code, creating substantial risks to life or property;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment;
- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality during construction;
- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality during operations;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: 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;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows, or in flood hazard, tsunami, or seiche zone, risk release of pollutants due to project inundation;
- Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure) (remains significant and unavoidable);
- Cumulative unplanned population growth (remains significant and unavoidable);
- Conflict with a program, plan, ordinance, or policy addressing the circulation system, including pedestrian and bicycle facilities;

- Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit facilities and services (remains significant and unavoidable);
- Conflict with a program, plan, ordinance, or policy addressing the circulation system, including pedestrian and bicycle facilities, associated with cumulative development of the Proposed Project or the BRPA in combination with future buildout of the City of Davis; and
- Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit facilities and services, associated with cumulative development of the Proposed Project or the BRPA in combination with future buildout of the City of Davis (remains significant and unavoidable).

Though the abovementioned significant and unavoidable impacts would be reduced under the Agricultural Resource Preservation Alternative, the associated mitigation measures would still be required, and the impacts would remain significant and unavoidable. Overall, the majority of other impacts would remain similar to the Proposed Project under the Agricultural Resource Preservation Alternative, including the identified other significant and unavoidable impacts. The significant and unavoidable impacts related to VMT would increase in severity under the Agricultural Resource Preservation Alternative due to reduced residential density.

Higher Number of Units – Same Footprint Alternative

Under the Higher Number of Units - Same Footprint Alternative, the same non-residential uses as the Proposed Project would be included. However, the Alternative would also include the additional development of 900 residences, for a total of 2,700 residential units. The 2,700-unit count was selected for the Alternative in order to reduce per capita VMT below both City and regional average VMT thresholds. As such, the residential density under the Alternative would increase to 13.78 du/ac, correlating to decreased impacts to Air Quality, GHG Emissions, and Transportation.

Because the Higher Number of Units – Same Footprint Alternative would include development of the project site/BRPA site with the same uses included in the Proposed Project, all project objectives would be met. Furthermore, because the Alternative would be developed at a higher density than the Proposed Project, the Higher Number of Units – Same Footprint Alternative would result in a greater reduction in VMT and would generate more property tax revenue for the City; thus, satisfying Project Objectives 1, 2, and 7 to a greater extent than the Proposed Project. The significant impacts that would be reduced under this alternative are as follows:

- Conflict with or obstruct implementation of the applicable air quality plan during project operation (remains significant and unavoidable);
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors) (remains significant and unavoidable);
- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs during construction;
- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs during operation (remains significant and unavoidable);

- Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) (significant and unavoidable eliminated); and
- Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) associated with cumulative development of the Proposed Project or the BRPA in combination with future buildout of the City of Davis (significant and unavoidable eliminated).

Though the majority of abovementioned impacts would be reduced under the Higher Number of Units – Same Footprint Alternative, the associated mitigation measures would still be required, and the impacts would remain significant and unavoidable. However, significant and unavoidable impacts related to VMT would be reduced to less than significant under the Alternative. Overall, the majority of other impacts would remain similar to the Proposed Project under the Higher Number of Units – Same Footprint Alternative, including the other identified significant and unavoidable impacts. Significant and unavoidable impacts related to population growth would be greater under the Alternative due to an increased number of residential units.

Off-Site Project Alternative

Given the relatively large size of the project site (approximately 380 acres, excluding the Urban Agricultural Transition Area), there are very limited options for consideration of the Off-Site Project Alternative. The off-site location selected for evaluation is the property evaluated for the formerly proposed Aggie Research Campus project, which is located immediately to the east of Mace Boulevard and to the north of County Road (CR) 32A, northeast of the City limits, in a currently unincorporated area of the County. The approximately 194-acre Off-Site Project Alternative site was previously evaluated as part of the Aggie Research Campus Project, which was subsequently reduced in size to 102 acres and processed as the DiSC 2022 Project. Both the Aggie Research Campus project and the DiSC 2022 project were approved by City Council but rejected by the voters.

The Off-Site Project Alternative would consist of a similar buildout of the components of the Proposed Project within the smaller Aggie Research Campus project site. Similar to the Proposed Project, the Off-Site Project Alternative would consist of a mixed-use development community, including neighborhood services; public, semi-public, and educational uses; associated on-site roadway improvements; utility improvements; parks, open space, and greenbelts; and off-site improvements. Because the Off-Site Project Alternative site is approximately 186 acres smaller than the project site/BRPA site, the Off-Site Project Alternative would include a higher residential density than the Proposed Project and would incorporate a greater number of multi-family residences and other more dense housing product types, such as townhomes. Because the Off-Site Project Alternative would include development of the same uses as the Proposed Project, the project objectives would be met. However, because the Off-Site Project Alternative site is not located as close to the center of the City of Davis as the project site/BRPA site, the Alternative would not satisfy Objective 2 to the same extent as the Proposed Project. The significant impacts that would be reduced under the Alternative are as follows:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use or agricultural land as defined in the CKH Act (Government Code Section 56064) (remains significant and unavoidable);

- Involve changes in the existing environment which, due to their location or nature, could cumulatively result in loss of Farmland to non-agricultural use (remains significant and unavoidable);
- Conflict with or obstruct implementation of the applicable air quality plan during project operation (remains significant and unavoidable);
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors) (remains significant and unavoidable);
- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs during construction;
- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs during operation (remains significant and unavoidable);
- Have a substantial adverse effect, either directly or through habitat modifications, on special-status branchiopods;
- Have a substantial adverse effect on any riparian habitat or other Sensitive Natural Community identified in local or regional plans, policies, regulations or by the CDFW or USFWS;
- Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (significant and unavoidable impact eliminated);
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, or have a substantial adverse effect on the environment by converting oak woodlands or impacting individual trees;
- Cumulative loss of habitat for special-status species (significant and unavoidable impact eliminated);
- Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines, Section 15064.5;
- Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to CEQA Guidelines, Section 15064.5;
- Disturb any human remains, including those interred outside of dedicated cemeteries;
- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074;
- Be located on a geological 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, or be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code, creating substantial risks to life or property;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment;
- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality during construction;
- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality during operations;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces,

in a manner which would: 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;

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows, or in flood hazard, tsunami, or seiche zone, risk release of pollutants due to project inundation;
- Generation of a substantial temporary 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;
- Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) (remains significant and unavoidable); and
- Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) associated with cumulative development of the Proposed Project or the BRPA in combination with future buildout of the City of Davis (remains significant and unavoidable).

Though the abovementioned significant and unavoidable impacts would be reduced under the Off-Site Project Alternative, the associated mitigation measures would still be required, and the impacts would remain significant and unavoidable. However, impacts related to wetlands, conflicts with a tree preservation policy, historic resources, unstable soil, hazardous materials, water quality, drainage patterns, and construction noise would be reduced under the Alternative, and associated mitigation measures would not be required. Overall, the majority of other impacts would remain similar to the Proposed Project under the Off-Site Project Alternative, including the other identified significant and unavoidable impacts.

Environmentally Superior Alternative

An EIR is required to identify the Environmentally Superior Alternative from among the range of reasonable alternatives that are evaluated. Section 15126(e)(2) of the CEQA Guidelines requires that an Environmentally Superior Alternative be designated and states, “If the Environmentally Superior Alternative is the ‘no project’ Alternative, the EIR shall also identify an Environmentally Superior Alternative among the other alternatives.” The No Project (No Build) Alternative would be considered the Environmentally Superior Alternative, because the project site is assumed to remain in its current condition under the Alternative. Consequently, none of the impacts resulting from the Proposed Project would occur under the Alternative. However, The No Project (No Build) Alternative would not meet any of the project objectives.

As discussed in detail in the Alternatives Analysis chapter of this EIR and presented in Table 7-1 therein, the Higher Number of Units – Same Footprint Alternative would meet all project objectives, and would satisfy Project Objectives 1, 2, and 7 to a greater extent than the Proposed Project. In addition, the Higher Number of Units – Same Footprint Alternative would result in fewer impacts than the Proposed Project related to transportation; specifically, the significant and unavoidable project impact related to conflicting or being inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) would not occur under the Alternative. The Alternative would result in similar impacts as the Proposed Project related to Aesthetics, Agricultural Resources, Biological Resources, Cultural and Tribal Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, and Hydrology and Water Quality, whereas greater impacts could occur related to Population and Housing, and fewer impacts could occur related to Air Quality, GHG Emissions, and Energy. Overall, the Higher Number of Units – Same Footprint Alternative is the

only alternative that eliminates the Proposed Project's significant and unavoidable VMT impact. Thus, Higher Number of Units – Same Footprint Alternative is considered the environmentally superior alternative.

2.5 AREAS OF CONTROVERSY

The CEQA Guidelines, Section 15123(b), require that this EIR consider areas of controversy known to the lead agency, including issues raised by agencies and the public. Areas of controversy that were identified in NOP comment letters on the Proposed Project should be considered, as well. The areas of known controversy for the Proposed Project relate to the following:

- Impacts to scenic quality;
- Increases in air quality and greenhouse gas emissions;
- Impacts to wildlife and plant habitats;
- Impacts to cultural resources;
- Impacts associated with soil erosion;
- Past or future use of hazardous materials on the project site;
- Impacts to water quality and drainage;
- Consistency with local and State policies;
- Impacts to adjacent land uses;
- Growth-inducing impacts;
- Availability of low-income housing;
- Traffic increases along surrounding roadways;
- Provision of emergency services;
- Increased utility service demand;
- Effects on evacuation patterns;
- Transport of students to schools;
- Increase in vehicle miles traveled (VMT);
- Vehicle safety hazards due to overpass or underpass construction; and
- Sufficient water supply.

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.1 Aesthetics			
4.1-1 Have a substantial adverse effect on a scenic vista.	S	*None feasible.*	SU
4.1-2 Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway.	LS	*None required.*	N/A
4.1-3 In a non-urbanized area, substantially degrade the existing visual character or quality of public views of the site and its surroundings (public views are those that are experienced from a publicly accessible vantage point) or, in an urbanized area, conflict with applicable zoning and other regulations governing scenic quality.	LS	*None required.*	N/A
4.1-4 Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.	S	*Proposed Project, Biological Resources Preservation Alternative* *4.1-4 In conjunction with submittal of the first tentative subdivision map for the Proposed Project or Biological Resources Preservation Alternative (BRPA), the developer shall submit a lighting plan for the review and approval of the Chief Building Official and the Community Development and Sustainability*	LS

N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Director of the City of Davis. The lighting plan shall address limiting light trespass and glare on the project site/BRPA site through the use of shielding and directional lighting methods, which may include, but is not limited to, fixture location and height. The lighting plan shall comply with Chapter 6 of the Davis Municipal Code- Article VIII: Outdoor Lighting Control.	
4.1-5 Have a substantial adverse effect on a scenic vista associated with development of the Proposed Project or Biological Resources Preservation Alternative in combination with future buildout of the City of Davis.	CC	*None feasible.*	SU
4.1-6 Conflict with applicable zoning and other regulations governing scenic quality associated with development of the Proposed Project or Biological Resources Preservation Alternative in combination with future buildout of the City of Davis.	LS	*None required.*	N/A
4.1-7 Creation of new sources of light or glare associated with development of the Proposed Project or Biological Resources Preservation	CC	*Proposed Project, Biological Resources Preservation Alternative* *4.1-7 Implement Mitigation Measure 4.1-4.*	LCC

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Table 2-1
Summary of Impacts and Mitigation Measures

	Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
	Alternative in combination with future buildout of the City of Davis.			
	4.2 Agricultural Resources			
4.2-1	**Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use or agricultural land as defined in the CKH Act (Government Code Section 56064).**	S	*Proposed Project, Biological Resources Preservation Alternative* *4.2-1 Prior to initiation of grading activities for each phase of development, the project applicant shall set aside in perpetuity, active agricultural acreage in an amount consistent with the applicable agricultural mitigation requirements of the appropriate jurisdiction.* *The agricultural land shall be located elsewhere in unincorporated Yolo County, through the purchase of development rights and execution of an irreversible conservation or agricultural easement, consistent with Section 40A.03.025 of the Davis Municipal Code. The location and amount of active agricultural acreage shall be subject to review and approval by the City of Davis Community Development Department. The amount of agricultural acreage set aside shall account for farmland lost due to the conversion of the project site. Pursuant to Davis Municipal Code Section 40A.03.040, the agricultural mitigation land shall be comparable in soil quality with the agricultural land being changed to nonagricultural use. The easement land must conform with the policies and requirements of Yolo Local Agency*	SU

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Formation Commission (LAFCo), including a LESA score that is a maximum of 10 percent below that of the project site. The easement instrument used to satisfy this measure shall conform to the conservation easement template of the Yolo Habitat Conservancy or to another conservation easement template acceptable to the City of Davis.	
4.2-2 Conflict with existing zoning for agriculture use, or a Williamson Act contract.	LS	*None required.*	N/A
4.2-3 Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use.	LS	*None required.*	N/A
4.2-4 Involve changes in the existing environment which, due to their location or nature, could cumulatively result in loss of Farmland to non-agricultural use.	CC	*Proposed Project, Biological Resources Preservation Alternative* *4.2-4 Implement Mitigation Measure 4.2-1.*	SU
4.3 Air Quality, Greenhouse Gas Emissions, and Energy			
4.3-1 Conflict with or obstruct implementation of the applicable air quality plan during project construction.	LS	*None required.*	N/A
4.3-2 Conflict with or obstruct implementation of the	S	*Proposed Project, Biological Resources Preservation Alternative*	SU

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Summary of Impacts and Mitigation Measures

	Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
	applicable air quality plan during project operation.		*4.3-2 The following requirement shall be included in the Covenants, Conditions, and Restrictions (CC&Rs) for the residential subdivisions and all commercial and residential leases: Only zero-VOC paints, finishes, adhesives, and cleaning supplies shall be used for all buildings on the project site. Prior to approval of improvement plans for each small lot tentative map, draft language shall be provided to the City of Davis Community Development Department for review and approval.*	
4.3-3	**Expose sensitive receptors to substantial pollutant concentrations.**	LS	*None required.*	N/A
4.3-4	**Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.**	LS	*None required.*	N/A
4.3-5	**Result in the inefficient or wasteful use of energy, or conflict with a State or local plan for renewable energy or energy efficiency.**	LS	*None required.*	N/A
4.3-6	**Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or State ambient air quality standard (including releasing emissions which**	CC	*Proposed Project, Biological Resources Preservation Alternative* *4.3-6 Implement Mitigation Measure 4.3-2.*	SU

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Summary of Impacts and Mitigation Measures

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	exceed quantitative thresholds for ozone precursors).			
4.3-7	**Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs during construction.**	CC	*Proposed Project, Biological Resources Preservation Alternative* *4.3-7(a) Prior to approval of any Improvement Plans and/or Grading Plans, the project applicant shall provide proof of compliance with the following to the satisfaction of the City of Davis Community Development Department:* *The project applicant shall show on the plans via notation that the contractor shall ensure that all off-road vehicles 25 horsepower or more to be used in the construction of the Proposed Project, including owned, leased, and subcontractor vehicles, shall be fueled by renewable diesel.* *In addition, all off-road equipment operating at the construction site must be maintained in proper working condition according to manufacturer's specifications. Idling shall be limited to five minutes or less in accordance with the In-Use Off-Road Diesel Vehicle Regulation as required by CARB. Clear signage regarding idling restrictions shall be placed at the entrances to the construction site.* *Portable equipment over 50 horsepower must have either a valid YSAQMD Permit to Operate (PTO) or a valid statewide Portable Equipment Registration*	LCC

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Summary of Impacts and Mitigation Measures

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		Program (PERP) placard and sticker issued by CARB. *Proof of conformance with the foregoing requirements shall be submitted by the project contractor to the City of Davis Community Development and Public Works Departments for review and approval.* *Biological Resources Preservation Alternative* *4.3-7(b)* *Prior to the initiation of construction of Phase 1 the BRPA, the project applicant shall demonstrate that construction-related GHG emissions would be reduced to 1,100 MTCO2e/yr and shall submit proof to the City of Davis Community Development Department.* *Construction-related GHG emissions can be reduced through several options, including, but not limited to, the following:* • *Modify the construction schedule to reduce the intensity of construction to lower emissions;* • *Ensure that phases of development do not overlap;* • *Improve fuel efficiency from construction equipment by:* ○ *Minimizing idling time either by shutting equipment off when not in*	

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Summary of Impacts and Mitigation Measures

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		use or reducing the time of idling to no more than three minutes (five-minute limit is required by the state airborne toxics control measure [Title 13, sections 2449(d)(3) and 2485 of the California Code of Regulations]). Provide clear signage that posts this requirement for workers at the entrances to the site; and ○ *Using equipment with new technologies (repowered engines, electric drive trains).* • *Perform on-site emission reductions such as implementing on-site material hauling with trucks equipped with on-road engines (if determined to be less emissive than the off-road engines) or real, quantifiable, permanent, verifiable, and enforceable on-site emission reductions;* • *Use alternative fuels for generators at construction sites such as propane or solar, or use electrical power;* • *Use a CARB-approved low carbon fuel for construction equipment; (NOX emissions from the use of low carbon fuel must be reviewed and increases mitigated.)* • *Encourage and provide carpools, shuttle vans, transit passes and/or secure bicycle parking for construction worker commutes;*	

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		• *Reduce electricity use in the construction office by using LED bulbs, powering off computers every day, and replacing heating and cooling units with more efficient ones;* • *Recycle or salvage non-hazardous construction and demolition debris (goal of at least 75 percent by weight);* • *Use locally sourced or recycled materials for construction materials (goal of at least 20 percent based on costs for building materials, and based on volume for roadway, parking lot, sidewalk and curb materials). Wood products utilized should be certified through a sustainable forestry program;* • *Minimize the amount of concrete for paved surfaces or utilize a low carbon concrete option;* • *Produce concrete on-site if determined to be less emissive than transporting ready mix;* • *Use SmartWay certified trucks for deliveries and equipment transport; and* • *Develop a plan to efficiently use water for adequate dust control.* *The project applicant may elect to implement any combination of the foregoing measures to reduce construction-related GHG emissions. All GHG emissions reductions must be quantified. Compliance with the aforementioned measures shall*	

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Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		be ensured by the City of Davis Community Development and Public Works Department. *If the quantified reduction measures do not reduce construction-related GHG emissions associated with Phase 1 of the BRPA to below 1,100 $MTCO_2e$/yr, offsite carbon credits may be purchased to make up the difference. The purchase of off-site mitigation credits shall be negotiated with the City and YSAQMD at the time that credits are sought. Off-site mitigation credits shall be real, quantifiable, permanent, verifiable, enforceable, and additional, consistent with the standards set forth in Health and Safety Code section 38562, subdivisions (d)(1) and (d)(2). The offsets shall be retired, and emissions must be offset through the year 2045. Such credits shall be based on CARB-approved protocols that are consistent with the criteria set forth in subdivision (a) of Section 95972 of Title 17 of the California Code of Regulations, and shall not allow the use of offset projects originating outside of California, except to the extent that the quality of the offsets, and their sufficiency under the standards set forth herein, can be verified by the City of Davis and/or the YSAQMD. Such credits must be purchased through one of the following: (i) a CARB-approved registry, such as the Climate Action Reserve, the American Carbon Registry, and the Verified Carbon Standard; (ii) any registry approved by CARB to act as a registry under*	

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Table 2-1
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Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		the California Cap and Trade program; or (iii) any registry established by YSAQMD.	
4.3-8 Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs during operation.	CC	*Proposed Project, Biological Resources Preservation Alternative* *4.3-8 The project proponent shall prepare and implement a GHG Reduction Plan, to the satisfaction of the City, to demonstrate a downward trajectory in GHG emissions, towards the goal of zero net GHG emissions by the year 2040. Prior to the approval of the entitlement for each phase of the Proposed Project or the BRPA, the project proponent shall indicate how to complete and implement the following steps:* *1. Model net non-mobile operational GHG emissions using CalEEMod, or another method accepted for the purpose of modeling GHG emissions for the Proposed Project or the BRPA, taking into account applicable building standards and other regulatory requirements, as well as building design, use of renewable energy, etc. The updated modeling shall take into account any updated project design measures incorporated in compliance with this mitigation measure or as proposed in future project design details.* *2. Based on the construction and operational schedules proposed at the time of building*	SU

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Summary of Impacts and Mitigation Measures

<table>
<tr><th>Impact</th><th>Level of Significance Prior to Mitigation</th><th>Mitigation Measures</th><th>Level of Significance After Mitigation</th></tr>
<tr><td></td><td></td><td>
permitting, the modeled emissions shall be compared to the maximum permitted emissions for the first year of occupancy, based on the applicable Table below:

<table>
<tr><th colspan="3">Proposed Project</th></tr>
<tr><th>Year</th><th>Maximum Permitted Net Project Emissions ($MTCO_2e$)</th><th>Emissions Reductions Achieved ($MTCO_2e$)</th></tr>
<tr><td>2033</td><td>18,160.00</td><td>0.00</td></tr>
<tr><td>2034</td><td>15,565.71</td><td>2,594.29</td></tr>
<tr><td>2035</td><td>12,971.43</td><td>5,188.57</td></tr>
<tr><td>2036</td><td>10,377.14</td><td>7,782.86</td></tr>
<tr><td>2037</td><td>7,782.86</td><td>10,377.14</td></tr>
<tr><td>2038</td><td>5,188.57</td><td>12,971.43</td></tr>
<tr><td>2039</td><td>2,594.29</td><td>15,565.71</td></tr>
<tr><td>2040</td><td>0.00</td><td>18,160.00</td></tr>
<tr><td colspan="2">Total Emissions Reductions</td><td>72,640.00</td></tr>
</table>

<table>
<tr><th colspan="3">BRPA</th></tr>
<tr><th>Year</th><th>Maximum Permitted Net Project Emissions ($MTCO_2e$)</th><th>Emissions Reductions Achieved ($MTCO_2e$)</th></tr>
</table>
</td><td></td></tr>
</table>

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation

2033	19,206.00	0.00
2034	16,462.29	2,743.71
2035	13,718.57	5,487.43
2036	10,974.86	8,231.14
2037	8,231.14	10,974.86
2038	5,487.43	13,718.57
2039	2,743.71	16,462.29
2040	0.00	19,206.00
Total Emissions Reductions		*76,824.00*

3. *Should net operational emissions be shown to exceed the maximum emissions levels presented in the applicable table above, the project applicant shall identify feasible actions to achieve sufficient emissions reductions for the year or years being modeled. Reduction measures may include, but are not limited to:*
    - *Use of energy-star appliances in all or part of the project;*
    - *Installation of on-site photovoltaic systems in excess of the City's or State standards in place at the time of this environmental analysis;*
    - *Construct on-site or fund off-site carbon sequestration projects (such as tree plantings or reforestation projects);*

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Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• *Implement Transportation Demand Management strategies, such as CAPCOA Handbook Strategy T-16 and T-20-A, in accordance with Mitigation Measure 4.13-4 of this EIR;* • *Provide electric vehicle charging infrastructure in excess of existing Tier 1 CBSC requirements; and/or* • *Purchase carbon credits to offset project annual emissions. Carbon offset credits shall be verified and registered with The Climate Registry, the Climate Action Reserve, or another source approved by CARB, YSAQMD, or the City of Davis. Off-site mitigation credits shall be real, quantifiable, permanent, verifiable, enforceable, and additional, consistent with the standards set forth in Health and Safety Code Section 38562, subdivisions (d)(1) and (d)(2). The offsets shall be retired, and emissions must be offset through the year 2045. Such*	

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		credits shall be based on CARB-approved protocols that are consistent with the criteria set forth in subdivision (a) of Section 95972 of Title 17 of the CCR, and shall not allow the use of offset projects originating outside of California, except to the extent that the quality of the offsets, and their sufficiency under the standards set forth herein, can be verified by the City of Davis and/or the YSAQMD. Such credits must be purchased through one of the following: (i) a CARB-approved registry, such as the Climate Action Reserve, the American Carbon Registry, and the Verified Carbon Standard; (ii) any registry approved by CARB to act as a registry under the California Cap and Trade program; or (iii) any registry established by YSAQMD.	

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		4. The emissions reductions resulting from implementation of the above measures shall be calculated, using methods acceptable to the City. *5. Proof of compliance with the maximum annual net emissions targets and the steps above shall be verified through the submittal of a Technical Memorandum of Compliance (TMC) to the City of Davis Department of Community Development. The TMC shall document the following minimum items: modeling (step 1); comparison of modeled emissions to maximum emissions levels identified in Mitigation Measure 4.3-8(a) (step 2); chosen feasible actions to achieve required reductions (step 3); and measurable GHG reduction value of each action (step 4). TMCs prepared in compliance with the foregoing steps may cover individual operational years or multiple operational years. Should a TMC be prepared for multiple operational years, the TMC shall demonstrate compliance with the maximum emissions levels for each year included in the TMC.* *6. Implement the authorized actions and provide evidence of this to the City of Davis Department of Community Development. The City upon review and acceptance of*	

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Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		implementation, shall issue the certificate of occupancy.	
4.3-9 Result in a cumulatively considerable inefficient or wasteful consumption of energy or conflict with a State or local plan for renewable energy or energy efficiency.	LS	*None required.*	N/A
4.4 Biological Resources			
4.4-1 Have a substantial adverse effect, either directly or through habitat modifications, on special-status plant species.	S	*Proposed Project, Biological Resources Preservation Alternative* *4.4-1(a) If construction does not commence by the end of 2027 (i.e., within three years from the date of Madrone's 2024 protocol-level plant surveys), protocol-level special-status plant surveys shall be conducted throughout the study area in accordance with the U.S. Fish and Wildlife Service (USFWS) Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants; the California Native Plant Society (CNPS) Botanical Survey Guidelines of the California Native Plant Society; and the California Department of Fish and Wildlife (CDFW) Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities. The protocols require conducting surveys at the appropriate time of year, when plants are identifiable and in bloom and/or in fruit (which may include multiple visits to capture blooming and/or fruiting*	LS

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		periods for all target plants), and includes ensuring that habitats are not disturbed prior to the survey so that any plants that are present may be documented. A report summarizing the results of the protocol-level special-status plant surveys shall be submitted for review and approval to the City of Davis Community Development Department and Public Works Utilities and Operations Department. *If, based on whichever is approved, the Proposed Project or Biological Resources Preservation Alternative (BRPA) avoids the special-status plants through an associated "Avoidance Zone," then further mitigation is not necessary. The size of the Avoidance Zone needed to prevent impacts may vary based on the plant species and its habitat requirements. If a special-status plant listed under the federal Endangered Species Act (FESA) or California Endangered Species Act (CESA) is found and is to be avoided, then an appropriate Avoidance Zone shall be developed in consultation with USFWS or CDFW, as applicable. If the species is not listed under FESA or CESA, an appropriate Avoidance Zone shall be developed by a qualified botanist in consultation with the City of Davis. Avoidance Zone areas may differ by species and site-specific conditions, and they shall be developed such that the avoided special-status plant population is likely to persist in perpetuity. Avoidance zones may be based on a fixed buffer distance from the special-status*	

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		plant population, at the limit of a hydrologic break (such as Channel A), or as otherwise determined appropriate for the species in question. For plants associated with seasonal wetlands, the Avoidance Zone shall be 250 feet, but this zone may be as small as 50 feet for plant species that occur in uplands and do not appear to be associated with wetland hydrology. *4.4-1(b) If any impacts (direct or indirect) would occur to special-status plants, a Special-Status Plant Mitigation Plan shall be developed and submitted to the City of Davis Community Development Department and Public Works Utilities and Operations Department (or USFWS or CDFW, as appropriate for FESA- or CESA-listed species). The Special-Status Plant Mitigation Plan shall be subject to review and approval by the City, USFWS, or CDFW (as appropriate, based on listing status) prior to issuance of a grading permit that would impact the plants. The project proponent shall mitigate according to one or a combination of the options below. It should be noted that the options are minimum recommendations; the USFWS and/or CDFW may require additional mitigation if the plants are FESA- or CESA-listed.* • *<u>Indirect impacts</u>: Indirect impacts would occur if the Proposed Project or BRPA avoids the mapped populations, but affects a*	

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Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		portion of an Avoidance Zone. The project proponent shall mitigate for indirect impacts through a 0.5:1 mitigation ratio (mitigation-to-impact), based on the acreage or number of plants that have impacts within an Avoidance Zone. If there are dense populations, acreage may be a better metric for dense population, while mitigation based on number of plants may be better for relatively few, widely scattered plants. • *Direct impacts: Direct impacts would occur if grading or other direct disturbance occurs within mapped populations. The project proponent shall mitigate for direct impacts through a 1:1 ratio for preservation of an existing population, or a 2:1 ratio for relocation/translocation of impacted plants/seeds. The ratios may be based on the acreage of occupied habitat or number of plants. The metric shall be clearly defined in the Special-Status Plant Mitigation Plan.* ○ *Preservation: Identify one or more existing, unprotected populations of the special-status plant that would be impacted by the Proposed Project or BRPA in the project vicinity and protect the population in perpetuity by establishing a preserve on the land that supports those populations. Once the proposed*	

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		mitigation area is approved by the City of Davis and/or USFWS/CDFW (as appropriate, based on listing status, if any), the mitigation area shall be protected by a recorded conservation easement or deed restriction and managed in accordance with a long-term management plan that maintains the habitats the conservation easement was established to protect (including the special-status plants). Additionally, a preserve management endowment shall be established to fund the long-term management outlined in the long-term management plan, or sufficient annual management funding shall be a condition of a Homeowner's Association, Community Services District, or other alternative as approved by the City of Davis or regulating agency. *As this option would preserve an existing, established population, temporal loss would not occur and the option would include low risk of failure. The 1:1 ratio may be based on the acreage of occupied habitat*	

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		or number of plants; this metric shall be clearly defined in the Special-Status Plant Mitigation Plan. This option may be implemented at a mitigation/conservation bank if the target plant species is present at the bank. The Special-Status Plant Mitigation Plan shall describe how the purchase of bank credits translates into appropriate 1:1 preservation. ○ *<u>Relocation and translocation</u>: Mitigate impacts by establishment of a new special-status plant population or expansion of an existing special-status plant population. The proposed mitigation area may be on-site or off-site and shall be permanently protected by the recordation of a conservation easement or deed restriction, development of a long-term management plan that maintains the habitats that the conservation easement was established to protect, and establishment of a preserve management endowment or sufficient annual management funding as a condition of a Homeowner's Association,*	

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		Community Services District, or other alternative, as approved by the City of Davis or regulating agency. *The project proponent shall locate and protect the mitigation area(s), translocate seeds or relocate perennial plants to the mitigation area(s), monitor the translocated/relocated seeds/plants for a minimum of five years, and meet established success criteria as detailed in the Special-Status Plant Mitigation Plan. The minimum success criterion for this option shall be a 2:1 replacement of directly impacted plants and 1:1 replacement for indirectly impacted plants by year five of monitoring (or as otherwise required by the regulatory agencies). This ratio may be based on the acreage of occupied habitat or number of plants. This metric shall be clearly defined in the Special-Status Plant Mitigation Plan.* *If the success criteria are not met, then additional habitat shall be set aside as set forth by the*	

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Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Preservation requirements or as agreed upon by the City of Davis and/or USFWS/CDFW, as appropriate. Because population sizes for annual plants can vary widely from year to year, for relocation or translocation, population counts or acreage mapping shall be conducted in the last two years of monitoring, and the highest count or acreage shall be at least equivalent to the number of required replacement plants. *4.4-1(c) If construction does not commence by the end of 2027 (i.e., within three years from the date of Madrone's 2024 protocol-level plant surveys), the following measure shall be required:* *Yolo HCP/NCCP AMM11: Palmate-bracted bird's-beak is covered by the Yolo HCP/NCCP only for the removal of suitable habitat and not for the removal of palmate-bracted bird's beak plants. This AMM ensures compliance with this provision. To determine if palmate-bracted bird's-beak is present and could be affected, the project proponent will conduct a planning-level survey for this species for any covered activities to be conducted within 250 feet of suitable habitat (as defined in Appendix A, Covered Species Accounts). The survey will be conducted during the*	

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		period from May 31 to September 30 and will be consistent with Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (California Department of Fish and Game 2009). *The project proponent will avoid occupied habitat where palmate-bracted bird's beak has been located within any of the last 15 years (seed viability could be as little as three years and as much as six years, as described in Appendix A, Section A.1.2, Species Description and Life History). The project proponent also will avoid any new occurrences of this species identified during planning-level surveys. Avoidance will require a 250-foot setback from the occupied habitat, or greater distance depending on site-specific topography to avoid hydrologic effects. A shorter buffer distance may apply if is determined to avoid effects and is approved by the Conservancy, USFWS, and CDFW. Mortality of palmate-bracted bird's beak individuals will be avoided, except as needed through management activities that provide an overall benefit to the species.*	
4.4-2 Have a substantial adverse effect, either directly or through habitat modifications, on Crotch's bumble bee.	S	*Proposed Project, Biological Resources Preservation Alternative* *4.4-2 The provisions contained herein only apply if Crotch's bumble bee remains a candidate species or is listed under CESA at the commencement of construction. Following CDFW's status report on Crotch's bumble*	LS

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		bee, if the California Fish and Game Commission finds that the petitioned action is not warranted, the provisions contained herein shall not be required. *If feasible, initial ground-disturbing activities associated with the Proposed Project or BRPA (e.g., grading, vegetation removal, staging) shall take place between September 1 and March 31 (i.e., outside the colony active period) to avoid potential impacts on special-status bumble bees. If completing all initial ground-disturbing activities between September 1 and March 31 is not feasible, then at a maximum of 14 days prior to the commencement of construction activities, a qualified biologist with 10 or more years of experience conducting biological resource surveys within California, and familiar with Crotch's bumble bee life history, shall conduct a preconstruction survey for special-status bumble bees in the area(s) proposed for impact.* *The survey shall occur during the period from one hour after sunrise to two hours before sunset, with temperatures between 65 degrees Fahrenheit and 90 degrees Fahrenheit, with low wind and zero rain. If the timing of the start of construction makes the survey infeasible due to the temperature requirements, the surveying biologist shall select the most appropriate days based on the National Weather Service seven-day forecast and shall survey at a time of day that is closest to the temperature*	

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		range stated above. The survey duration shall be commensurate with the extent of suitable floral resources (which represent foraging habitat) present within the area proposed for impact, and the level of effort shall be based on the metric of a minimum of one person-hour of searching per three acres of suitable floral resources/foraging habitat. A meandering pedestrian survey shall be conducted throughout the area proposed for impact in order to identify patches of suitable floral resources. Suitable floral resources for Crotch's bumble bee include species in the following families: Apocynaceae, Asteraceae, Boraginaceae, Fabaceae, and Lamiaceae. Suitable floral resources for western bumble bee include species in the following families: Asteraceae, Fabaceae, Rhamnaceae, and Rosaceae, as well as plants in the genera Eriogonum and Penstemon. *At a minimum, preconstruction survey methods shall include the following:* • *Search areas with floral resources for foraging bumble bees. Observed foraging activity may indicate a nest is nearby, and therefore, the survey duration shall be increased when foraging bumble bees are present;* • *If special-status bumble bees are observed, watch any special-status bumble bees*	

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		present and observe their flight patterns. Attempt to track their movements between foraging areas and the nest; • *Visually look for nest entrances. Observe burrows, any other underground cavities, logs, or other possible nesting habitat;* • *If floral resources or other vegetation preclude observance of the nest, small areas of vegetation may be removed via hand removal, line trimming, or mowing to a height of a minimum of four inches to assist with locating the nest;* • *Look for concentrated special-status bumble bee activity;* • *Listen for the humming of a nest colony; and* • *If bumble bees are observed, attempt to photograph the individual and identify it to species.* *The biologist conducting the survey shall record when the survey was conducted, a general description of any suitable foraging habitat/floral resources present, a description of observed bumble bee activity, a list of bumble bee species observed, a description of any vegetation removed to facilitate the survey, and their determination of if survey observations suggest a special-status bumble bee nest(s) may be present or if construction activities could result in take of special-status bumble bees. The report shall be submitted to the City of Davis*	

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Community Development Department and Public Works Utilities and Operations Department prior to the commencement of construction activities. *If bumble bees are not located during the preconstruction survey or the bumble bees located are definitively identified as a common species (i.e., not special-status species), then further mitigation or coordination with the CDFW is not required.* *If any sign(s) of a bumble bee nest is observed, and if the species present cannot be established as a common bumble bee, then construction shall not commence until either (1) the bumble bees present are positively identified as common (i.e., not a special-status species), or (2) the completion of coordination with CDFW to identify appropriate mitigation measures, which may include, but not be limited to, waiting until the colony active season ends, establishment of nest buffers, or obtaining an Incidental Take Permit (ITP) from CDFW.* *If special-status bees are located, and after coordination with CDFW take of special-status bumble bees cannot be avoided, the project proponent shall obtain an ITP from CDFW, and the project proponent shall implement all conditions identified in the ITP. Mitigation required by the ITP may include, but not be limited to, the project proponent translocating nesting substrate in*	

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		accordance with the latest scientific research to another suitable location (i.e., a location that supports similar or better floral resources as the impact area), enhancing floral resources on areas of the project site/BRPA site that will remain appropriate habitat, worker awareness training, and/or other measures specified by CDFW.	
4.4-3 Have a substantial adverse effect, either directly or through habitat modifications, on special-status branchiopods.	S	*Proposed Project and Biological Resources Preservation Alternative* *4.4-3 If occupied aquatic habitat is located in planned development areas associated with the Proposed Project or BRPA, the project proponent shall consult with the USFWS regarding impacts to federally listed vernal pool tadpole shrimp prior to the approval by the City of Davis of any permit authorizing construction.* *The project proponent shall obtain and comply with any conditions of the appropriate take authorization from the USFWS. The conditions in the take authorization may include, but shall not be limited to, fencing off avoided habitat; worker awareness training; preservation, restoration, or enhancement of habitat on- or off-site to compensate for indirect and/or direct effects; purchase of habitat credits (the mitigation ratio for habitat preservation is generally 2:1) from an agency-approved mitigation/conservation bank; working with a local*	LS

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		land trust to preserve land; or any other method acceptable to USFWS.	
4.4-4 Have a substantial adverse effect, either directly or through habitat modifications, on monarch butterfly.	S	*Proposed Project and Biological Resources Preservation Alternative* *4.4-4 The provisions contained herein only apply if monarch butterfly remains proposed for listing under FESA at the commencement of construction.* *If construction occurs during the time when milkweed plants may host monarch eggs or caterpillars (approximately mid-March through late September), a preconstruction survey shall be conducted by a qualified biologist within the proposed impact area and a 50-foot buffer in accessible areas for the presence of eggs, larvae (i.e., caterpillars), or pupae, at most, 14 days prior to plant removal. Additionally, other plants immediately adjacent to milkweed plants shall also be searched for chrysalises. If eggs, caterpillars, or pupae are not detected, additional protection measures are not necessary.* *A report summarizing the results of the survey shall be submitted for review and approval to the City of Davis Community Development Department and Public Works Utilities and Operations Department.* *If eggs, caterpillars, or pupae are found, the plants shall be avoided with a 50-foot buffer until metamorphosis is completed and adult butterflies*	LS

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		emerge and leave the host plant. If the eggs, larvae, or chrysalises cannot be avoided, all eggs, larvae, and chrysalises, including the portion of the plant to which they are attached, shall be translocated to an alternative location. The location must be a minimum of 50 feet outside of the impact area and contain a similarly sized or larger population of larval host plants. The portions of the plants supporting eggs or chrysalises shall be tied to the live stem of the avoided larval host plant while caterpillars shall be placed directly on a stem or leaf of a larval host plant. Should the species be listed under FESA in the future, coordination with USFWS shall be conducted prior to translocation.	
4.4-5 Have a substantial adverse effect, either directly or through habitat modifications, on VELB.	S	*Proposed Project and Biological Resources Preservation Alternative* *4.4-5* *Yolo HCP/NCCP AMM12: The project proponent will retain a qualified biologist who is familiar with valley elderberry longhorn beetle and evidence of its presence (i.e., exit holes in elderberry shrubs) to map all elderberry shrubs in and within 100 feet of the project footprint with stems that are greater than one inch in diameter at ground level. To avoid take of valley elderberry longhorn beetle fully, the project proponent will maintain a buffer of at least 100 feet from any elderberry shrubs with stems greater than one inch in diameter at ground level. AMM1, Establish Buffers, describes circumstances in which a lesser buffer may be applied. For elderberry shrubs*	LS

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Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		that cannot be avoided with a designated buffer distance as described above, the qualified biologist will quantify the number of stems one inch or greater in diameter to be affected, and the presence or absence of exit holes. The Conservancy will use this information to determine the number of plants or cuttings to plant on a riparian restoration site to help offset the loss, consistent with Section 6.4.2.4.1, Valley Elderberry Longhorn Beetle. Additionally, prior to construction, the project proponent will transplant elderberry shrubs identified within the project footprint that cannot be avoided. *Transplantation will only occur if a shrub cannot be avoided and, if indirectly affected, the indirect effects would otherwise result in the death of stems or the entire shrub. If the project proponent chooses, in coordination with a qualified biologist, not to transplant the shrub because the activity would not likely result in death of stems of the shrub, then the qualified biologist will monitor the shrub annually for a five-year monitoring period. The monitoring period may be reduced with concurrence from the wildlife agencies if the latest research and best available information at the time indicates that a shorter monitoring period is warranted. If death of stems at least one inch in diameter occurs within the monitoring period, and the qualified biologist determines that the shrub is sufficiently healthy to transplant, the project proponent will transplant the*	

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Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		shrub as described in the following paragraph, in coordination with the qualified biologist. If the shrub dies during the monitoring period, or the qualified biologist determines that the shrub is no longer healthy enough to survive transplanting, then the Conservancy will offset the shrub loss consistent with the preceding paragraph. *The project proponent will transplant the shrubs into a location in the HCP/NCCP reserve system that has been approved by the Conservancy. Elderberry shrubs outside the project footprint but within the 100-foot buffer will not be transplanted.* *Transplanting will follow the following measures:* 1. *Monitor: A qualified biologist will be on-site for the duration of the transplanting of the elderberry shrubs to ensure the effects on elderberry shrubs are minimized.* 2. *Timing: The project proponent will transplant elderberry plants when the plants are dormant, approximately November through the first two weeks of February, after they have lost their leaves. Transplanting during the non-growing season will reduce shock to the plant and increase transplantation success.* 3. *Transplantation procedure:*	

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Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		a. Cut the plant back three to six feet from the ground or to 50 percent of its height (whichever is taller) by removing branches and stems above this height. Replant the trunk and stems measuring one inch or greater in diameter. Remove leaves that remain on the plants. *b. Relocate plant to approved location in the reserve system, and replant as described in Section 6.4.2.4.1, Valley Elderberry Longhorn Beetle.*	
4.4-6 Impacts to western spadefoot either directly (e.g., cause a wildlife population to drop below self-sustaining levels, threaten to eliminate an animal community) or through substantial habitat modifications.	S	*Proposed Project and Biological Resources Preservation Alternative* *4.4-6 Prior to the commencement of construction, one nocturnal acoustic survey of all areas within 300 feet of suitable aquatic habitat shall be conducted during the spring prior to construction of the Proposed Project or BRPA. Acoustic surveys shall consist of walking through the area and listening for the distinctive snore-like call of the species. Timing and methodology for the aquatic and acoustic surveys shall be based on those described in Distribution of the Western Spadefoot (Spea hammondii) in the Northern Sacramento Valley of California, with Comments on Status and Survey Methodology. If both the aquatic survey and the nocturnal acoustic survey are negative, further mitigation shall not be necessary. A report summarizing the results of the*	LS

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		aquatic survey and nocturnal acoustic survey shall be submitted for review and approval to the City of Davis Community Development Department and Public Works Utilities and Operations Department. *If western spadefoots are identified within the study area during the surveys and the species is not a federally listed species or candidate species and is still a California Species of Special Concern, the following shall be conducted:* • *The tadpoles (as many as are reasonably possible to capture) shall be captured and relocated either to aquatic habitat to be avoided on-site (and implement the fencing requirement outlined below), or to an off-site open space preserve with suitable habitat in the vicinity of the project site/BRPA site. If western spadefoot are observed within aquatic habitat proposed for avoidance, then the project proponent may either relocate the tadpoles to an off-site open space preserve with suitable habitat in the vicinity of the project site/BRPA site, or install silt fence along the edge of the proposed impact area within 300 feet of the occupied aquatic habitat to prevent metamorphosed individuals from dispersing into the construction area.*	

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Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		If western spadefoots are identified within the study area during the surveys and the species is a federally listed species or a candidate for listing, the following shall be conducted: • *The project proponent shall consult with the USFWS regarding impacts to western spadefoot from the Proposed Project or BRPA. The project proponent shall obtain and comply with any conditions of the appropriate take authorization from the USFWS. The conditions in the take authorization may include, but not necessarily be limited to, fencing off avoided habitat; worker awareness training; preservation, restoration, or enhancement of habitat on- or off-site to compensate for indirect and/or direct effects; purchase of habitat credits from an agency-approved mitigation/conservation bank; working with a local land trust to preserve land; or any other method acceptable to USFWS.*	
4.4-7 Have a substantial adverse effect, either directly or through habitat modifications, on northwestern pond turtle.	S	*Proposed Project and Biological Resources Preservation Alternative* *4.4-7* *Yolo HCP/NCCP AMM14: There are no specific design requirements for western pond turtle habitat, however, project proponents must follow design requirements for the valley foothill riparian and lacustrine and riverine natural communities*	LS

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Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		described in AMMs 9 and 10, which require a 100-foot (minimum) permanent buffer zone from the canopy drip-line (the farthest edge on the ground where water will drip from the tree canopy, based on the outer boundary of the tree canopy). If modeled upland habitat will be impacted, a qualified biologist must be present and will assess the likelihood of western pond turtle nests occurring in the disturbance area (based on sun exposure, soil conditions, and other species habitat requirements). If a qualified biologist determines that there is a moderate to high likelihood of western pond turtle nests within the disturbance area, the qualified biologist will monitor all initial ground disturbing activity for nests that may be unearthed during the disturbance, and will move out of harm's way any turtles or hatchlings found.	
4.4-8 Have a substantial adverse effect, either directly or through habitat modifications, on tricolored blackbird.	S	*Proposed Project and Biological Resources Preservation Alternative* *4.4-8* *Yolo HCP/NCCP AMM21: The project proponent will retain a qualified biologist to identify and quantify (in acres) tricolored blackbird nesting and foraging habitat (as defined in Appendix A, Covered Species Accounts) within 1,300 feet of the footprint of the covered activity. If a 1,300-foot buffer from nesting habitat cannot be maintained, the qualified biologist will check records maintained by the Conservancy (which will include CNDDB data, and data from the tricolored blackbird portal) to determine if tricolored*	LS

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Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		blackbird nesting colonies have been active in or within 1,300 feet of the project footprint during the previous five years. If there are no records of nesting tricolored blackbirds on the site, the qualified biologist will conduct visual surveys to determine if an active colony is present, during the period from March 1 to July 30, consistent with protocol described by Kelsey (2008). *Operations and maintenance activities or other temporary activities that do not remove nesting habitat and occur outside the nesting season (March 1 to July 30) do not need to conduct planning or construction surveys or implement any additional avoidance measures.* *If an active tricolored blackbird colony is present or has been present within the last five years within the planning-level survey area, the project proponent will design the project to avoid adverse effects within 1,300 feet of the colony site(s), unless a shorter distance is approved by the Conservancy, USFWS, and CDFW. If a shorter distance is approved, the project proponent will still maintain a 1,300-foot buffer around active nesting colonies during the nesting season but may apply the approved lesser distance outside the nesting season. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.*	

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.4-9 Have a substantial adverse effect, either directly or through habitat modifications, on burrowing owl.	S	*Proposed Project and Biological Resources Preservation Alternative* *4.4-9 The project applicant shall comply with Yolo HCP/NCCP AMM18. However, should the Yolo HCP/NCCP be modified with respect to burrowing owl coverage in the future given the recent change in the species' status, the project applicant shall comply with the Yolo HCP/NCCP provisions pertaining to burrowing owl as they exist at the time of permit issuance.* *Yolo HCP/NCCP AMM18: The project proponent will retain a qualified biologist to conduct planning-level surveys and identify western burrowing owl habitat (as defined in Appendix A, Covered Species Accounts) within or adjacent to (i.e., within 500 feet of) a covered activity. If habitat for this species is present, additional surveys for the species by a qualified biologist are required, consistent with CDFW guidelines (Appendix L).* *If burrowing owls are identified during the planning-level survey, the project proponent will minimize activities that will affect occupied habitat as follows. Occupied habitat is considered fully avoided if the project footprint does not impinge on a nondisturbance buffer around the suitable burrow. For occupied burrowing owl nest burrows, this nondisturbance buffer could range from 150 to 1,500*	LS

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		feet (Table 4-2, Recommended Restricted Activity Dates and Setback Distances by Level of Disturbance for Burrowing Owls [incorporated as Table 4.4-7 of this chapter]), depending on the time of year and the level of disturbance, based on current guidelines (California Department of Fish and Game 2012). The Yolo HCP/NCCP generally defines low, medium, and high levels of disturbances of burrowing owls as follows. • *Low: Typically 71-80 dB, generally characterized by the presence of passenger vehicles, small gas-powered engines (e.g., lawn mowers, small chain saws, portable generators), and high-tension power lines. Includes electric hand tools (except circular saws, impact wrenches and similar). Management and enhancement activities would typically fall under this category. Human activity in the immediate vicinity of burrowing owls would also constitute a low level of disturbance, regardless of the noise levels.* • *Moderate: Typically 81-90 dB, and would include medium- and large-sized construction equipment, such as backhoes, front end loaders, large pumps and generators, road graders, dozers, dump trucks, drill rigs, and other moderate to large diesel engines. Also includes power saws,*	

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Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		large chainsaws, pneumatic drills and impact wrenches, and large gasoline-powered tools. Construction activities would normally fall under this category. • *High: Typically 91-100 dB, and is generally characterized by impacting devices, jackhammers, compression ("jake") brakes on large trucks, and trains. This category includes both vibratory and impact pile drivers (smaller steel or wood piles) such as used to install piles and guard rails, and large pneumatic tools such as chipping machines. It may also include large diesel and gasoline engines, especially if in concert with other impacting devices. Felling of large trees (defined as dominant or subdominant trees in mature forests), truck horns, yarding tower whistles, and muffled or underground explosives are also included. Very few covered activities are expected to fall under this category, but some construction activities may result in this level of disturbance.*	

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Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation

Table 4.4-7
Recommended Restricted Activity Dates and Setback Distances by Level of Disturbance for Burrowing Owls

Time of Year	Level of Disturbance (feet) from Occupied Burrows		
	Low	Medium	High
April 1-August 15	600	1,500	1,500
August 16-October 15	600	600	1,500
October 16-March 31	150	300	1,500

Source: Yolo Habitat Conservancy. Yolo County Habitat Conservation Plan/Natural Community Conservation Plan [Table 4-2]. April 2018.

The project proponent may qualify for a reduced buffer size, based on existing vegetation, human development, and land use, if agreed upon by CDFW and USFWS (California Department of Fish and Game 2012).

If the project does not fully avoid direct and indirect effects on nesting sites (i.e., if the project cannot adhere to the buffers described above), the project

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Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		proponent will retain a qualified biologist to conduct preconstruction surveys and document the presence or absence of western burrowing owls that could be affected by the covered activity. Prior to any ground disturbance related to covered activities, the qualified biologist will conduct the preconstruction surveys within three days prior to ground disturbance in areas identified in the planning-level surveys as having suitable burrowing owl burrows, consistent with CDFW preconstruction survey guidelines (Appendix L, Take Avoidance Surveys). The qualified biologist will conduct the preconstruction surveys three days prior to ground disturbance. Time lapses between ground disturbing activities will trigger subsequent surveys prior to ground disturbance. *If the biologist finds the site to be occupied by western burrowing owls during the breeding season (February 1 to August 31), the project proponent will avoid all nest sites, based on the buffer distances described above, during the remainder of the breeding season or while the nest is occupied by adults or young (occupation includes individuals or family groups that forage on or near the site following fledging). Occupancy of burrowing owl habitat during preconstruction surveys is confirmed at a site when at least one burrowing owl or sign (fresh whitewash, fresh pellets, feathers, or nest ornamentation) is observed at or near a burrow entrance. Construction may occur inside of the disturbance buffer during the*	

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Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		breeding season if the nest is not disturbed and the project proponent develops an AMM plan that is approved by the Conservancy, CDFW, and USFWS prior to project construction, based on the following criteria: • *The Conservancy, CDFW, and USFWS approves the AMM plan provided by the project proponent.* • *A qualified biologist monitors the owls for at least three days prior to construction to determine baseline nesting and foraging behavior (i.e., behavior without construction).* • *The same qualified biologist monitors the owls during construction and finds no change in owl nesting and foraging behavior in response to construction activities.* • *If the qualified biologist identifies a change in owl nesting and foraging behavior as a result of construction activities, the qualified biologist will have the authority to stop all construction related activities within the non-disturbance buffers described above. The qualified biologist will report this information to the Conservancy, CDFW, and USFWS within 24 hours, and the Conservancy will require that these activities immediately cease within the non-disturbance buffer. Construction cannot resume within the buffer*	

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		until the adults and juveniles from the occupied burrows have moved out of the project site, and the Conservancy, CDFW, and USFWS agree. • *If monitoring indicates that the nest is abandoned prior to the end of nesting season and the burrow is no longer in use by owls, the project proponent may remove the nondisturbance buffer, only with concurrence from CDFW and USFWS. If the burrow cannot be avoided by construction activity, the biologist will excavate and collapse the burrow in accordance with CDFW's 2012 guidelines to prevent reoccupation after receiving approval from the wildlife agencies.* *If evidence of western burrowing owl is detected outside the breeding season (December 1 to January 31), the project proponent will establish a non-disturbance buffer around occupied burrows, consistent with Table 4-2 (incorporated as Table 4.4-7 of this chapter), as determined by a qualified biologist. Construction activities within the disturbance buffer are allowed if the following criteria are met to prevent owls from abandoning important overwintering sites:* • *A qualified biologist monitors the owls for at least three days prior to construction to*	

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		determine baseline foraging behavior (i.e., behavior without construction). • *The same qualified biologist monitors the owls during construction and finds no change in owl foraging behavior in response to construction activities.* • *If there is any change in owl roosting and foraging behavior as a result of construction activities, these activities will cease within the buffer.* • *If the owls are gone for at least one week, the project proponent may request approval from the Conservancy, CDFW, and USFWS for a qualified biologist to excavate and collapse usable burrows to prevent owls from reoccupying the site if the burrow cannot be avoided by construction activities. The qualified biologist will install one-way doors for a 48-hour period prior to collapsing any potentially occupied burrows. After all usable burrows are excavated, the buffer will be removed and construction may continue.* *Monitoring must continue as described above for the nonbreeding season as long as the burrow remains active.* *A qualified biologist will monitor the site, consistent with the requirements described above, to ensure that buffers are enforced and owls are not disturbed.*	

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		Passive relocation (i.e., exclusion) of owls has been used in the past in the Plan Area to remove and exclude owls from active burrows during the nonbreeding season (Trulio 1995). Exclusion and burrow closure will not be conducted during the breeding season for any occupied burrow. If the Conservancy determines that passive relocation is necessary, the project proponent will develop a burrowing owl exclusion plan in consultation with CDFW biologists. The methods will be designed as described in the species monitoring guidelines (California Department of Fish and Game 2012) and consistent with the most up-to-date checklist of passive relocation techniques. This may include the installation of one-way doors in burrow entrances by a qualified biologist during the nonbreeding season. These doors will be in place for 48 hours and monitored twice daily to ensure that the owls have left the burrow, after which time the biologist will collapse the burrow to prevent reoccupation. Burrows will be excavated using hand tools. During excavation, an escape route will be maintained at all times. This may include inserting an artificial structure, such as piping, into the burrow to prevent collapsing until the entire burrow can be excavated and it can be determined that no owls are trapped inside the burrow. The Conservancy may allow other methods of passive or active relocation, based on best available science, if approved by the wildlife agencies. Artificial burrows will be constructed prior to exclusion and will be	

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Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		created less than 300 feet from the existing burrows on lands that are protected as part of the reserve system.	
4.4-10 Have a substantial adverse effect, either directly or through habitat modifications, on Swainson's hawk or white-tailed kite.	S	*Proposed Project and Biological Resources Preservation Alternative* *4.4-10* *Yolo HCP/NCCP AMM16: The project proponent will retain a qualified biologist to conduct planning-level surveys and identify any nesting habitat present within 1,320 feet of the project footprint. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.* *If a construction project cannot avoid potential nest trees (as determined by the qualified biologist) by 1,320 feet, the project proponent will retain a qualified biologist to conduct preconstruction surveys for active nests consistent, with guidelines provided by the Swainson's Hawk Technical Advisory Committee (2000), between March 15 and August 30, within 15 days prior to the beginning of the construction activity. The results of the survey will be submitted to the Conservancy and CDFW. If active nests are found during preconstruction surveys, a 1,320-foot initial temporary nest disturbance buffer shall be established. If project related activities within the temporary nest disturbance buffer are determined to be necessary during the nesting season, then the qualified biologist will monitor the nest and will, along*	LS

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Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		with the project proponent, consult with CDFW to determine the best course of action necessary to avoid nest abandonment or take of individuals. Work may be allowed only to proceed within the temporary nest disturbance buffer if Swainson's hawk or white-tailed kite are not exhibiting agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, and only with the agreement of CDFW and USFWS. The designated on-site biologist/monitor shall be on-site daily while construction-related activities are taking place within the 1,320-foot buffer and shall have the authority to stop work if raptors are exhibiting agitated behavior. Up to 20 Swainson's hawk nest trees (documented nesting within the last 5 years) may be removed during the permit term, but they must be removed when not occupied by Swainson's hawks. *For covered activities that involve pruning or removal of a potential Swainson's hawk or white-tailed kite nest tree, the project proponent will conduct preconstruction surveys that are consistent with the guidelines provided by the Swainson's Hawk Technical Advisory Committee (2000). If active nests are found during preconstruction surveys, no tree pruning or removal of the nest tree will occur during the period between March 1 and August 30 within 1,320 feet of an active nest, unless a qualified biologist determines that the young have fledged and the nest is no longer active.*	

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Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.4-11 Have a substantial adverse effect, either directly or through habitat modifications, on northern harrier, other nesting birds, and other raptors protected under the MBTA and CFGC.	S	*Proposed Project and Biological Resources Preservation Alternative* *4.4-11 If construction activities take place during the typical bird breeding/nesting season (February 15 through August 31), a preconstruction nesting bird survey shall be conducted by a qualified biologist throughout the project site/BRPA site and all accessible areas within a 500-foot radius of proposed construction areas, at most, 14 days prior to the commencement of construction. If a break in construction activity of more than 14 days occurs, then subsequent surveys shall be conducted. A report summarizing the survey(s) shall be provided to the City of Davis Community Development Department and Public Works Utilities and Operations Department within 30 days of the completed survey and is valid for one construction season. If nests are not found, further mitigation is not required.* *If active raptor nests are found, construction activities shall not take place within 500 feet of the nest until the young have fledged. If active songbird nests are found, a 100-foot non-disturbance buffer shall be established. The non-disturbance buffers may be reduced if a smaller, sufficiently protective buffer is approved by the City after taking into consideration the natural history of the species of bird nesting, the proposed activity level adjacent to the nest, the nest occupants' habituation to existing or ongoing activity,*	LS

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		and nest concealment (i.e., whether visual or acoustic barriers occur between the proposed activity and the nest). A qualified biologist may visit the nest, as needed, to determine when the young have fledged the nest and are independent of the site or the nest can be left undisturbed until the end of the nesting season. *If the nest buffer is reduced but construction activities cause a nesting bird to vocalize, make defensive flights at intruders, get up from a brooding position, or fly off the nest in a way that would be considered a result of construction activities, then the exclusionary buffer shall be increased such that activities are far enough from the nest to stop the agitated behavior. The revised non-disturbance buffer shall remain in place until the chicks have fledged or as otherwise determined by a qualified biologist in consultation with the City.* *Construction activities may only resume within the non-disturbance buffer after a follow-up survey by the biologist has been conducted and a report has been prepared indicating that the nest (or nests) are not active any longer, and that new nests have not been identified.*	

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4.4-12 Have a substantial adverse effect, either directly or through habitat modifications, on special-status roosting bats.	S	*Proposed Project and Biological Resources Preservation Alternative* *4.4-12 A preconstruction roosting bat survey shall be conducted by a qualified biologist within 14 days prior to any tree or structure removal that would occur during the breeding season (April through August). A report summarizing the results of the preconstruction roosting bat survey shall be submitted for review and approval to the City of Davis Community Development Department and Public Works Utilities and Operations Department. If preconstruction surveys indicate that roosts of special-status bats are not present, or that roosts are inactive or potential habitat is unoccupied, further mitigation shall not be required. If roosting bats are found, exclusion shall be conducted by the qualified biologist in coordination with CDFW. Methods may include acoustic monitoring, evening emergence surveys, and the utilization of two-step tree removal supervised by the qualified biologist. Two-step tree removal involves removal of all branches that do not provide roosting habitat on the first day, and then the next day cutting down the remaining portion of the tree. Building exclusion methods may include such techniques as installation of passive one-way doors, or the installation of netting when the bats are not present to prevent their reoccupation. Once the bats have been excluded, tree or building removal may occur.*	LS

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4.4-13 Have a substantial adverse effect, either directly or through habitat modifications, on American badger.	S	*Proposed Project and Biological Resources Preservation Alternative* *4.4-13 Within 48 hours prior to the commencement of construction, a preconstruction survey for American badger shall be conducted by a qualified biologist. A report summarizing the results of the preconstruction survey shall be submitted for review and approval to the City of Davis Community Development Department and Public Works Utilities and Operations Department. If American badger or burrows with American badger are found on-site during the preconstruction survey, consultation with CDFW shall occur prior to the initiation of any construction activities, to determine an appropriate burrow excavation and/or relocation method. If American badger is not found, further mitigation shall not be required.*	LS
4.4-14 Have a substantial adverse effect on any riparian habitat or other Sensitive Natural Community identified in local or regional plans, policies, regulations or by the CDFW or USFWS.	S	*Proposed Project and Biological Resources Preservation Alternative* *4.4-14(a) Yolo HCP/NCCP AMM9: The buffers for each sensitive natural community are as follows:* • *Alkali prairie and vernal pools: The area necessary to provide the hydrologic conditions needed to support the wetlands within these natural communities (250 feet). Covered activities will avoid vernal pools or alkali seasonal wetlands by 250 feet, or other distance based on site specific topography to*	LS

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		avoid indirect hydrologic effects. A buffer of less than 250 feet around vernal pools or alkali seasonal wetlands will be subject to wildlife agency concurrence that effects will be avoided. Considerations that may warrant a buffer of less than 250 feet may include topography (i.e., if the surrounding microwatershed extends less than 250 feet from the pool or wetland), intervening hydrologic barriers such as roads or canals, or other factors indicating that the proposed disturbance area does not contribute to the pool's hydrology. Other considerations may include temporary disturbance during the dry season where measures are implemented to avoid disturbance of the underlying claypan or hardpan, and the area is returned to pre-project conditions prior to the following rainy season. • *Valley foothill riparian: One hundred feet from canopy drip-line. If avoidance is infeasible, a lesser buffer or encroachment into the sensitive natural community may be allowed if approved by the Conservancy and the wildlife agencies, based on the criteria listed in AMM1. Transportation or utility crossings may encroach into this sensitive natural community provided effects are minimized and all other applicable AMMs are followed.*	

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		• *Lacustrine and riverine: Outside urban planning units, 100 feet from the top of banks. Within urban planning units, 25 feet from the top of the banks.* • *Fresh emergent wetland: Fifty feet from the edge of the natural community.* *4.4-14(b)* *Prior to the commencement of ground-disturbing activities, the project proponent shall apply for a Section 1600 Lake or Streambed Alteration Agreement (LSAA) from CDFW. The information provided shall include a description of all the activities associated with the Proposed Project or BRPA, not just those closely associated with the drainages and/or riparian vegetation.* *Impacts shall be outlined in the application and shall be in substantial conformance with the impacts to biological resources outlined in the Biological Resources Assessment prepared for the Village Farms Davis Project by Madrone Ecological Consulting. Impacts for each activity shall be broken down by temporary and permanent impacts, and a description of the proposed mitigation for biological resource impacts shall be outlined per activity and then by temporary and permanent. Information regarding project-specific drainage and hydrology changes resulting from project implementation shall be provided, as well as a description of stormwater treatment methods.*	

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		Minimization and avoidance measures shall be proposed, as appropriate, and may include preconstruction species surveys and reporting, protective fencing around avoided biological resources, worker environmental awareness training, seeding disturbed areas adjacent to open space areas with native seed, and installation of project-specific stormwater best management practices (BMPs). *Mitigation for impacts to riparian vegetation may include restoration or enhancement of resources on- or off-site, purchase of off-site habitat credits from an agency-approved mitigation/conservation bank, working with a local land trust to preserve land, or any other method acceptable to CDFW. Mitigation shall result in no net loss of riparian vegetation. Written verification of the Section 1600 LSAA shall be submitted to the City of Davis Community Development Department and Public Works Utilities and Operations Department.*	
4.4-15 Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	S	*Proposed Project and Biological Resources Preservation Alternative* *4.4-15(a)* *Implement Mitigation Measure 4.4-14(a).* *4.4-15(b)* *Yolo HCP/NCCP AMM10: Project proponents will comply with stormwater management plans that regulate development as part of compliance with*	Proposed Project = SU BRPA = LS

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		regulations under National Pollutant Discharge Elimination System (NPDES) permit requirements. Covered activities that result in any fill of waters or wetlands will also comply with requirements under Section 404 of the Clean Water Act, State Water Resources Control Board (State Board), Fish and Game Code Section 1602, and Regional Board regulations. Other than requirements for buffers, minimizing project footprint, and species-specific measures for wetland-dependent covered species, this HCP/NCCP does not include specific best management practices for protecting wetlands and waters because they may conflict with measures required by the USACE, State Board, Regional Board, and CDFW. *4.4-15(c) Prior to the commencement of construction, the project proponent shall apply for a Section 404 permit from the U.S. Army Corps of Engineers (USACE). Waters that will be impacted shall be replaced or rehabilitated on a "no-net-loss" basis. Habitat restoration, rehabilitation, and/or replacement shall be at a location and by methods acceptable to the USACE. Written verification of the Section 404 permit shall be submitted to the City of Davis Community Development Department and Public Works Utilities and Operations Department.* *4.4-15(d) Prior to the commencement of construction, the project proponent shall apply for a Section 401 water*	

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		quality certification/waste discharge requirement from the Regional Water Quality Control Board (RWQCB), and adhere to the certification conditions. Written verification of the Section 401 permit shall be submitted to the City of Davis Community Development Department and Public Works Utilities and Operations Department.	
4.4-16 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.	LS	*None required.*	N/A
4.4-17 Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, or have a substantial adverse effect on the environment by converting oak woodlands or impacting individual trees.	S	*Proposed Project and Biological Resources Preservation Alternative* *4.4-17 Prior to the commencement of construction, the project proponent shall retain a certified arborist to conduct a tree inventory throughout the study area, the results of which shall be submitted for review and approval to the City of Davis Community Development Department and Public Works Utilities and Operations Department.* *If the project would result in impacts to city trees, street trees, and/or trees of significance, as defined by Davis Municipal Code Chapter 37, the potential impacts to such trees shall be mitigated in*	LS

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		accordance with the City's Tree Ordinance. Final mitigation requirements shall be determined by the City of Davis and may include the following options: • *Incorporation of existing healthy trees into the design of the project;* • *Replanting of trees on-site;* • *Replanting of trees off-site in City-owned open space or park; and/or* • *Payment to the City's Tree Preservation Fund in lieu of replacement.*	
4.4-18 Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.	S	*Proposed Project and Biological Resources Preservation Alternative* *4.4-18(a)* *Yolo HCP/NCCP AMM3: Where natural communities and covered species habitat are present, workers will confine land clearing to the minimum area necessary to facilitate construction activities. Workers will restrict movement of heavy equipment to and from the project site to established roadways to minimize natural community and covered species habitat disturbance. The project proponent will clearly identify boundaries of work areas using temporary fencing or equivalent and will identify areas designated as environmentally sensitive. All construction vehicles, other equipment, and personnel will avoid these designated areas.* *4.4-18(b)* *Yolo HCP/NCCP AMM4: To prevent injury and mortality of giant garter snake, western pond turtle,*	LS

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		and California tiger salamander, workers will cover open trenches and holes associated with implementation of covered activities that affect habitat for these species or design the trenches and holes with escape ramps that can be used during non-working hours. The construction contractor will inspect open trenches and holes prior to filling and contact a qualified biologist to remove or release any trapped wildlife found in the trenches or holes. *4.4-18(c)* *Yolo HCP/NCCP AMM5: Workers will minimize the spread of dust from work sites to natural communities or covered species habitats on adjacent lands.* *4.4-18(d)* *Yolo HCP/NCCP AMM6: All construction personnel will participate in a worker environmental training program approved/authorized by the Conservancy and administered by a qualified biologist. The training will provide education regarding sensitive natural communities and covered species and their habitats, the need to avoid adverse effects, state and federal protection, and the legal implications of violating the FESA and NCCPA Permits. A pre-recorded video presentation by a qualified biologist shown to construction personnel may fulfill the training requirement.* *4.4-18(e)* *Yolo HCP/NCCP AMM7: Workers will direct all lights for nighttime lighting of project construction sites into the project construction area and minimize the*	

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		lighting of natural habitat areas adjacent to the project construction area. *4.4-18(f)* *Yolo HCP/NCCP AMM8: Project proponents should locate construction staging and other temporary work areas for covered activities in areas that will ultimately be a part of the permanent project development footprint. If construction staging and other temporary work areas must be located outside of permanent project footprints, they will be located either in areas that do not support habitat for covered species or are easily restored to prior or improved ecological functions (e.g., grassland and agricultural land). Construction staging and other temporary work areas located outside of project footprints will be sited in areas that avoid adverse effects on the following:* • *Serpentine, valley oak woodland, alkali prairie, vernal pool complex, valley foothill riparian, and fresh emergent wetland land cover types.* • *Occupied western burrowing owl burrows. [Occupied for the purpose of AMM8 means at least one burrowing owl has been observed occupying the burrow within the last three years. Occupancy of a burrow may also be indicated by owl sign at the burrow entrance, including molted feathers, cast pellets, prey remains, eggshell fragments, or*	

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		excrement at or near a burrow entrance or perch site] • *Nest sites for covered bird species and all raptors, including noncovered raptors, during the breeding season.* *Project proponents will follow specific AMMs for sensitive natural communities (Section 4.3.3, Sensitive Natural Communities) and covered species (Section 4.3.4, Covered Species) in temporary staging and work areas. For establishment of temporary work areas outside of the project footprint, project proponents will conduct surveys to determine if any of the biological resources listed above are present. Within one year following removal of land cover, project proponents will restore temporary work and staging areas to a condition equal to or greater than the covered species habitat function of the affected habitat. Restoration of vegetation in temporary work and staging areas will use clean, native seed mixes approved by the Conservancy that are free of noxious plant species seeds.* *4.4-18(g) Implement Mitigation Measures 4.4-1(c), 4.4-5, 4.4-7, 4.4-9, 4.4-10, 4.4-11, 4.4-14(a), and 4.4-15(b).*	
4.4-19 Cumulative loss of habitat for special-status species.	Proposed Project = CC BRPA = LCC	*Proposed Project and Biological Resources Preservation Alternative* *4.4-19 Implement Mitigation Measures 4.4-14(a), 4.4-14(b), 4.4-15(a), 4.4-15(b), 4.4-15(c), and 4.4-15(d).*	Proposed Project = SU BRPA = N/A

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4.5 Cultural and Tribal Cultural Resources			
4.5-1 Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines, Section 15064.5.	S	*Proposed Project, Biological Resources Preservation Alternative* *4.5-1 Prior to construction of any off-site improvements that could alter the railroad segment (P-57-000977), improvement plans shall be reviewed by an architectural historian to ensure that the improvements are designed consistent with the guidelines outlined in The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings. Proof of compliance with the aforementioned standards shall be submitted to the City of Davis Department of Community Development for review and approval.*	LS
4.5-2 Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to CEQA Guidelines, Section 15064.5.	S	*Proposed Project, Biological Resources Preservation Alternative* *4.5-2 If archaeological resources are encountered during subsurface excavation activities, the City and Yocha Dehe Wintun Nation (Tribe) shall be notified immediately and all construction activities within a 100-foot radius of the resource shall cease. In accordance with the Tribe's Treatment Protocol for Handling Human Remains and Cultural Items Affiliated with the Yocha Dehe Wintun Nation, treatment of all cultural items, including ceremonial items and archeological items shall reflect the religious beliefs, customs, and practices of the Tribe. All cultural items, including ceremonial items and*	LS

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		archeological items, which may be found at the project site shall be turned over to the Tribe for appropriate treatment, unless otherwise ordered by a court or agency of competent jurisdiction. The project proponent shall waive any and all claims to ownership of tribal ceremonial and cultural items, including archeological items, which may be found on the project site, in favor of the Tribe. If any intermediary is necessary (for example, an archaeologist retained by the project proponent), said entity or individual shall not possess those items for longer than is reasonably necessary, as determined solely by the Tribe. *If additional significant sites or sites not identified as significant in the project environmental review process, but later determined to be significant, are located within the project impact area, such sites shall be subjected to further archeological and cultural significance evaluation by the project proponent, the City of Davis, and the Tribe to determine if additional mitigation measures are necessary to treat sites in a culturally appropriate manner, consistent with CEQA requirements for mitigation of impacts to cultural resources. If human remains are present that have been identified as Native American, all work shall cease for a period of up to 30 days in accordance with federal Law.*	

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Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		The City shall require that the applicant include a standard inadvertent discovery clause in every construction contract to inform contractors of the foregoing requirements. Any previously undiscovered resources found during construction shall be recorded on appropriate California Department of Parks and Recreation forms and evaluated for significance in terms of California Environmental Quality Act criteria by a qualified cultural resources specialist and Native American Representative from the Tribe. If the resource is determined to be significant under CEQA, the City and Native American Representative from the Tribe shall determine whether preservation in place is feasible. Such preservation in place is the preferred mitigation. If such preservation is infeasible, the Native American Representative from the Tribe shall prepare and implement a research design and archaeological data recovery plan for the resource. The Native American Representative from the Tribe shall also conduct appropriate technical analyses, prepare a comprehensive written report and file it with the appropriate information center (California Historical Resources Information System), and provide for the permanent curation of the recovered materials.	

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Summary of Impacts and Mitigation Measures

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4.5-3 Disturb any human remains, including those interred outside of dedicated cemeteries.	S	*Proposed Project, Biological Resources Preservation Alternative* *4.5-3 In accordance with the Tribe's Treatment Protocol for Handling Human Remains and Cultural Items Affiliated with the Yocha Dehe Wintun Nation, if Native American human remains are found during the course of the proposed Project, the determination of Most Likely Descendant ("MLD") under California PRC Section 5097.98 shall be made by the Native American Heritage Commission ("NAHC"), upon notification to the NAHC of the discovery of said remains at the project site. If the location of the site and the history and prehistory of the area is culturally-affiliated with the Tribe, the NAHC shall contact the Tribe. A tribal member shall be designated by the Tribe to consult with the landowner and/or project proponents. Should the NAHC determine that a member of an Indian tribe other than Yocha Dehe Wintun Nation is the MLD, and the Tribe is in agreement with this determination, the terms of this protocol relating to the treatment of such Native American human remains shall not be applicable; however, that situation is very unlikely.* *In the event that Native American human remains are found during development of the proposed project and the Tribe or a member of the Tribe is determined to be MLD pursuant to the above requirements of the Protocol, the following provisions shall apply. The*	LS

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		Medical Examiner shall immediately be notified, ground-disturbing activities in that location shall cease, and the Tribe shall be allowed, pursuant to California PRC Section 5097.98(a), to (1) inspect the site of the discovery and (2) make determinations as to how the human remains and grave goods should be treated and disposed of with appropriate dignity. *The Tribe shall complete its inspection and make its MLD recommendation within 48 hours of getting access to the site. The Tribe shall have the final determination as to the disposition and treatment of human remains and grave goods. Said determination may include avoidance of the human remains, reburial on-site, or reburial on tribal or other lands that will not be disturbed in the future.* *The Tribe may wish to rebury said human remains and grave goods or ceremonial and cultural items on or near the site of their discovery, in an area which will not be subject to future disturbances over a prolonged period of time. Reburial of human remains shall be accomplished in compliance with the California PRC Sections 5097.98(a) and (b).* *The term "human remains" encompasses more than human bones because the Tribe's traditions call for the burial of associated cultural items with the deceased (funerary objects), and/or the ceremonial burning of Native American human remains, funerary*	

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Table 2-1
Summary of Impacts and Mitigation Measures

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		objects, grave goods, and animals. Ashes, soils and other remnants of these burning ceremonies, as well as associated funerary objects and unassociated funerary objects buried with or found near the Native American remains are to be treated in the same manner as bones or bone fragments that remain intact.	
4.5-4 Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074.	S	*Proposed Project, Biological Resources Preservation Alternative* *4.5-4(a) Prior to commencement of ground disturbing activities, the applicant shall arrange for a member of Yocha Dehe Wintun Nation to conduct Cultural Sensitivity Training to the construction crew. Generally, the training would consist of a presentation to the construction crew about types of resources and evidence thereof, role of the Tribe, what to do if resources are uncovered, etc. To schedule Cultural Sensitivity Training prior to commencement of construction, the applicant shall contact the Cultural Resources Department Administrative Staff, Yocha Dehe Wintun Nation, Office (530) 796-3400, Email: THPO@yochadehe-nsn.gov. Proof of compliance with this measure shall be provided to the Davis Community Development Department.* *4.5-4(b) Prior to commencement of construction activities, the applicant shall retain an archaeologist to prepare a written monitoring plan that describes the role of the*	LS

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Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		tribal monitors, archaeological monitors, and developer's representatives, timelines for advanced notification to Yocha Dehe Wintun Nation prior to grading, and the procedures to follow in the event archaeological/tribal remains are uncovered. The procedures shall comply with Yocha Dehe Wintun Nation's "Treatment Protocol for Handling Human Remains and Cultural Items Affiliated with the Yocha Dehe Wintun Nation." Proof of compliance shall be provided to the Davis Community Development Department. *4.5-4(c) During grading, excavating, and trenching of soils within the project site, a tribal monitor and archaeological monitor shall be present on-site, as determined in the monitoring plan.* *During deep excavation/trenching for sewer mains, storm drains, waterlines, etc. in all portions of the project site, a tribal monitor and archaeological monitor shall be present on-site, as determined in the monitoring plan.* *The foregoing measures shall be included in the project's written monitoring plan, required in Mitigation Measure 4.5-4(b).*	
4.5-5 Cause a cumulative loss of cultural and tribal cultural resources.	LS	*None required.*	N/A

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4.6 Geology and Soils			
4.6-1 Directly or 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, and seismic-related ground failure.	LS	*None required.*	N/A
4.6-2 Result in substantial soil erosion or the loss of topsoil.	LS	*None required.*	N/A
4.6-3 Be located on a geological 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, or be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code, creating substantial risks to life or property.	S	*Proposed Project, Biological Resources Preservation Alternative* *4.6-3 Prior to final design approval and issuance of building permits for the Proposed Project or BRPA, the project applicant shall submit a design-level geotechnical engineering report produced by a California Registered Civil Engineer or Geotechnical Engineer to the City of Davis Community Development Department and Public Works Department, for review and approval. The report shall include the results of a site-specific subsurface exploration, laboratory testing, and engineering analysis. The design-level report shall be performed after site configuration/layout has been established. The investigation shall include several exploratory borings and test pits throughout the project site/BRPA site to evaluate the potential presence of undocumented fill, tilled/disturbed soil thickness,*	LS

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		liquefaction potential, and excavation characteristics. The design-level geotechnical engineering report shall evaluate soil expansion potential and include the results of a laboratory plasticity index and expansion index testing. The report shall include the geotechnical recommendations specified in the Preliminary Geotechnical Evaluation prepared for the Proposed Project and BRPA, unless it is determined in the design-level report that one or more recommendations need to be revised. *The design-level geotechnical engineering report shall address, at a minimum, the following:* • *Compaction specifications and subgrade preparation for on-site soils;* • *Structural foundations;* • *Grading practices;* • *Liquefaction potential; and* • *Expansive/unstable soils, including fill.* *Prior to issuance of any improvement plans, the foundation and improvement plans shall incorporate design-level recommendations. All foundation and improvement plans shall be reviewed and approved by the City of Davis Public Works – Engineering and Transportation Department, and the City of Davis Community Development Department – Building Division prior to issuance of any building permits.*	

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4.6-4 Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	S	*Proposed Project, Biological Resources Preservation Alternative* *4.6-4 Should paleontological resources be discovered during ground-disturbing activities, work shall be halted in the area within 50 feet of the find. Construction may continue in areas outside of the buffer zone. The applicant shall notify the Public Works Department and the City of Davis Community Development Department and retain a qualified paleontologist to inspect the discovery. If deemed significant under criteria established by the Society for Vertebrate Paleontology with respect to authenticity, completeness, preservation, and identification, the resource(s) shall then be salvaged and deposited in an accredited and permanent scientific institution (e.g., University of California Museum of Paleontology [UCMP] or Sierra College), where the discovery would be properly curated and preserved for the benefit of current and future generations. The language of this mitigation measure shall be included on any future grading plans, utility plans, and improvement plans approved by the City of Davis Public Works – Engineering and Transportation Department and the City of Davis Public Works – Utilities and Operations Department for the Proposed Project or BRPA, where excavation work would be required.*	LS

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4.6-5 Cumulative increase in the potential for geological related impacts and hazards.	LS	*None required.*	N/A
4.7 Hazards and Hazardous Materials			
4.7-1 Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	LS	*None required.*	N/A
4.7-2 Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment.	S	*Proposed Project and Biological Resources Preservation Alternative* *4.7-2(a) Prior to issuance of a demolition permit by the City for the on-site two-story tank house, shallow soil impacted by toxaphene at the former barn, shed, and trailer locations within the project site/Biological Resources Preservation Alternative (BRPA) site shall be removed and disposed of off-site in accordance with federal, State, and local regulations at an appropriate Class I or Class II facility permitted by the Department of Toxic Substances Control (DTSC), or other options implemented as deemed satisfactory by Yolo County Environmental Health Division (YCEHD) and/or DTSC. The removal and off-site disposal of soil impacted by toxaphene shall concurrently address the limited area where lead was detected at concentrations exceeding the screening level for residential soil in the Urban Development Area Phase II Environmental Site Assessment (ESA) prepared for the Proposed Project by Geocon*	LS

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		Consultants, Inc. (Geocon). The soil removal shall be performed under the oversight of the YCEHD, unless the YCEHD defers oversight to a State agency. Verification soil sampling and laboratory analysis shall be required to demonstrate that the impacted soil was removed, and a completion report shall document the proper handling and disposal of the impacted soil. Results of soils sampling, analysis, and the completion report shall be submitted for review and approval to the City of Davis Department of Community Development and Public Works Utilities and Operations Department (PWUO). *4.7-2(b) Prior to issuance of a demolition permit by the City for the on-site two-story tank house, the interior of the water tank house shall be surveyed for asbestos-containing materials (ACMs) in accordance with applicable Yolo-Solano Air Quality Management District (YSAQMD) regulations, including, but not necessarily limited to, Rule 9.9, Section 401. Written notification to YSAQMD shall be provided a minimum of 10 working days prior to commencement of any demolition activity, whether asbestos is present or not. The structure interior shall also be inspected for deteriorated (peeling/flaking) lead-based paint (LBP) prior to demolition activities. If LBP is found, all loose and peeling paint shall be removed and disposed of by a licensed and certified lead paint removal contractor, in accordance with California Air Resources Board recommendations and OSHA*	

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		requirements. The demolition contractor shall be informed that all paint on the interior of the structure shall be considered as containing lead. *The contractor shall follow all work practice standards set forth in the Asbestos National Emission Standards for Hazardous Air Pollutants (Asbestos NESHAP, 40 CFR, Part 61, Subpart M) regulations, as well as Section V, Chapter 3 of the OSHA Technical Manual. Work practice standards generally include appropriate precautions to protect construction workers and the surrounding community, and appropriate disposal methods for construction waste containing lead paint or asbestos in accordance with federal, State, and local regulations subject to approval by the City Engineer.* *4.7-2(c) Prior to commencement of construction activities, the locations of the geophysical anomalies identified at the former barn and residence locations identified in the Urban Development Phase II ESA prepared for the Proposed Project by Geocon shall be investigated through exploratory trenching. The results of the investigation and any soil sampling and analysis that occurs shall be submitted for review and approval to the City of Davis Department of Community Development and Public Works Utilities and Operations Department (PWUO). If evidence of underground storage tanks (USTs) is not found, further mitigation shall not be required.*	

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		If USTs are identified, the project applicant shall submit an Authority to Remove Underground Storage Tanks Application to the YCEHD for review and approval, pursuant to the requirements set forth in Yolo County Code Section 6-11.12.8. As part of the Authority to Remove Underground Storage Tanks Application, the project applicant shall also pay associated fees. At minimum, the Authority to Remove Underground Storage Tanks Application shall detail the following: • *The proposed schedule for collection and sampling of soils beneath the on-site USTs and along piping runs;* • *The DTSC and U.S. Environmental Protection Agency (USEPA) standards against which collected on-site soils shall be tested;* • *Applicable work practice standards, in accordance with the Occupational Safety and Health Administration (OSHA) Technical Manual, that shall be implemented to ensure appropriate precautions are incorporated to protect construction workers and the surrounding community during removal of the on-site USTs and associated piping runs;* • *The proposed disposal methods for on-site soils associated with the USTs and piping runs;*	

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		• *The proposed date of UST closure inspection; and* • *The methods with which soils shall be remediated on-site, if contaminants in tested soils exceed applicable standards. If on-site remediation is not possible, the methods and routes in which contaminated soils shall be hauled to an appropriate facility for disposal.* *In accordance with California Code of Regulations (CCR) Title 22, Division 4.5, Chapter 32, the existing on-site USTs and primary piping shall be managed as hazardous waste upon removal, unless such facilities are cleaned on-site and certified by a YCEHD representative as non-hazardous in accordance with DTSC hazardous waste regulations. UST removal and sampling activities shall be witnessed by a YCEHD representative.* *4.7-2(d) Prior to commencement of construction activities, the project applicant shall hire a licensed well contractor to obtain a well abandonment permit from YCEHD for all on-site water supply wells, and properly abandon the on-site water supply wells in accordance with Department of Water Resources Bulletin 74-81 (Water Well Standards, Part III). Verification of abandonment shall be submitted for review and approval of the City of Davis Department of Community Development and YCEHD.*	

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		4.7-2(e) *Prior to commencement of construction activities, the project applicant shall consult with the Central Valley Regional Water Quality Control Board (RWQCB) and YCEHD to determine if on-site monitoring wells can be abandoned. Confirmation shall be obtained from the YCEHD documenting that the proposed development is not subject to landfill post-closure requirements associated with CCR Title 27 Section 21190(g). If additional soil vapor monitoring is not anticipated to be performed, soil vapor monitoring wells VP1 and VP2 shall be abandoned under permit from the YCEHD.* *If the Central Valley RWQCB and YCEHD confirm that all or a portion of on-site monitoring wells may be abandoned, the project applicant shall hire a licensed well contractor to obtain a well abandonment permit from YCEHD for the identified on-site monitoring wells to be abandoned, and properly abandon the wells in accordance with Department of Water Resources Bulletin 74-81 (Water Well Standards, Part III). Verification of abandonment shall be submitted for review and approval of the RWQCB, City of Davis Department of Community Development and Sustainability, and YCEHD.* *If the Central Valley RWQCB and YCEHD prohibit the abandonment of all or a portion of the on-site monitoring wells, the project applicant shall ensure that the improvement plans show that all project*	

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		improvements comply with applicable minimum setback distances established by the YCEHD Water Well Program. Verification that the improvement plans properly document minimum setback distances shall be subject to review and approval of the Public Works Utilities and Operations Department (PWUO), RWQCB, and YCEHD. *4.7-2(f) Prior to commencement of grading and construction, the construction contractor, a representative from Pacific Gas & Electric Company (PG&E), and a representative from the City of Davis Public Works Department shall meet on the project site/BRPA site and the applicant shall prepare site-specific safety guidelines for construction in and around the buried natural gas pipeline to the satisfaction of the Public Works Department . The safety guidelines and field-verified location of the on-site buried natural gas pipeline shall be noted on the improvement plans and included in all construction contracts involving the project site/BRPA site.*	
4.7-3 Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	LS	*None required.*	N/A
4.7-4 Impair implementation of or physically interfere with an adopted emergency response	LS	*None required.*	N/A

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	plan or emergency evacuation plan.			
4.7-5	**Cumulative exposure to potential hazards, including wildfire, and increases in the transport, storage, and use of hazardous materials.**	LS	*None required.*	N/A
4.8 Hydrology and Water Quality				
4.8-1	**Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality during construction.**	S	*Proposed Project and Biological Resources Preservation Alternative* *4.8-1 Prior to commencement of construction, the applicant shall obtain a NPDES General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit), which pertains to pollution from grading and project construction. Compliance with the Permit requires the project applicant to file a Notice of Intent (NOI) with the State Water Resources Control Board (SWRCB) and prepare a Storm Water Pollution Prevention Plan (SWPPP) prior to ground disturbance. The SWPPP would incorporate Best Management Practices (BMPs) in order to prevent, or reduce to the greatest extent feasible, adverse impacts to water quality from erosion and sedimentation. A copy of the SWPPP including BMP implementation provisions shall be submitted to the City of Davis Public Works – Utilities and Operations Department.*	LS

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4.8-2 Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality during operations.	S	*Proposed Project and Biological Resources Preservation Alternative* *4.8-2 Prior to approval of final project improvement plans, a final Stormwater Control Plan shall be submitted to City of Davis Public Works – Utilities and Operations Department for review and approval. The final Stormwater Control Plan shall be in compliance with all applicable provisions of the National Pollutant Discharge Elimination System (NPDES) Phase II MS4 General Permit (NPDES General Permit No. CAS612008, Order No. R2-2022-0018) and shall meet the standards of the California Stormwater Quality Association (CASQA) Stormwater BMP Handbook for New Development and Redevelopment. Site design measures, source-control measures, hydromodification management, and Low Impact Development (LID) standards, as necessary, shall be incorporated into the design and shown on the improvement plans. The final plans shall include calculations demonstrating that the water quality BMPs are appropriately sized, using methodology in the CASQA Stormwater BMP Handbook for New Development and Redevelopment. The final plans shall also incorporate the proposed components for maintaining the stormwater-treatment facilities.*	LS
4.8-3 Substantially decrease groundwater supplies or interfere substantially with	LS	*None required.*	N/A

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groundwater recharge such that the project may impede sustainable groundwater management of the basin or conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.			
4.8-4 Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: 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.	S	*Proposed Project, Biological Resources Preservation Alternative* *4.8-4 In conjunction with submittal of the first tentative subdivision map for the Proposed Project or BRPA, a design-level drainage report shall be submitted to the City of Davis Public Works – Utilities and Operations Department for review and approval. The drainage report shall identify specific storm drainage design features to control the 200-year, 10-day increased runoff from the project site to ensure that the rate of runoff leaving the developed site does not exceed the pre-project condition. This may be achieved through: on-site conveyance and detention facilities, storage within the on-site UATA, or equally effective measures to control the rate and volume of runoff.* *The design-level drainage report shall perform an updated net impact evaluation of downstream East Davis Ponding, taking into consideration the final on-site storm water system design, when the*	LS

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		downstream flow is blocked by high water levels in the Willow Slough Bypass. The final amount of runoff volume to be detained would be determined with the design-level drainage report. This could result in detaining run-off volume for an extended time period. *Design-level recommendations provided in the drainage report shall be included in the improvements plans prior to their approval by the City of Davis Public Works – Utilities and Operations Department.*	
4.8-5 Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows, or in flood hazard, tsunami, or seiche zone, risk release of pollutants due to project inundation.	S	*Proposed Project and Biological Resources Preservation Alternative* *4.8-5 Prior to improvement plan approval, and if required by the Federal Emergency Management Agency (FEMA), the Yolo County Flood Control and Water Conservation District, or the County Floodplain Administrator, the applicant shall obtain from FEMA a Conditional Letter of Map Revision (CLOMR) or Conditional Letter of Map Revision based on Fill (CLOMR-F) for fill within a Special Flood Hazard Area. A copy of the letter shall be provided to the City of Davis Public Works Engineering and Transportation Department. A Letter of Map Revision (LOMR), or a Letter of Map Revision based on Fill (LOMR-F) from FEMA shall be provided to the City of Davis Public Works Engineering and Transportation Department prior to acceptance of project improvements as complete.*	LS

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4.8-6 Cumulative impacts related to the violation of water quality standards or waste discharge requirements, groundwater quality, management, and recharge, and impacts resulting from the alteration of existing drainage patterns.	LCC	*None required.*	N/A
4.9 Land Use and Planning			
4.9-1 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.	LS	*None required.*	N/A
4.9-2 Cause a significant cumulative 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.	LS	*None required.*	N/A
4.10 Noise			
4.10-1 Generation of a substantial temporary increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise	S	*Proposed Project, Biological Resources Preservation Alternative* *4.10-1 Prior to the approval of grading and/or building permits, the following requirements shall be noted on Improvement Pans, subject to review and approval of*	SU

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ordinance, or applicable standards of other agencies.		*the City of Davis Community Development Department:* • *The proposed project shall incorporate eight-foot-tall temporary sound barriers between the existing sensitive receptors and construction activities, as determined by a qualified acoustical consultant prior to commencement of construction (reference locations in Table 4.10-10 of the Village Farms Draft EIR). The sound barrier fencing shall consist of 0.5-inch plywood or minimum Sound Transmission Class (STC) 27 sound curtains placed to shield nearby sensitive receptors. The plywood barrier shall be free from gaps, openings, or penetrations to ensure maximum performance;* • *Construction activities shall only take place between the hours of 7:00 AM and 7:00 PM, Monday through Friday, and 8:00 AM and 8:00 PM, on Saturday;* • *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*	

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Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		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 nearest to the project site/BRPA site; • *Unnecessary idling of internal-combustion engines is prohibited; and* • *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 to the project site/BRPA site during all project construction.*	
4.10-2 Generation of a substantial 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.	LS	*None required.*	N/A
4.10-3 Generation of excessive groundborne vibration or groundborne noise levels.	LS	*None required.*	N/A
4.10-4 Generation of a substantial permanent increase in ambient noise levels associated with cumulative development of the	LS	*None required.*	N/A

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Table 2-1
Summary of Impacts and Mitigation Measures

	Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
	Proposed Project or the BRPA in combination with future buildout of the City of Davis.			
	4.11 Population and Housing			
4.11-1	**Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure).**	S	*None feasible.*	SU
4.11-2	**Cumulative unplanned population growth.**	CC	*None feasible.*	SU
	4.12 Public Services and Recreation			
4.12-1	**Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental services and/or 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 services.**	LS	*None required.*	N/A
4.12-2	**Result in substantial adverse physical impacts associated**	LS	*None required.*	N/A

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Table 2-1
Summary of Impacts and Mitigation Measures

	Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
	with the provision of new or physically altered governmental services and/or facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection services.			
4.12-3	**Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental services and/or facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable performance objectives for schools and other public facilities.**	LS	*None required.*	N/A
4.12-4	**Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental services and/or facilities, the construction of which could cause significant**	LS	*None required.*	N/A

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
environmental impacts, in order to maintain acceptable performance objectives for parks; or result in an increase in 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.			
4.12-5 Cumulative impacts to public services.	LS	*None required.*	N/A
4.13 Transportation			
4.13-1 Conflict with a program, plan, ordinance, or policy addressing the circulation system during construction activities.	S	*Proposed Project, Biological Resources Preservation Alternative* *4.13-1 Prior to any construction activities for the project site/BRPA site, the project applicant shall prepare a detailed Construction Traffic Control Plan (CTCP) and submit it for review and approval by the City Department of Public Works. The applicant and the City shall consult with Yolo County, Caltrans, Unitrans, Yolobus, and local emergency service*	LS

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		providers for their input prior to approving the CTCP. The CTCP shall ensure that acceptable operating conditions on local roadways and freeway facilities are maintained during construction. A copy of the CTCP shall be submitted to local emergency response agencies and the agencies shall be notified at least 14 days prior to the commencement of construction that would partially or fully obstruct roadways. At a minimum, the CTCP shall include: • *The number of truck trips, time, and day of street closures;* • *Time of day of arrival and departure of trucks;* • *Limitations on the size and type of trucks, provision of a staging area with a limitation on the number of trucks that can be waiting;* • *Provision of a truck circulation pattern that minimizes effects on existing vehicle traffic during peak travel periods and maintains safe bicycle circulation;* • *Prohibition on use of public roads by haul trucks transporting soil from the Uban Agricultural Transition Area (UATA) to the development portion of the project site;* • *Resurface and/or repair any damage to roadways that occurs as a result of construction traffic;* • *Provision of driveway access plan so that safe vehicular, pedestrian, and bicycle*	

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Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		movements are maintained (e.g., steel plates, minimum distances of open trenches, and private vehicle pick up and drop off areas); • *Maintain safe and efficient access routes for emergency vehicles;* • *Manual traffic control when necessary;* • *Proper advance warning and posted signage concerning street closures; and* • *Provisions for pedestrian safety.*	
4.13-2 Conflict with a program, plan, ordinance, or policy addressing the circulation system, including pedestrian and bicycle facilities.	S	*Proposed Project, Biological Resources Preservation Alternative* *4.13-2(a) In conjunction with submittal of a tentative map, the Project applicant shall submit a focused traffic impact study to determine if any of the intersection and roadway mitigations are required based on the additional traffic generated by the subject development phase. The focused traffic study shall address the impact of adding the individual phase of development to existing plus other approved/pending development projects. The project applicant shall construct physical improvements as identified in the focused traffic study.* *4.13-2(b) Prior to occupancy of the first residential unit during Phase 1 of the Proposed Project/BRPA, the project applicant shall implement modifications to improve the East Covell Boulevard/Pole Line Road*	LS

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Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		intersection as follows, to the satisfaction of the City of Davis City Engineer: • *Install marked crosswalks and accompanying pedestrian crossing signals on the north and west legs to provide temporal separation between pedestrians and conflicting vehicular movements.* • *Eliminate the eastbound and westbound channelized right-turn lanes and replace them with standard right-turn pockets. Alternatively, modify the eastbound and westbound channelized right-turn lanes to reduce the speed of turning vehicles and to reduce pedestrian/bicycles exposure to conflicting vehicular traffic.* • *Install high visibility bike lane conflict markings at the intersection approaches.* *Implementation of the foregoing improvements, or a set of improvements of equal effectiveness as determined by the City Engineer, would reduce the potential for conflicts involving bicyclists and pedestrians that would otherwise be caused by the project and promote bicycle and pedestrian travel to and from the project site. Improvements that would further enhance safety for people walking and biking would include the conversion of the intersection into a protected intersection (similar to East Covell Boulevard/L Street) or a roundabout.*	

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Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		4.13-2(c) *The project applicant shall construct a roundabout with pedestrian and bicycle crossings on all legs at the Pole Line Road/Moore Boulevard intersection. Bicycle and pedestrian crossings shall be placed through the splitter islands for each roundabout approach to minimize the number of multi-lane crossings, and shall be designed to the satisfaction of the City Engineer. In addition, the project applicant shall install traffic signals and pedestrian crossings on all legs at the Pole Line Road/Donner Avenue and Pole Line Road/Picasso Avenue intersections.* *Implementation of the foregoing improvements, or a set of improvements of equal effectiveness as determined by the City Engineer, would reduce the potential for conflicts involving bicyclists or pedestrians that would otherwise be caused by the project and promote bicycle and pedestrian travel to and from the project site/BRPA site.* *4.13-2(d)* *Prior to occupancy of the first residential unit during Phase 1 of the Proposed Project/BRPA, the project applicant shall install bicycle and pedestrian crossing improvements at the East Covell Boulevard/Birch Lane intersection, consistent with the planned improvements identified in the East Covell Corridor Plan (ECCP), to the satisfaction of the City Engineer. The improvements shall include: installation of high visibility bike lane conflict markings in the northbound*	

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Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		and southbound direction across both East Covell Boulevard and Denison Drive; high visibility marked crosswalks across the east leg of the East Covell Boulevard/Birch Lane intersection and across the east and south legs of the Birch Lane/Denison Drive intersection; and installation of a bike lane with conflict markings at the northbound approach of the East Covell Boulevard/Birch Lane intersection. *Implementation of the foregoing improvements, or a set of improvements of equal effectiveness as determined by the City Engineer, would reduce the potential for conflicts involving bicyclists or pedestrians that would otherwise be exacerbated by the project and promote bicycle and pedestrian travel to and from the project site/BRPA site.* *4.13-2(e) Prior to occupancy of the first residential unit during Phase 1 of the Proposed Project/BRPA, the project applicant shall install bicycle and pedestrian crossing improvements at the Cannery Loop elbow adjacent to Cannery Dog Park, to the satisfaction of the City Engineer. Improvements shall include the installation of high visibility crosswalk markings and the installation of a rapid-rectangular flashing beacon (RRFB) at the existing diagonal crossing.* *Implementation of the foregoing improvements, or a set of improvements of equal effectiveness as determined by the City Engineer, would reduce the*	

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Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		potential for conflicts involving bicyclists or pedestrians that would otherwise be caused by the project and promote bicycle and pedestrian travel to and from the project site/BRPA site. *4.13-2(f) Prior to occupancy of the first residential unit during Phase 1 of the Proposed Project/BRPA, the project applicant shall install high visibility bicycle and pedestrian crossing markings and accompanying signage at the three Oak Tree Plaza driveway intersections with the East Covell Boulevard shared-use path, consistent with the ECCP, to the satisfaction of the City Engineer.* *Implementation of the foregoing improvements, or a set of improvements of equal effectiveness as determined by the City Engineer, would reduce the potential for conflicts involving bicyclists or pedestrians that would otherwise be exacerbated by the project and promote bicycle and pedestrian travel to and from the project site/BRPA site.* *4.13-2(g) Prior to occupancy of the first residential unit during Phase I of the Proposed Project/BRPA, to the satisfaction of the City Engineer, the project applicant shall install Class III bike route pavement markings (e.g., green-backed sharrows) and accompanying signage on Birch Lane between East Covell Boulevard and Pole Line Road.*	

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Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Implementation of the foregoing improvements, or a set of improvements of equal effectiveness as determined by the City Engineer, would reduce the potential for conflicts involving bicyclists or pedestrians that would otherwise be exacerbated by the project and promote bicycle and pedestrian travel to and from the project site.	
4.13-3 Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit facilities and services.	S	*Proposed Project, Biological Resources Preservation Alternative* *4.13-3(a) Implement Mitigation Measure 4.13-4.* *4.13-3(b) Prior to occupancy of the first residential unit during Phase 1 of the Proposed Project/BRPA, the project applicant shall fund a Transit Service and Facilities Plan for the area encompassing the project site and other development along the north side of the Covell Boulevard and Mace Boulevard corridor between the westerly city limits and the I-80 interchange. The plan shall be led either by Unitrans and Yolobus, or by the City with Unitrans and Yolobus participating as active project partners. The plan shall be guided by the Unitrans and Yolobus service development processes, and shall be subject to approval by the City of Davis Transportation Department. The Transit Service and Facilities Plan shall identify transit service and facility improvements required in accordance with Unitrans and Yolobus policies related to unmet transit needs, timing for*	SU

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Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		improvements, transit service warrants, and performance standards. *The applicant shall fund the implementation of transit service and facilities improvements to the extent that they are identified in the aforementioned Transit Service and Facilities Plan with the explicitly focus of implementing improvements that would address Proposed Project/BRPA-related contributions to unmet transit needs and project-related deficiencies with respect to transit service warrants and performance standards. The Proposed Project/BRPA shall not be responsible for funding improvements that address existing deficiencies. Potential transit improvements include the following:* *1) Modifying existing transit routes or adding new routes to serve the project site, adding service capacity (through increased headways and/or larger vehicles) to prevent overcrowding and maintain productivity standards.* *2) Constructing transit priority treatments to improve on-time performance (i.e., transit signal priority and/or Intelligent Transportation Systems (ITS) upgrades at East Covell Boulevard traffic signals, transit queue jumps at East Covell Boulevard intersections, etc.).*	

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Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		3) Improving terminal facilities (i.e., stops) to accommodate additional passengers and transit vehicles. *4) Implementing transit pass/fare subsidies for residents and employees.* *Improvements shall be selected based on relevant performance data and targeted to address those areas not meeting established Unitrans performance standards. Transit facility improvements shall be designed and constructed pursuant to applicable City of Davis, Unitrans, and Yolobus standards.* *To implement this mitigation measure, the Proposed Project/BRPA shall establish an appropriate funding mechanism (e.g., Community Facilities District or other mechanism determined acceptable by the City), to fund transit service and facilities improvements to adhere to Unitrans and Yolobus policies related to unmet transit needs, transit service warrants, and performance standards. The funding mechanism shall provide funding for capital costs and on-going operation of transit services. On-going annual fees would be identified and paid by the applicant to fund necessary transit service and facility improvements. Fees would be assessed on all future project land uses that generate an increased demand for transit services, including residential, commercial, civic, and recreation land uses. The project's funding contributions allocated through the funding*	

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Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		mechanism shall be limited to improvements and/or portions of improvements that are attributable to the project's contributions to deficient transit service and/or operations. The project shall not contribute funding towards improvements needed to address existing deficiencies and/or improvements needed to address deficiencies attributable to other future land use projects. *Prior to establishing the funding mechanism, the applicant shall submit to the City for review and approval a complete and adequate report supporting the level of assessments/fees necessary for the establishment and continuation of the funding mechanism. The report shall be prepared by a registered engineer, in consultation with a qualified financial consultant. The report shall identify the transit services intended to be funded by the mechanism, the cost to establish and operate these services, the portion of the overall costs to be funded by the applicant, and the assessment/fees to obtain the necessary funding, including a methodology for calculating fee increases over time. A transit service to be explicitly funded by the mechanism and included in the report would be the implementation of transit service and facilities improvements necessary to adhere to Unitrans and Yolobus policies related to unmet transit needs, transit service warrants, and performance standards. Project contributions towards on-going operating costs shall consider*	

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Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		other regular established transit funding sources, such as the State of California Local Transportation Fund (LTF) and State Transit Assistance (STA) fund, as well as potential contributions from other future development that would benefit from these transit improvements.	
4.13-4 Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).	S	*Proposed Project, Biological Resources Preservation Alternative* *4.13-4 Prior to occupancy of the first residential unit, the project applicant shall implement TDM strategies to reduce the number of vehicle trips that would be generated by the residential component of the Proposed Project/BRPA, subject to review and approval by the City Engineer. The TDM strategies may include, but not necessarily be limited to, CAPCOA Handbook Strategy T-16 and T-20-A.*	SU
4.13-5 Result in inadequate emergency access.	LS	*None required.*	N/A
4.13-6 Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	LS	*None required.*	N/A
4.13-7 Conflict with a program, plan, ordinance, or policy addressing the circulation system, including pedestrian and bicycle facilities,	S	*Proposed Project, Biological Resources Preservation Alternative* *4.13-7 Implement Mitigation Measures 4.13-2(a) through (f).*	LS

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Table 2-1
Summary of Impacts and Mitigation Measures

	Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
	associated with cumulative development of the Proposed Project or the BRPA in combination with future buildout of the City of Davis.			
4.13-8	**Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit facilities and services, associated with cumulative development of the Proposed Project or the BRPA in combination with future buildout of the City of Davis.**	CC	*Proposed Project, Biological Resources Preservation Alternative* *4.13-8 Implement Mitigation Measures 4.13-3(a) and (b).*	SU
4.13-9	**Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) associated with cumulative development of the Proposed Project or the BRPA in combination with future buildout of the City of Davis.**	CC	*Proposed Project, Biological Resources Preservation Alternative* *4.13-9 Implement Mitigation Measure 4.13-4.*	SU
4.13-10	**Result in inadequate emergency access associated with cumulative development of the Proposed Project or the BRPA in combination with future buildout of the City of Davis.**	LS	*None required.*	N/A

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Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.13-11 Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) associated with cumulative development of the Proposed Project or the BRPA in combination with future buildout of the City of Davis.	CC	*Proposed Project, Biological Resources Preservation Alternative* *4.13-11 Prior to occupancy of the first residential unit during Phase 1 of the Proposed Project/BRPA, to the satisfaction of the City of Davis, the project applicant shall enter into an agreement to contribute fair share funding, as determined by the City of Davis Public Works Engineering and Transportation Department, to cover their proportionate cost of the following improvements at the West Covell Boulevard/SR 113 and Mace Boulevard/Chiles Road/I-80 interchanges:* • *Covell Boulevard between Shasta Drive/Risling Court and Birch Lane: Coordinate traffic signals, optimize signal timings, and operate with a 140 second cycle length during the a.m. peak period and a 150 second cycle length during the p.m. peak period. Note that these improvements may require controller or communications upgrades.* • *Mace Boulevard between Alhambra Drive and Cowell Boulevard: Coordinate traffic signals, optimize signal timings, and operate with a 150 second cycle length during the a.m. and p.m. peak periods. Note that these improvements may require controller or communications upgrades.*	SU

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Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• *West Covell Boulevard/SR 113 Southbound Ramps: Construct a second westbound left-turn lane and a second receiving lane on the southbound on-ramp.* • *West Covell Boulevard/SR 113 Northbound Ramps: Modify the northbound off-ramp to consist of three lanes approaching West Covell Boulevard, including one left-turn lane, one shared left/through/right lane, and one right-turn lane. Construct a second eastbound left-turn lane.* • *Mace Boulevard/Second Street/County Road 32A: Modify the northbound approach to consist of five lanes, including two left-turn pockets, two through lanes, and a right-turn pocket.* • *Mace Boulevard/I-80 Eastbound Slip On-Ramp: Extend the on-ramp and relocate the ramp meter 500 feet east of its current location. Convert the HOV lane to a general purpose lane and control both lanes with the ramp meter.* • *Mace Boulevard/Chiles Road: Modify the southbound channelized right-turn lane to a standard right-turn lane.* • *Chiles Road/I-80 Eastbound Off-Ramp: Modify the westbound approach to consist of a single through lane. Modify the eastbound approach to consist of two through lanes and*	

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Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		begin the second through lane at the Hanlees Davis Toyota driveway. • *Mace Boulevard between Second Street/County Road 32A and Chiles Road: Construct bicycle and pedestrian facility improvements on this segment of Mace Boulevard. Potential improvement options include a Class I shared-use path, Class II bike lanes, or Class IV separated bikeways. Bicycle facility improvements should reduce the potential for conflicts involving bicyclists at intersections, crossings, and other mixing zones, including (but not limited to) appropriate pavement markings, signage, and physical separation. Pedestrian facility improvement options include modifications to pedestrian crossings of free/channelized vehicular movements to reduce the speed of turning vehicles and to reduce pedestrian exposure to conflicting vehicular traffic.*	
4.14 Utilities and Service Systems			
4.14-1 Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause	LS	*None required.*	N/A

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	Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
	significant environmental effects.			
4.14-2	**Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, single dry, and multiple dry years.**	LS	*None required.*	N/A
4.14-3	**Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.**	LS	*None required.*	N/A
4.14-4	**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 conflict with federal, State, and local management and reduction statutes and regulations related to solid waste.**	LS	*None required.*	N/A
4.14-5	**Increase in demand for utilities and service systems**	LS	*None required.*	N/A

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Summary of Impacts and Mitigation Measures

	Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
	associated with the Proposed Project, in combination with future buildout of the City of Davis General Plan.			
	4.15 Wildfire			
4.15-1	**Substantially impair an adopted emergency response plan or emergency evacuation plan.**	LS	*None required.*	N/A
4.15-2	**Due to factors such as on-site fuel sources, slope, and prevailing winds, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.**	LS	*None required.*	N/A
4.15-3	**Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.**	LS	*None required.*	N/A
4.15-4	**Increase in wildfire risk attributable to the Proposed Project or the BRPA, in**	LS	*None required.*	N/A

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Table 2-1 Summary of Impacts and Mitigation Measures			
Impact	**Level of Significance Prior to Mitigation**	**Mitigation Measures**	**Level of Significance After Mitigation**
combination with cumulative development.			

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3. Project Description

3. PROJECT DESCRIPTION

3.1 INTRODUCTION AND BACKGROUND

The Project Description chapter of this EIR provides a comprehensive description of the Village Farms Davis Project (Proposed Project) and the equal-weight Biological Resources Preservation Alternative (BRPA), in accordance with CEQA Guidelines Section 15124. This chapter includes two major sections: a detailed description of the Proposed Project (Sections 3.2.1 through 3.2.4), which is comprised of discussions on the Proposed Project location, setting and surrounding uses, objectives, components, and required approvals, and a detailed description of the BRPA (Sections 3.3.1 through 3.3.4), which similarly describes the foregoing aspects of the BRPA.

On June 13, 2005, Davis City Council certified the Covell Village EIR (State Clearinghouse [SCH] No. 2004062089) and approved the Covell Village Project. The Covell Village Project included development of a mixed-use community on approximately 422 acres in Yolo County, California. The Covell Village Project site consisted of a parcel identified by APN 035-970-033, similar to the Proposed Project. However, whereas the currently Proposed Project includes annexing an adjacent 114.88-acre portion of APN 042-110-029 to provide an expanded agricultural buffer, the Covell Village Project encompassed 39 acres of said parcel. The Covell Village Project included a total of 1,864 units, comprised of single- and multi-family residential units, senior-only home sites, and other residential uses. The project also included the development of a 30,000-square-foot (sf) hospice facility in the northern portion of the site, a commercial Village Center, and the dedication of a fire station site and school site. Within the adjacent northerly parcel, the project included conversion of existing lower-quality agricultural soil into a large riparian area and stormwater detention pond. The Covell Village Project required the following discretionary approvals by the City of Davis:

- Certification of the EIR;
- Approval of a General Plan Amendment, Pre-zoning, and a Preliminary Planned Development (PPD);
- Approval of application to the Yolo County Local Agency Formation Commission (LAFCo) for Annexation into the City of Davis;
- Affordable Housing Plan; and
- Phased Housing Allocation Plan.

Following approval by the Davis City Council, the Covell Village Project required approval by Davis residents before the project could proceed; however, the Covell Village Project ultimately failed to gain the requisite percentage of votes on the ballot, and thus, could not be constructed. Subsequent to the vote, the Covell Village Project site has continued to be farmed.

3.2 PROPOSED PROJECT

A detailed description of the Proposed Project location, setting and surrounding uses, objectives, components, and required approvals is presented below.

3.2.1 PROJECT LOCATION

The approximately 497.6-acre project site is located north of East Covell Boulevard, east of F Street, and west of Pole Line Road in a currently unincorporated portion of Yolo County, California (see Figure 3-1 and Figure 3-2). The project site consists of a 382.72-acre parcel identified by Assessor's Parcel Number (APN) 035-970-033, and a 114.88-acre portion of a larger 169.9-acre parcel (APN 042-110-029) located in the northwest corner of the site. With the exception of APN 042-110-029, the project site is within the City of Davis Sphere of Influence (SOI).

The Yolo County General Plan designates APN 035-970-033 as Specific Plan (SP), and the parcel is similarly zoned Specific Plan (S-P) by the County. APN 042-110-029 is designated as Agricultural and zoned as Agricultural-Intensive (A-N) by the County.

3.2.2 PROJECT SETTING AND SURROUNDING USES

The following sections provide discussions of the project site's setting and surrounding land uses.

Project Site Setting

The project site consists of generally flat, agricultural land. In addition, one agricultural structure is located in the southern portion of the site. The project site is bisected by a north-to-south private access road (L Street), which also pivots to proceed in an east-to-west direction through a portion of the site. A City of Davis drainage course (Channel A) also flows east to west through the site. Additionally, a Pacific Gas and Electric Co. (PG&E) easement occurs along the western and northern site boundaries.

Surrounding Land Uses

The project site is bounded by Pole Line Road to the east; East Covell Boulevard to the south; the Union Pacific Railroad (UPRR) mainline, F Street, and the Cannery development to the west; and Davis Paintball, Blue Max Kart Club, and agricultural land to the north. Other surrounding uses include single- and multi-family residences, the Nugget Fields sports center, Wildhorse Golf Club, and commercial offices to the east, across Pole Line Road; and commercial uses, single- and multi-family residences, and commercial offices to the south, across East Covell Boulevard. It should be noted that the Davis Paintball business is located on the City's former wastewater treatment plant (WWTP) site and the Blue Max Kart Club is located at the site of a former landfill, the Old Davis Landfill.

3.2.3 PROJECT OBJECTIVES

The following objectives have been developed by the project applicant for the Proposed Project:

1. Facilitate development of varied housing options, including affordable housing, and in sufficient quantities to meaningfully help to meet the City's Regional Housing Needs Allocation (RHNA) expectations for multiple income levels.
2. Guide urban growth in undeveloped areas closest to the central City to facilitate compact growth and to reduce potential vehicle miles traveled (VMT) and excessive sprawl.
3. Provide educational and other public service facilities to serve the needs of any population growth resulting from facilitated development.
4. Facilitate development that promotes non-vehicular travel and supports active modes of transportation.
5. Plan development to reduce greenhouse gas (GHG) emissions by aligning with the City's 2040 Climate Action and Adaptation Plan.

Figure 3-1
Regional Vicinity Map

Figure 3-2
Project Site Boundaries

6. Establish and preserve agricultural buffer areas where proposed development would border existing agricultural areas.
7. Increase City property tax revenue.

3.2.4 PROPOSED PROJECT COMPONENTS

In general, the Proposed Project would consist of a mixed-use development community, including a total of 1,800 dwelling units, comprised of both affordable and market-rate single- and multi-family residences across various residential neighborhoods. In addition, the Proposed Project would include neighborhood services; public, semi-public, and educational uses; associated on-site roadway improvements; utility improvements; parks, open space, and greenbelts; and off-site improvements.

The Village Farms Davis Project would require discretionary approvals, including an SOI Amendment, Annexation, General Plan Amendment, Pre-zoning, and Development Agreement. The project would also include a Baseline Project Features agreement into which the developer would enter and be bound by to ensure inclusion of the agreed-to project features and upon which a future ballot measure would be based. The project components are discussed further below.

Sphere of Influence Amendment and Annexation

As previously discussed, the project site is currently located in an unincorporated portion of Yolo County. While APN 035-970-033 is located within the City of Davis SOI, the 114.88-acre portion of the project site identified by APN 042-110-029 is located outside of the City's SOI. Thus, the Proposed Project includes a request to amend the Davis SOI to adjust the City's SOI boundary lines and annex the 497.6-acre project site into the City of Davis. The overall project site would encompass 379.2 acres proposed for urban development and a 118.4-acre Urban Agricultural Transition Area (UATA, or Ag Buffer) comprised of 114.88 acres on APN 042-110-029 and 3.52 acres on APN 035-970-033 (see Figure 3-3). It should be noted that the SOI Amendment and Annexation are ultimately subject to approval by the Yolo LAFCo, which would serve as a responsible agency. The City of Davis would be responsible for approving a resolution authorizing the project applicant to submit an SOI Amendment and Annexation application to Yolo LAFCo.

General Plan Amendment

The majority of the project site (APN 035-970-033) is designated by Yolo County as SP, with the 114.88-acre portion of the site (APN 042-110-029) designated by the County as Agricultural (see Figure 3-4). The proposed General Plan map amendment would redesignate the project site with City of Davis land use designations, consistent with the uses proposed as part of the project, which are discussed further below and illustrated in Figure 3-4.

Pre-zoning

Corresponding with the project site's current Yolo County land use designations, the site is zoned by Yolo County as S-P and Agricultural Intensive (A-N) (see Figure 3-5). Following annexation into the City limits, the project site would be pre-zoned to the City's Planned Development (P-D) zone. The P-D zoning designation is intended to allow for greater flexibility from the development standards established for the City's conventional zoning districts.

Figure 3-3
Sphere of Influence Amendment and Annexation

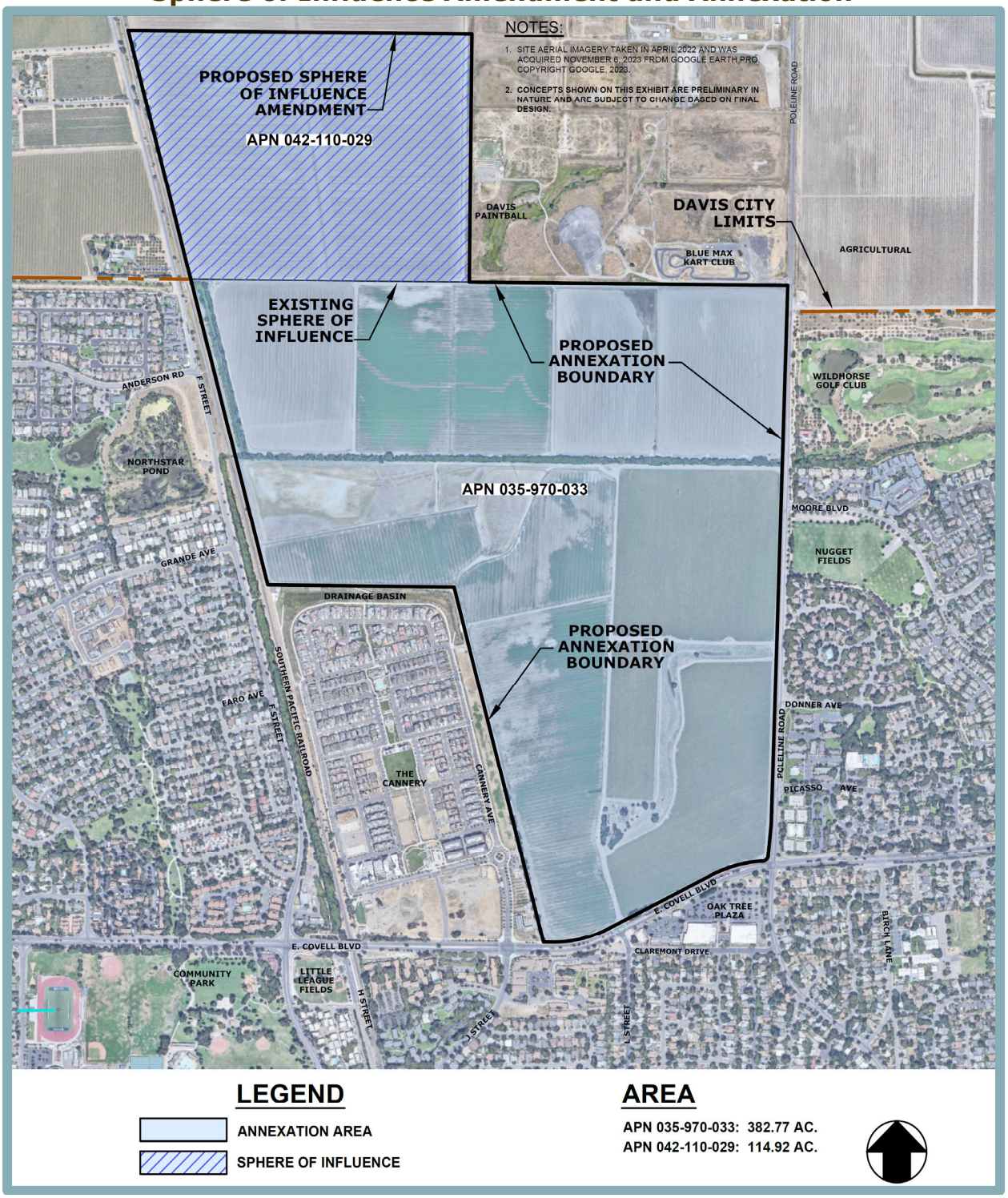


Figure 3-4
General Plan Amendment

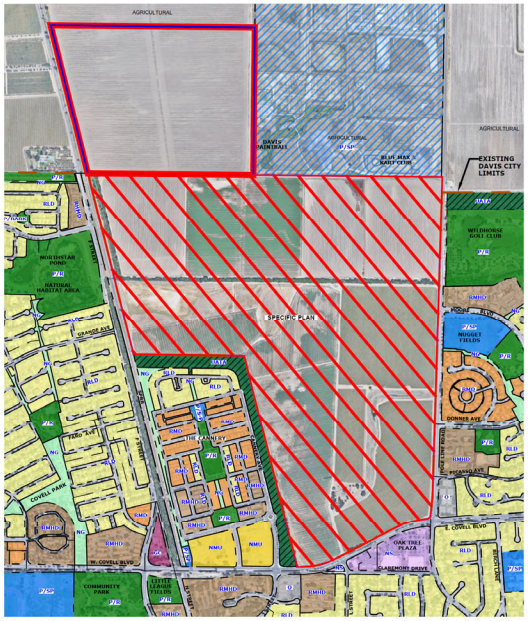
NOTE:

1. CONCEPTS SHOWN ON THIS EXHIBIT ARE PRELIMINARY IN NATURE AND ARE SUBJECT TO CHANGE BASED ON FINAL DESIGN.

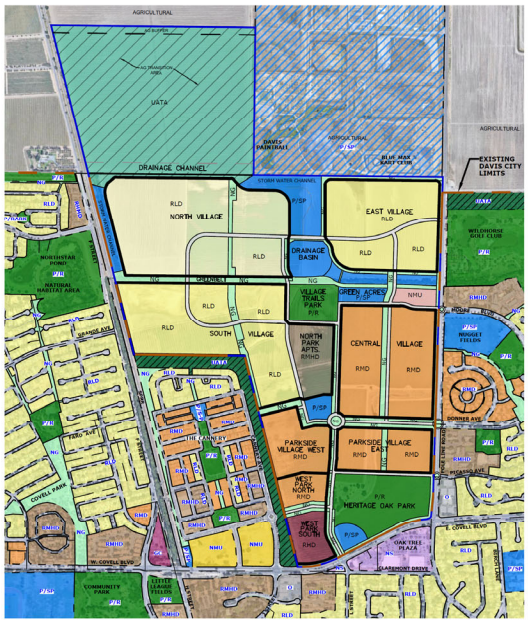
LAND USE SUMMARY:

EXISTING LAND USE	AREA
AGRICULTURAL	114.9 AC. ±
SPECIFIC PLAN	382.7 AC. ±
TOTAL:	497.6 AC. ±

PROPOSED LAND USE	AREA
RESIDENTIAL LOW DENSITY	157.4 AC. ±
RESIDENTIAL MEDIUM DENSITY	77.2 AC. ±
RESIDENTIAL MEDIUM HIGH DENSITY	11.6 AC. ±
RESIDENTIAL HIGH DENSITY	7.9 AC. ±
PUBLIC SEMI- PUBLIC	33.5 AC. ±
NEIGHBORHOOD MIXED USE	2.8 AC. ±
PARK/RECREATION	27.8 AC. ±
NEIGHBORHOOD GREENBELT	39.7 AC. ±
MAJOR ROADS	21.3 AC. ±
URBAN AGRICULTURAL TRANSITION AREA	118.4 AC. ±
TOTAL:	497.6 AC. ±



EXISTING COUNTY



PROPOSED CITY

LEGEND

- COUNTY AGRICULTURAL
- YOLO COUNTY SPECIFIC PLAN
- NHA — NATURAL HABITAT AREA
- P/R — PARKS/RECREATION
- NG — NEIGHBORHOOD GREENBELT
- UATA — URBAN AGRICULTURAL TRANSITION AREA
- NMU — NEIGHBORHOOD MIXED USE
- P/SP — PUBLIC SEMI- PUBLIC
- RHD — RESIDENTIAL HIGH DENSITY
- RMHD — RESIDENTIAL MEDIUM HIGH DENSITY
- RMD — RESIDENTIAL MEDIUM DENSITY
- RLD — RESIDENTIAL LOW DENSITY
- MAJOR ROADS
- AGRICULTURAL (CITY OWNED)
- DAVIS CITY LIMITS
- PROPERTY BOUNDARY/USE AREA
- PS — PUMP STATION
- NORTH VILLAGE — NEIGHBORHOOD NAME
- RLD — LAND USE DESIGNATION

CUNNINGHAM ENGINEERING

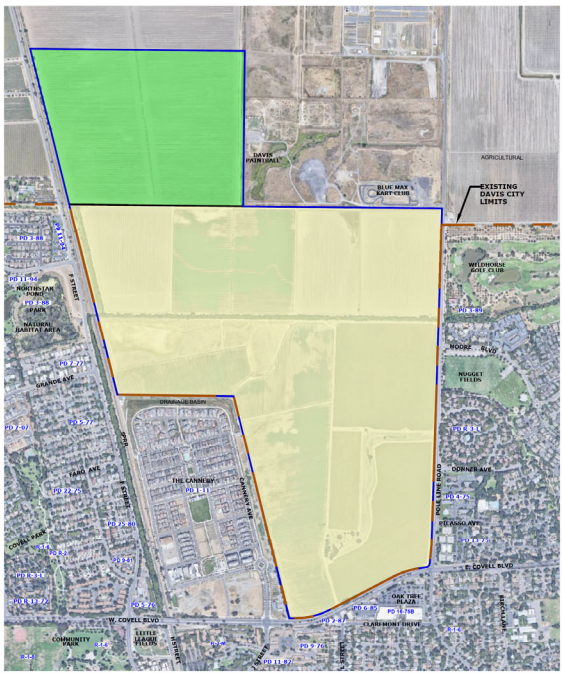
VILLAGE FARMS DAVIS
GENERAL PLAN AMENDMENT EXHIBIT

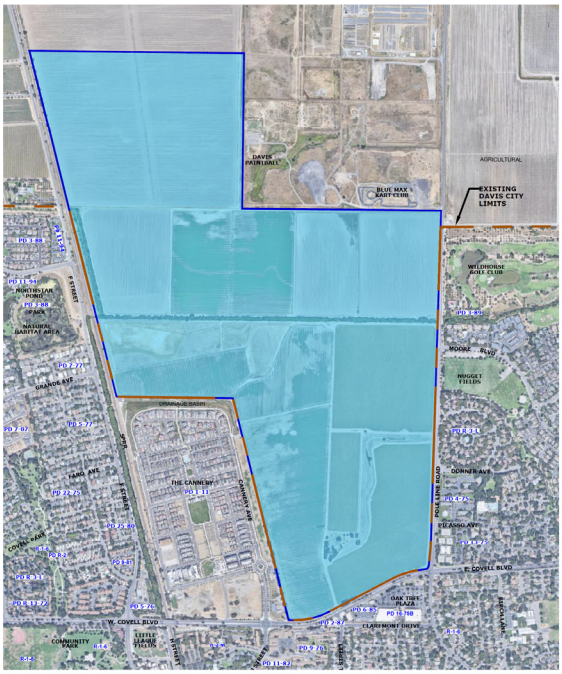
0 1,000 2,000
SCALE: 1" = 2,000

Figure 3-5
Pre-zoning

NOTES:

1. SITE AERIAL IMAGERY TAKEN IN APRIL 2022 AND WAS ACQUIRED NOVEMBER 6, 2023 FROM GOOGLE EARTH PRO. COPYRIGHT GOOGLE, 2023.
2. CONCEPTS SHOWN ON THIS EXHIBIT ARE PRELIMINARY IN NATURE AND ARE SUBJECT TO CHANGE BASED ON FINAL DESIGN.





EXISTING ZONING DESIGNATION

- **SPECIFIC PLAN (S-P)**
- **AGRICULTURAL INTENSIVE (A-N)**

PROPOSED PREZONING DESIGNATION

- **VILLAGE FARMS DAVIS PLANNED DEVELOPMENT (P-D)**

PREZONING SUMMARY

EXISTING PREZONING	AREA	PROPOSED PREZONING	AREA
NEW PLANNED DEVELOPMENT	0.0 AC. ±	NEW PLANNED DEVELOPMENT	497.6 AC. ±
SPECIFIC PLAN	382.7 AC. ±	SPECIFIC PLAN	0.0 AC. ±
AGRICULTURAL	114.9 AC. ±	AGRICULTURAL	0.0 AC. ±

As part of approval of the Pre-zoning to P-D, the Proposed Project would be required to adhere to the development standards set forth by the PPD and included in the Development Agreement, which would also be subject to City approval.

According to Davis Municipal Code Section 40.22.060, the P-D for the Village Farms Davis Project must contain basic information, such as land uses proposed for the zone, location of parks and trails, proposed street layout, and a preliminary study of facilities required, such as drainage, sewage, and public utilities. The components of the P-D proposed for the Village Farms Davis Project are discussed further below.

Residential Neighborhoods

As previously noted, the Proposed Project would consist of a mixed-use development community, including a total of 1,800 dwelling units. The residential units would be developed across the nine villages within the project site. The proposed villages would consist of Residential Low Density (RLD), Residential Medium Density (RMD), Residential Medium High Density (RMHD), and Residential High Density (RHD) neighborhoods, as summarized in Table 3-1 and Table 3-2.

Table 3-1
Proposed Residential Uses

Proposed Land Use Designation	Neighborhood	Land Use Type	Units	Acres
Residential Low Density	North, East, and South Villages	Market-Rate Single-Family Units and Duplexes	680	157.4
Residential Medium Density	Central Village and Parkside Village East	Starter Single-Family Units, Townhomes, and Cottages	470	56.1
	Parkside Village West	Condominiums and Stacked Flats	150	15.1
	West Park Village North	Affordable Multi-Family Units	60	5.9
Residential Medium High Density	North Park Apartments	Market-Rate Apartments	200	11.6
Residential High Density	West Park Village South	Affordable Multi-Family Units	240	7.9
Totals			**1800**	**254.0**

Table 3-2
Proposed Non-Residential Uses

Proposed Land Use Designation	Land Use Type	Acres
Neighborhood Mixed-Use	Neighborhood Services	2.8
Public/Semi Public	Emergency Services Community Center	2.5
Public/Semi Public	Pre-K Early Learning Center	2.4
Public/Semi Public	Educational Farm	2.8
Parks/Recreation	Heritage Oak Park	20.3
Parks/Recreation	Village Trails Park	7.5
Public/Semi Public	City Stormwater Conveyance	25.8
Urban Agricultural Transition Area	Urban Agricultural Transition Area	118.4
Neighborhood Greenbelt	Greenbelts	39.7
N/A	Roads	21.3
Totals		**243.5**

Residential Low Density

The North, East, and South Villages, in total, would consist of a combined 680 market-rate single-family residential and duplex units. The North and East Villages would be located in the northernmost portion of the project site. The South Village would be developed immediately south of the North Village and adjacent to the site's western boundary. Units within the North, East, and South Villages would be targeted towards small developers and individuals seeking to design and contract the construction of their homes. Initially, the project applicant would sell the lots through a lottery-style selection process. The maximum number of lots purchased by a single buyer could be restricted to a specified total.

All three villages would be designated RLD, which allows for single-family detached homes, duplexes, and accessory dwelling units (ADUs) at density of 2.40-4.79 gross dwelling units per acre (du/ac) and an estimated net density of 2.88 to 5.75 du/ac. As detailed in the PPD prepared for the Proposed Project, permitted uses within the North, East, and South Villages would be those allowed in the Residential One-Family (R-1) zoning district, as set forth by Davis Municipal Code Article 40.03. Accordingly, units within the North, East, and South Villages would be constructed in accordance with the applicable development standards established therein, including, but not limited to, those related to building height, lot area and width, open space, and yard requirements.

Residential Medium Density

The proposed RMD units would include "starter" single-family residences, affordable multi-family units, as well as market-rate townhomes, cottages, condominiums, and stacked flats. These unit types are discussed further below.

Market-Rate Residences

Central Village and Parkside Village East would consist of 470 single-family residences, townhomes and cottages. Up to 310 of the single-family residences within Central Village and Parkside Village East would be "starter" homes, defined as affordable-by-design, detached homes developed and sold through a Developer Contribution Program (DCP). More specifically, the DCP would provide 15 percent of the market rate home cost, which would be coupled with the homebuyer's five percent down payment to meet the required 20 percent down payment. The starter homes would be targeted towards the Davis workforce, families with children in Davis schools, and other industry-standard qualifying buyers. At the time of resale, 15 percent of the home value would be contributed to, and used by, a non-profit housing trust to benefit future down payment assistance and other affordable housing programs in the City of Davis.

Central Village and Parkside Village East would be designated RMD, which allows for both detached and attached residences (including cottages and townhouses) at a density range of 4.80 to 11.20 gross du/ac and an estimated net density of 5.76 to 13.44 du/ac. Pursuant to the proposed PPD, permitted uses within Central Village and Parkside Village East would be those allowed in the R-1 and Residential Two-Family (R-2) zoning district, as set forth by Davis Municipal Code Section 40.09.020. The units would be constructed in accordance with the applicable development standards established therein, including, but not limited to, those related to building height, lot area and width, and yard requirements.

In Parkside Village West, there would be a total of 150 multi-family residential units, comprised of condominiums and stacked flats. The residences within Central Village, Parkside Village East, and Parkside Village West would be developed at a density consistent with the RMD designation

and in accordance with the permitted uses and applicable development standards established for the R-2 zoning district.

Affordable Multi-Family Residences

The West Park North Village would be located in the southwest corner of the project site to the north of East Covell Boulevard. West Park Village North would consist of 60 affordable multi-family residential units restricted for households meeting the definitions established by Davis Municipal Code Section 18.05.020 of extremely low-income households.

Pursuant to the Proposed Project's PPD, permitted uses within the West Park North Village would be those allowed in the Residential High Density Apartment (R-HD) zoning district, as set forth by Davis Municipal Code Section 40.09.020. The units would be constructed in accordance with the applicable development standards established therein.

Residential Medium High Density

The proposed RMHD units would include market-rate residences, which are discussed further below.

Market-Rate Residences

The centrally located North Park Apartments would consist of 200 market-rate apartment units. The North Park Apartments neighborhood would be designated RMHD. The RMHD land use designation allows for a density range of 11.21 to 19.99 gross du/ac and an estimated net density of 13.45 to 29.99 du/ac. Pursuant to the Proposed Project's PPD, permitted uses within the North Park Apartments neighborhood would be those allowed in the R-HD zoning district, as set forth by Davis Municipal Code Section 40.09.020. The multi-family residential units would be constructed in accordance with the applicable development standards established therein.

Residential High Density

The proposed RHD units would include affordable multi-family units, which are discussed further below.

Affordable Multi-Family Residences

The West Park South Village would be located in the southwest corner of the project site to the north of East Covell Boulevard. The West Park South Village would consist of 240 affordable multi-family residential units restricted for households meeting the definitions established by Davis Municipal Code Section 18.05.020 of low- and very low-income households.

The West Park South Village would be designated RHD, which allows for various types of multi-family residences, such as apartments, condominiums, and stacked flats. The RHD land use designation allows for a density range of 20.00 to 39.99 gross du/ac. Net and gross are shown to be equivalent, as it is assumed that the common area for the high-density apartment uses is included in the net area calculation. Pursuant to the Proposed Project's PPD, permitted uses within the West Park South Village would be those allowed in the R-HD zoning district, as set forth by Davis Municipal Code Section 40.09.020. The units would be constructed in accordance with the applicable development standards established therein.

Neighborhood Mixed Use

The Proposed Project would include approximately 2.8 acres of Neighborhood Mixed-Use immediately to the north of the Central Village and adjacent to Pole Line Road, which would be

developed to serve existing neighborhoods and future residents of the Proposed Project. In consultation with City leadership, interested neighbors, and the business community, additional details for this site will be drafted for inclusion in the P-D (zoning) for the project. The goal is to have services not currently offered in the area, such as EV charging stations, space for mobile blood drives, mobile veterinary services, offering free spaying and neutering, SPIN rideshare parking, etc.

Public, Semi-Public, and Educational Uses

The Proposed Project would include a total of approximately 33.5 acres of public, semi-public, and educational uses, including 2.5 acres planned for development of a fire station, 2.4 acres for a Davis Joint Unified School District (DJUSD) Pre-kindergarten (Pre-K) Early Learning Center, 2.8 acres for an Educational Farm, and 25.8 acres for City stormwater conveyance. Each of the aforementioned project components would be designated Public/Semi-Public (P/SP) and would be consistent with the permitted uses and development standards set forth by Davis Municipal Code Article 40.20A.

The new fire station would be located in the southern portion of the project site, adjacent to East Covell Boulevard and would improve the emergency response time for underserved homes throughout North Davis that are currently outside of the Davis Fire Department's recommended five-minute response time standard. In addition, the fire station would provide a small amount of space to support police personnel. Furthermore, the fire station could potentially include training facilities and a City Emergency Operations Center.

The new DJUSD Pre-K Early Learning Center would be centrally located in the lower half of the project site, immediately south of the North Park Apartments and west of the Central Village. The Pre-K Early Learning Center is anticipated to offer the combined services of preschool and daycare with early education curriculum and childcare. Additional details for the Pre-K Early Learning Center would be finalized through consultation with the DJUSD and included in the Proposed Project's Development Agreement.

Finally, the Educational Farm, tentatively proposed as "Green Acres," would be located in the northeast portion of the project site, south of the East Village. The Educational Farm would be used for the purposes of teaching agricultural values and methods in a hands-on, early learning outdoor classroom environment and dedicated to the DJUSD. Additional details for the Educational Farm would be finalized through consultation with the DJUSD and included in the Proposed Project's Development Agreement.

Access and Circulation

Primary site access would be provided from Pole Line Road and East Covell Boulevard (see Figure 3-6 and Figure 3-7). From East Covell Boulevard, L Street would be extended into the site in a north-to-south direction. In addition, from Pole Line Road, Moore Boulevard, Donner Avenue, and Picasso Avenue would be extended into the site in an east-to-west direction. An additional entrance from Pole Line Road would be constructed in the northeast portion of the site, providing access to a new street that would extend westward through the proposed East Village. The Proposed Project would also include the extension of Cannery Loop, which is currently stubbed at the western site boundary, eastward into the project site. Overall, the proposed internal streets would connect to form a semi-grid pattern within the project site.

Figure 3-6
Vehicle Circulation Plan

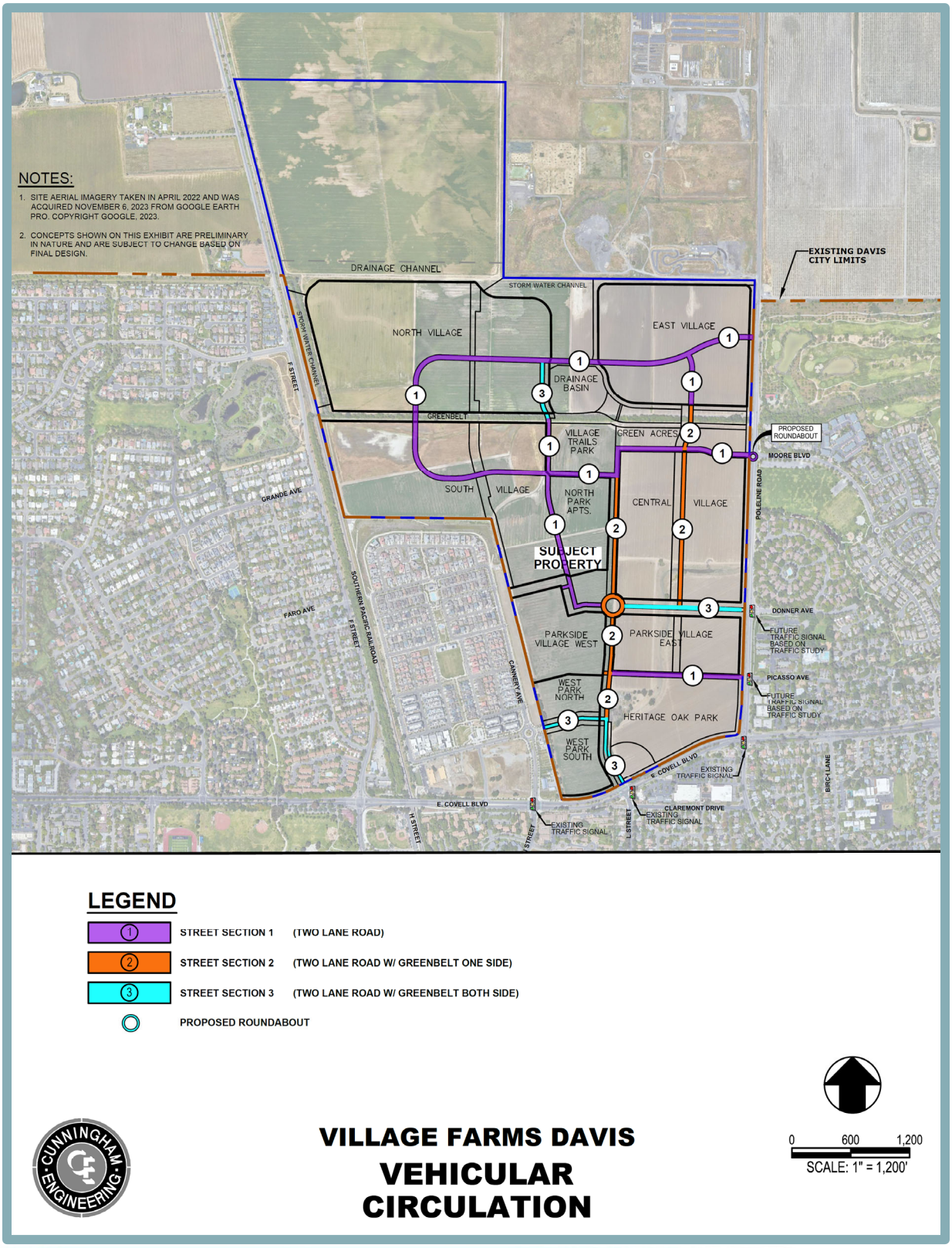
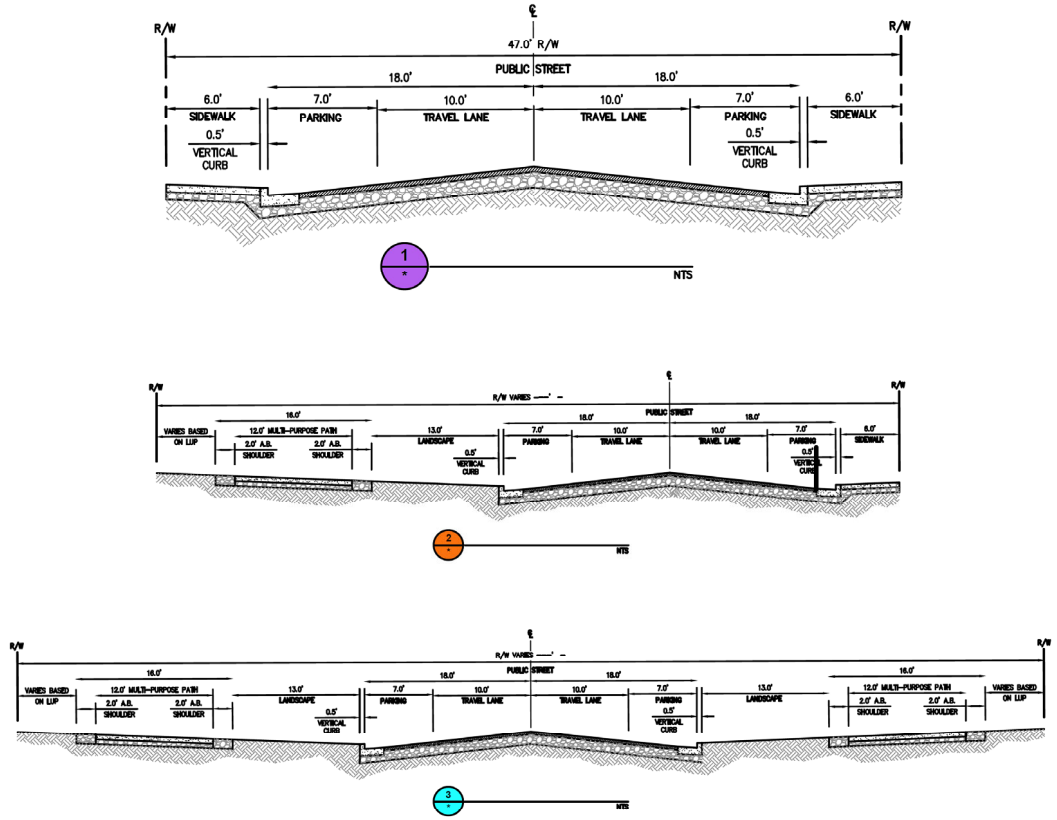


Figure 3-7
Vehicle Circulation Cross Sections



VILLAGE FARMS DAVIS

VEHICULAR CIRCULATION CROSS SECTIONS

The majority of internal streets would consist of 47-foot-wide rights-of-way (ROWs), each comprised of two, 10-foot-wide vehicle lanes, on-street parking lanes with a maximum width of seven feet, and six-foot-wide attached sidewalks along each side of the street. The Proposed Project includes two additional street cross-sections illustrated in Figure 3-7. In addition, the applicant is proposing to construct new intersection improvements on Pole Line Road, which are discussed further under the Off-Site Improvements subheading below.

The Proposed Project would include a multimodal network of bikeways, sidewalks, and transit stops (see Figure 3-8). With respect to bicycle facilities, the Proposed Project would include Class I, II, and III bikeways within the project site. Class I bike paths are off-street and provide travel lanes for bicyclists that are separated from motorists. Class II bike lanes are on-street but separated from vehicle lanes through marked striping and other methods. Class III bike lanes share the path with vehicles.

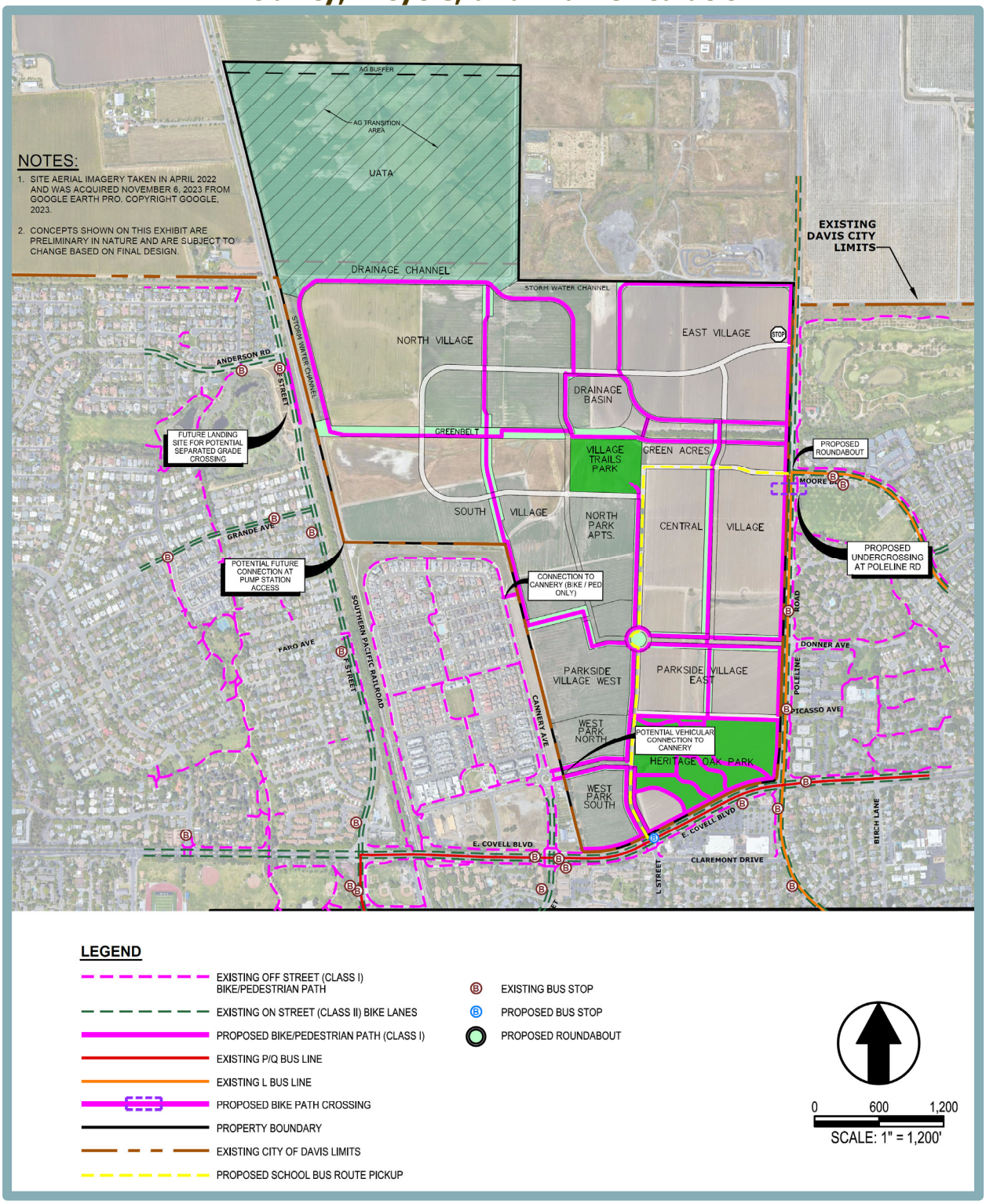
The on-site Class I bike paths would primarily coincide with the proposed greenbelts (discussed further under the Parks, Open Space, and Greenbelts subheading below) and would provide a six-foot-wide travel lane in each direction for a total travel width of 12 feet. The Class II and III bikeways are anticipated to be located in on-site areas of lighter vehicle travel. Overall, the bikeways would provide interconnected access to all areas within the project site. Additionally, if feasible, one pedestrian/bicycle crossing would be provided through an undercrossing near the Pole Line Road/Moore Boulevard intersection. An existing grade-separated crossing south of the Cannery subdivision at Covell Boulevard provides connection to F Street. The Proposed Project also provides an opportunity to explore a grade-separated crossing at F Street. The study area of the EIR includes a potential landing area on the west side of F Street for a future connection. Ultimately, the feasibility of the crossings will depend on landing constraints, potential impacts to the surrounding area, other unforeseen challenges, and, for the F Street crossing specifically, UPRR's requirements.

The new grade-separated pedestrian/bicycle crossings being studied in this EIR would allow the proposed internal bikeway network to link to the wider Davis Bike Loop, which currently ends at the eastern and western project site boundaries at Moore Boulevard and Anderson Road, respectively.

With respect to pedestrian access, as previously discussed, the internal street network would include six-foot-wide sidewalks. In addition, the approximately three miles of on-site Class I bike paths would be multi-use pathways that would be shared with pedestrians.

With respect to transit, Unitrans provides public transportation service to the entire City through 18 routes and 48 buses. In addition, Yolobus provides public transportation services throughout Yolo County, as well as into downtown Sacramento, western Sacramento County, and northeastern Solano County. Eight public transit stops are located adjacent to the project site at the intersections of East Covell Boulevard/J Street, Pole Line Road/East Covell Boulevard, Pole Line Road/Picasso Avenue, Pole Line Road/Donner Avenue, Pole Line Road/Moore Boulevard, Anderson Road/Sandpiper Drive, F Street/Grande Boulevard, and J Street/Cranbrook Court. The aforementioned stops are serviced by Unitrans lines P, Q, L, T, F, and E. Four of the existing stops (East Covell Boulevard/J Street, Pole Line Road/East Covell Boulevard, Anderson Road/Sandpiper Drive, and F Street/Grande Boulevard) are also included on the Yolobus 43 and 230 routes. In addition, the Proposed Project would include installation of a new bus stop at the East Covell Boulevard/L Street intersection.

Figure 3-8
Mobility, Bicycle, and Trail Circulation



Utilities

The Proposed Project would include utility improvements related to water, sanitary sewer, and storm drainage services, which are generally discussed below.

Water

Water service would be provided by the City of Davis through new connections to the existing water system. In the immediate project vicinity, East Covell Boulevard contains an existing 10-inch line and Pole Line Road contains an existing water line that ranges in diameter from 10 inches to 12 inches (see Figure 3-9). From the existing water lines in East Covell Boulevard and Pole Line Road, new eight-inch, 10-inch, and 12-inch water lines would be installed and extended into the project site within the new on-site internal streets. From the new water lines, water service would be provided to each structure through new water laterals. All new water infrastructure would be designed consistent with the applicable standards established by the City of Davis Public Works Department Standard Specifications.

Sewer

Sanitary sewer service would be provided by the City of Davis through new connections to the existing sewer system. As shown in Figure 3-10, an existing 42-inch sewer line traverses through the project site in a north-to-south direction and pivots towards the east along the northern site boundary. New eight-inch, 10-inch, and 12-inch sewer lines would be installed and extended into the project site within the new on-site internal streets. From the new sewer lines, sewer conveyance services would be provided to each structure through new sewer laterals.

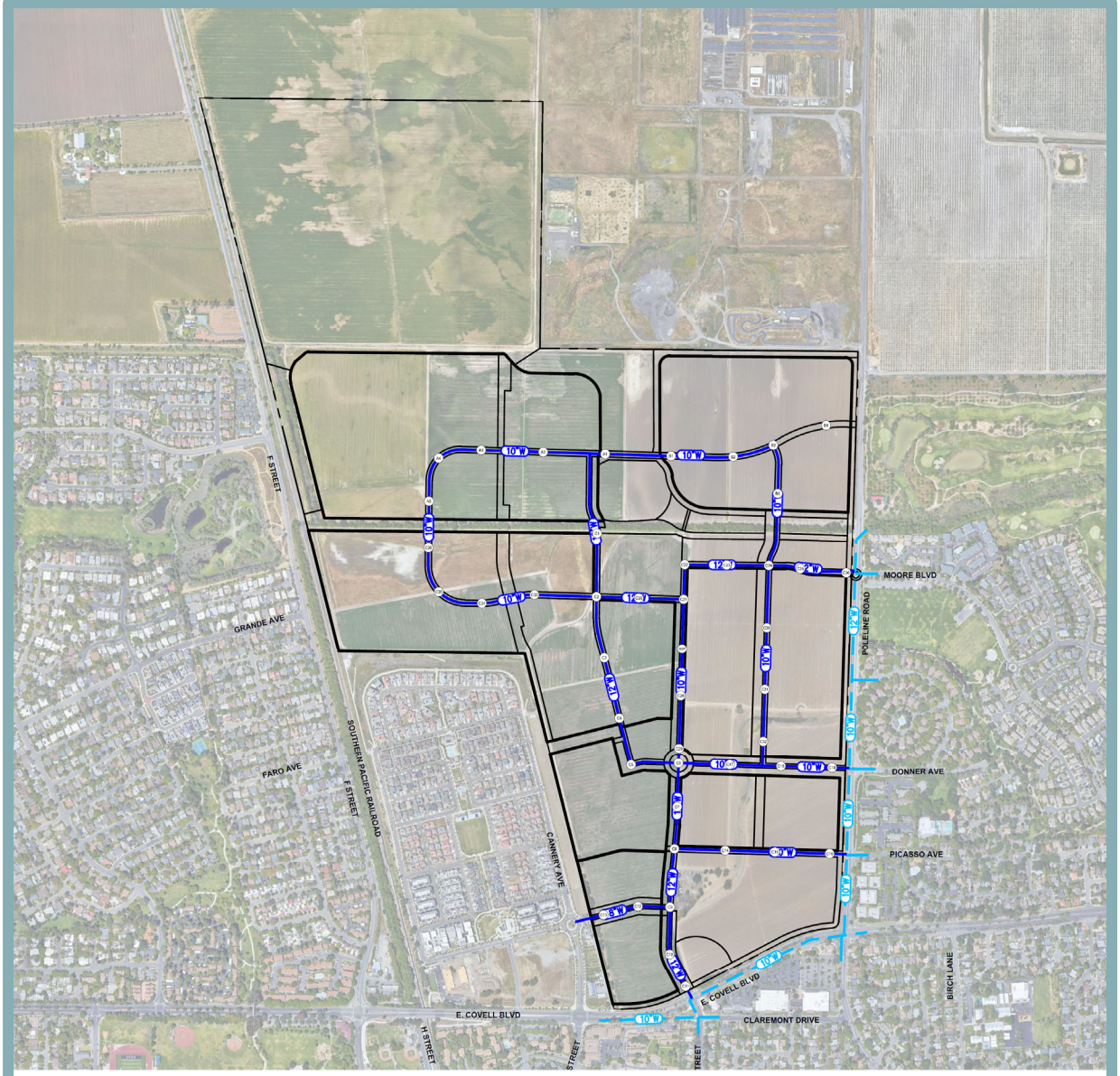
All new sewer infrastructure would be designed consistent with the applicable standards established by the City of Davis Public Works Department Standard Specifications.

Storm Drainage

Storm drainage service would be provided by the City of Davis through new connections to the existing system, improvements to the existing Channel A, and new storm drainage features. The project site is located within the Covell Drain Watershed, which consists of a 17-square-mile area. The Covell Drain/Channel A currently routes through the project site, entering at the northwest corner of the site through existing box culverts, then routes south along the UPRR tracks comingling with the stormwater flows from the F Street Channel. The Covell Drain Channel then continues east through the central portion of the project site as Channel A, continuing to Pole Line Road where the drainage channel passes under the road in an existing box culvert and flows through the Wildhorse Golf Club course. The channel ultimately discharges to Willow Slough Bypass to the northeast of the City.

As part of the Proposed Project, Channel A would be rerouted from the northwest corner of the project site to convey flows along the northern site boundary to a new stormwater detention basin, which would be located between the North and East Villages (see Figure 3-11). The overall depth of the detention basin would be approximately eight feet with a bottom elevation of 26.5 feet. From the new detention basin to Pole Line Road, Channel A would be expanded and have a drainage capacity capable of accommodating the existing flows of the tributary to Channel A within Wildhorse. The existing overflow from the Cannery will be improved and redirected in an open channel within the proposed greenbelt to release into existing Channel A. An additional channel would be constructed on the northern boundary of East Village allowing runoff from larger storm events to flow over Pole Line Road in a northeast direction in a manner as currently occurs under existing conditions.

Figure 3-9
Proposed Water Infrastructure



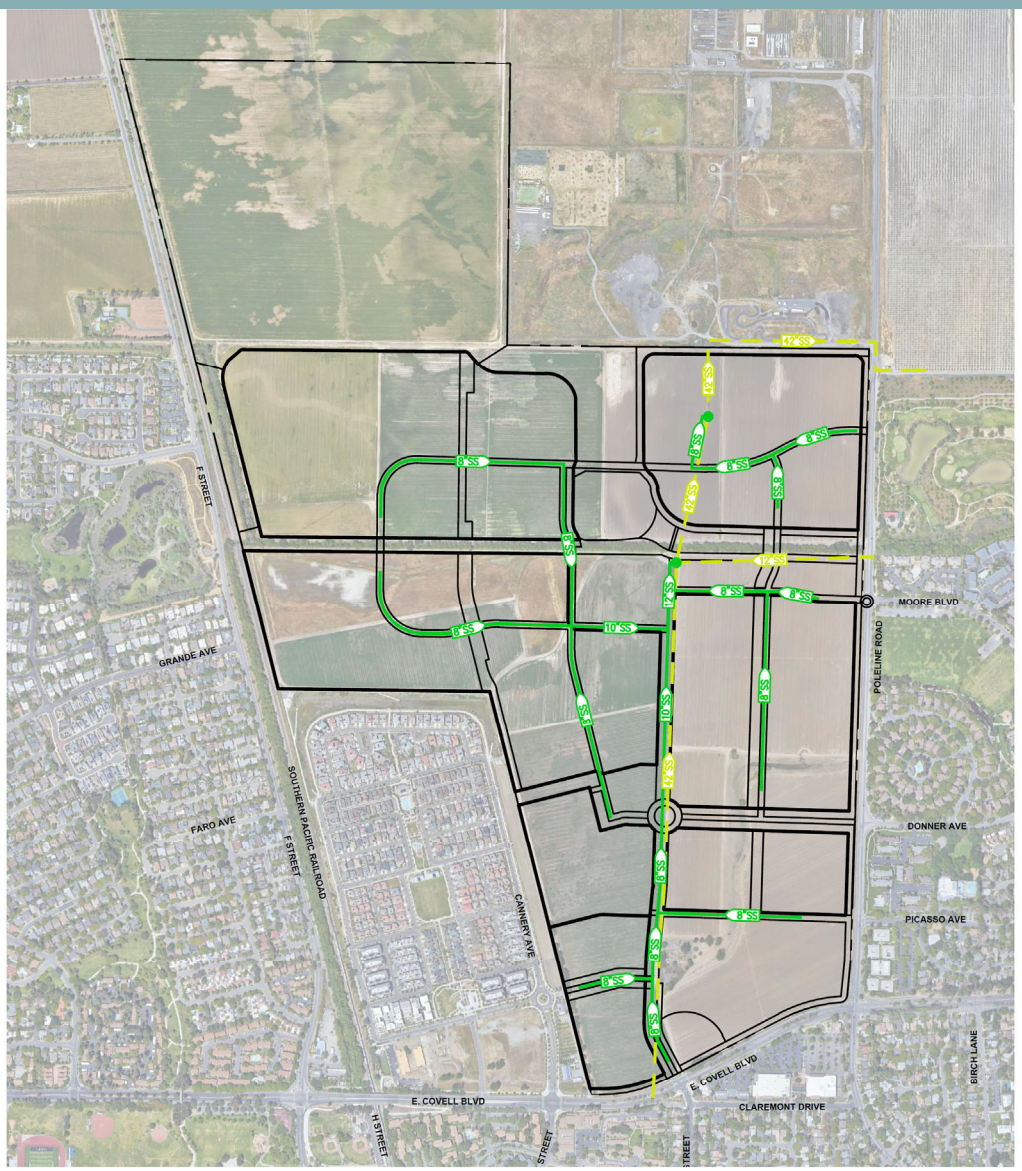
NOTES:

1. SITE AERIAL IMAGERY TAKEN IN APRIL 2022 AND WAS ACQUIRED NOVEMBER 6, 2023 FROM GOOGLE EARTH PRO. COPYRIGHT GOOGLE, 2023.
2. CONCEPTS SHOWN ON THIS EXHIBIT ARE PRELIMINARY IN NATURE AND ARE SUBJECT TO CHANGE BASED ON FINAL DESIGN.

LEGEND

- PROPOSED WATER PIPELINE
- EXISTING WATER PIPELINE

Figure 3-10
Proposed Sewer Infrastructure



NOTES

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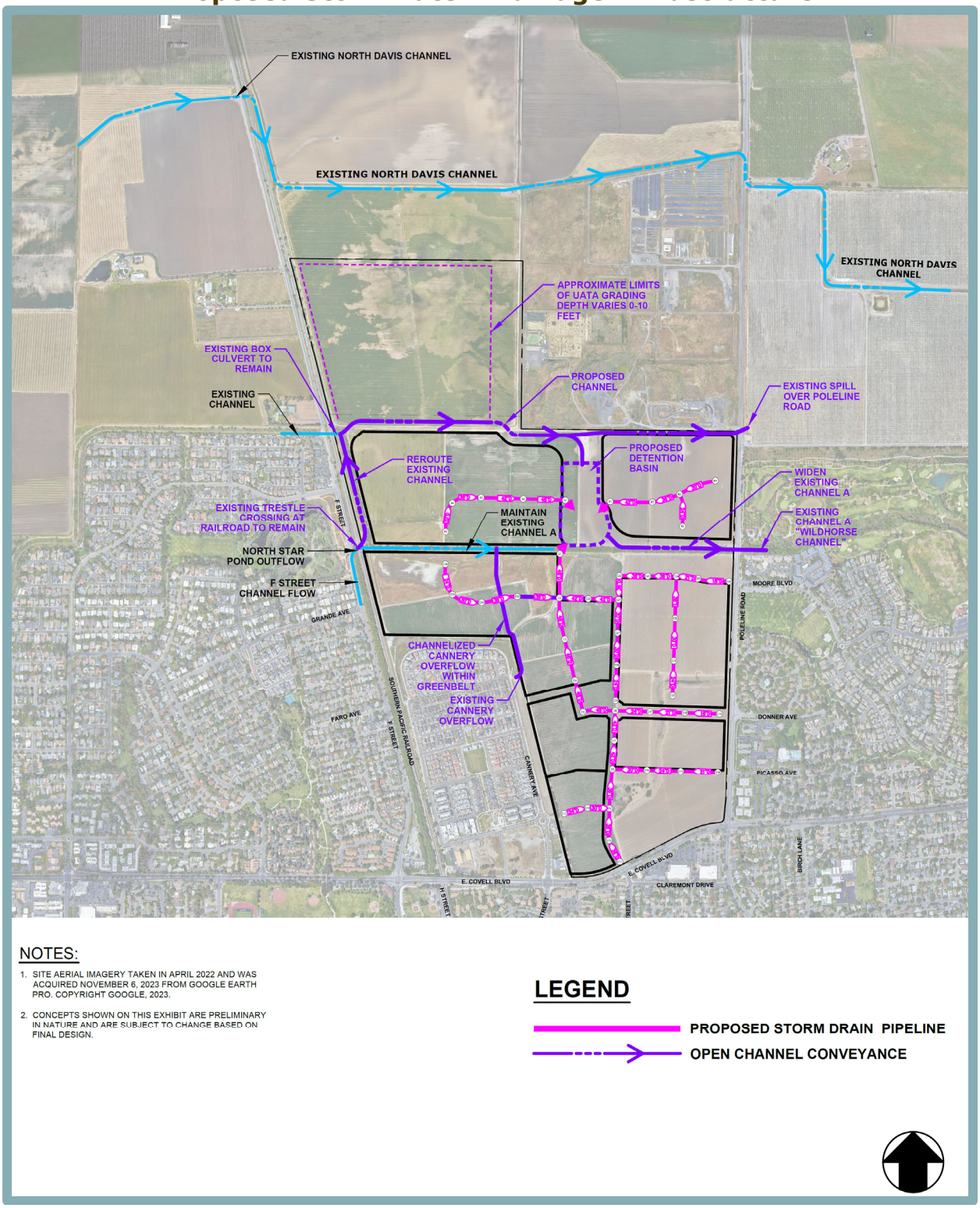
LEGEND

- PROPOSED SEWER PIPELINE
- EXISTING SEWER PIPELINE
- POINT OF CONNECTION AT EXISTING MANHOLE

Figure 3-11
Proposed Stormwater Drainage Infrastructure



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LEGEND

- PROPOSED STORM DRAIN PIPELINE
- OPEN CHANNEL CONVEYANCE

The UATA would extend 2,000 feet north between F Street and the Davis Paintball/Blue Max Kart Club. The expanded UATA would be excavated nine to 10 feet deep after first removing the top layer of organics and 'top soil', which would be set aside prior to excavation. Soil excavations from the UATA would then be used for on-site fill within the project site to elevate the pads above the floodplain, as required. Following mass grading and excavation of the area, the organic soil would be replaced and spread across the UATA to aid in vegetative restoration.

In addition, the Proposed Project would install Low Impact Development (LID) measures throughout the project site to provide stormwater quality treatment. The LID measures are anticipated to include both volume-based Best Management Practices (BMPs) (e.g., bioretention, infiltration features, pervious pavement, etc.) and flow-based BMPs (e.g., vegetated swales, stormwater planter, etc.). The use of the features would be dependent upon location and setting within the project. The BMPs would be designed in accordance with the stormwater quality control standards established by Davis Municipal Code Article 30.03. From the LID measures as well as new impervious surfaces within the project site, flows would be conveyed to new storm drain lines installed in the new on-site internal streets, which would convey flows to the new detention basin.

It should be noted that portions of the project site are located in areas designated by the Federal Emergency Management Agency (FEMA) as Zone A, which is a Special Flood Hazard Area (SFHA). As such, replacement of existing on-site runoff storage lost due to development of the Proposed Project may need to be provided on-site within the proposed perimeter storm drainage system.

Dry Utilities

Electricity service would be provided to the project site by PG&E and Valley Clean Energy (VCE) through connection to existing infrastructure in the project vicinity along East Covell Boulevard and Pole Line Road. The Proposed Project would not use natural gas. Telecommunication services, such as telephone and internet services, would be provided by Xfinity and/or other providers through connection to existing infrastructure.

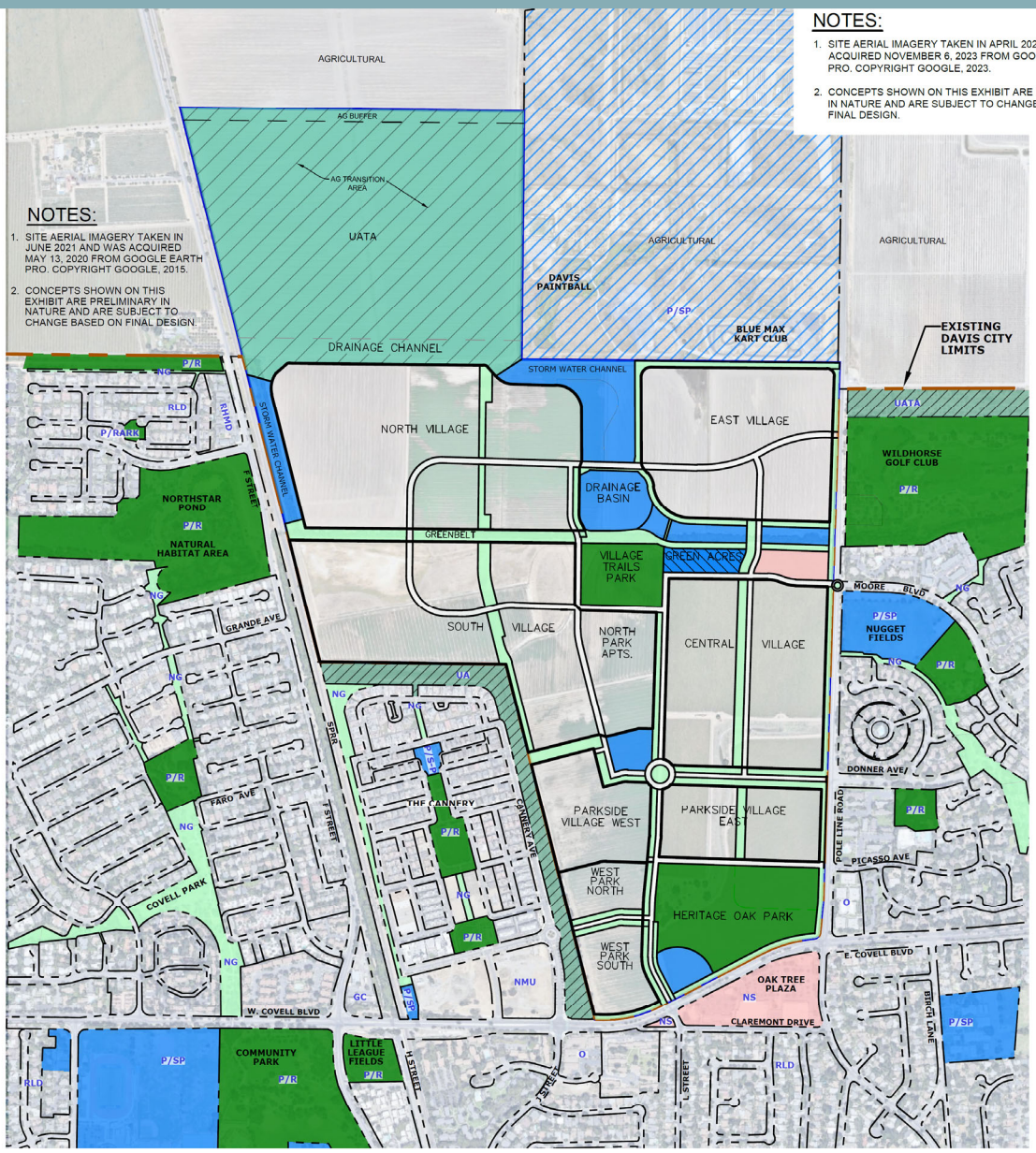
Parks, Open Space, and Greenbelts

The Proposed Project would include a total of approximately 186.0 acres of parks, open space, and greenbelts, including the Heritage Oak Park and Village Trails Park, natural vegetation areas along Channel A (including the agricultural buffer), and the greenbelts (see Figure 3-12).

The approximately 20.3-acre Heritage Oak Park would be located in the southern portion of the project site, adjacent to East Covell Boulevard and would include children's play fields, a playground, open turf areas, and hardcourts. In addition, the park would include covered picnic/pavilion areas, an oak grove, pond, a meadow, and flower/pollinator gardens. The approximately 7.5-acre Village Trails Park would be centrally located immediately north of the North Park Apartments and feature playfields, playgrounds, open turf areas, and quiet areas to rest.

Along the northwestern boundary, the realigned Channel A would coincide with a portion of the UATA, with additional UATA to the north to provide a 118.4-acre buffer between the Proposed Project and the agricultural land to the north. Davis Municipal Code Section 40A.01.050(b) requires that the UATA have a minimum width of 150 feet; the Proposed Project includes a UATA width of 2,150 feet.

Figure 3-12
Open Space Map



LAND USE	AC.	% OF URBAN AREA	CITY REQUIRED %
PARK	27.8 AC. ±	11%	10%
GREENBELT	39.7 AC. ±	15.6%	
UATA	118.4 AC. ±	46.6%	
TOTAL OPEN SPACE	**186.0 AC. ±**	**73.2%**	

In addition, as established therein, the City's 150-foot minimum requirement for an agricultural buffer is comprised of a 50-foot-wide agricultural transition area located contiguous to a 100-foot-wide agricultural buffer, which is contiguous to the agricultural/greenbelt/habitat area. According to Davis Municipal Code Section 40A.01.050(d), within the 50-foot-wide agricultural transition area, the City allows public access and various recreational uses, including bike paths, community gardens, organic agriculture, native plants, tree and hedge rows, benches, lights, trash enclosures, fencing, and any other use determined by the Davis Planning Commission to be of the same general character.

The contiguous 100-foot-wide agricultural buffer is permitted to include the following: native plants, tree or hedge rows, drainage channels, stormwater retention ponds, natural areas such as creeks or drainage swales, railroad tracks or other utility corridors, and any other use determined by the Davis Planning Commission to be consistent with the use of the property as an agricultural buffer. Public access is prohibited within the 100-foot-wide agricultural buffer, unless otherwise permitted due to the nature of the area (i.e., railroad tracks).

It should be noted that an existing UATA buffer is located adjacent to the Cannery Farm and Cannery subdivision and includes demonstration gardens, community space, and a drainage corridor along the Cannery frontage. The Proposed Project would not result in modifications to the existing UATA.

Finally, the Proposed Project would include approximately 39.7 acres of greenbelts. Generally, the 50-foot-wide greenbelts would occur along portions of all the project site's boundaries, as well as adjacent and/or within the proposed residential villages. The greenbelts would coincide with the Class I multi-use pathway and include new landscaping vegetation and habitat restoration.

Off-Site Improvements

The Proposed Project would include various off-site improvements, including, but not necessarily limited to, new intersection improvements along Pole Line Road and a new north leg at the intersection of East Covell Boulevard and L Street. Additionally, if feasible, one pedestrian/bicycle crossing would be provided through an undercrossing near the Pole Line Road/Moore Boulevard intersection. The Pole Line Road undercrossing would land in the vicinity of the Nugget Fields parking lot. The Proposed Project also provides an opportunity to explore a grade-separated crossing at F Street. The study area of the EIR includes a potential landing area on the west side of F Street for a future connection.

Ultimately, the feasibility of the crossings will depend on landing constraints, potential impacts to the surrounding area, other unforeseen challenges, and, for the F Street crossing specifically, UPRR's requirements. The exact locations of the landing areas (within the Village Farms Davis site and the off-site locations) would be determined based on the final approach alignments developed in coordination with the UPRR and the City, subsequent to approval of the currently requested entitlements.

This EIR will also evaluate the construction of off-site water line improvements within three existing roadways in the project vicinity. Within Fifth Street, southeast of the project site near Pole Line Road, 75 linear feet of 10-inch water line would be replaced with water lines 12 to 16 inches in diameter. At the Anderson Road/Alvarado Avenue intersection, 150 linear feet of 10-inch water line would be replaced with water lines 12 to 14 inches in diameter. Within Sycamore Lane, near West Covell Boulevard, 75 linear feet of 12-inch water line would be replaced with new 12-inch

water lines. This EIR also covers paving of the full width of the roadway after the off-site water line improvements are made.

The applicant is proposing to construct intersection improvements along Pole Line Road at the road's intersections with Moore Boulevard, Donner Avenue, and Picasso Avenue, which would provide speed control. The ultimate design of the improvements, as well as the installation of the new traffic signal at the East Covell Boulevard/L Street intersection, would be developed in cooperation with traffic engineers and the City of Davis Public Works Department.

The UATA would also be used as part of the Proposed Project's conservation of agricultural land to comply with the City's farmland preservation requirements established by Davis Municipal Code Article 40A.03. While the soil from the UATA would be used as fill material within the urban development area to raise the building sites above the flood plain, the top layer of organics and 'top soil' would be scraped and set aside prior to excavation for fill soil. Following mass grading and excavation of the area, the organic soil would be replaced and spread across the UATA to aid in vegetative restoration.

Project Phasing

Development of the Proposed Project is anticipated to occur over the course of four phases, which are generally discussed below (see Figure 3-13).

Phase 1

Phase 1 is anticipated to include development of the following:

- West Park North (60 affordable, medium-density, multi-family residential units);
- West Park South (240 affordable, high-density, multi-family residential units);
- Central Village and Parkside Village East (470 medium-density homes consisting of starter single-family homes, townhomes, and cottages);
- East Village (220 market-rate low-density residential units);
- The UATA;
- Greenbelts along Pole Line Road, East Covell Boulevard, and the adjoining City-owned property to the north of the project site; and
- Internal greenbelts and trails.

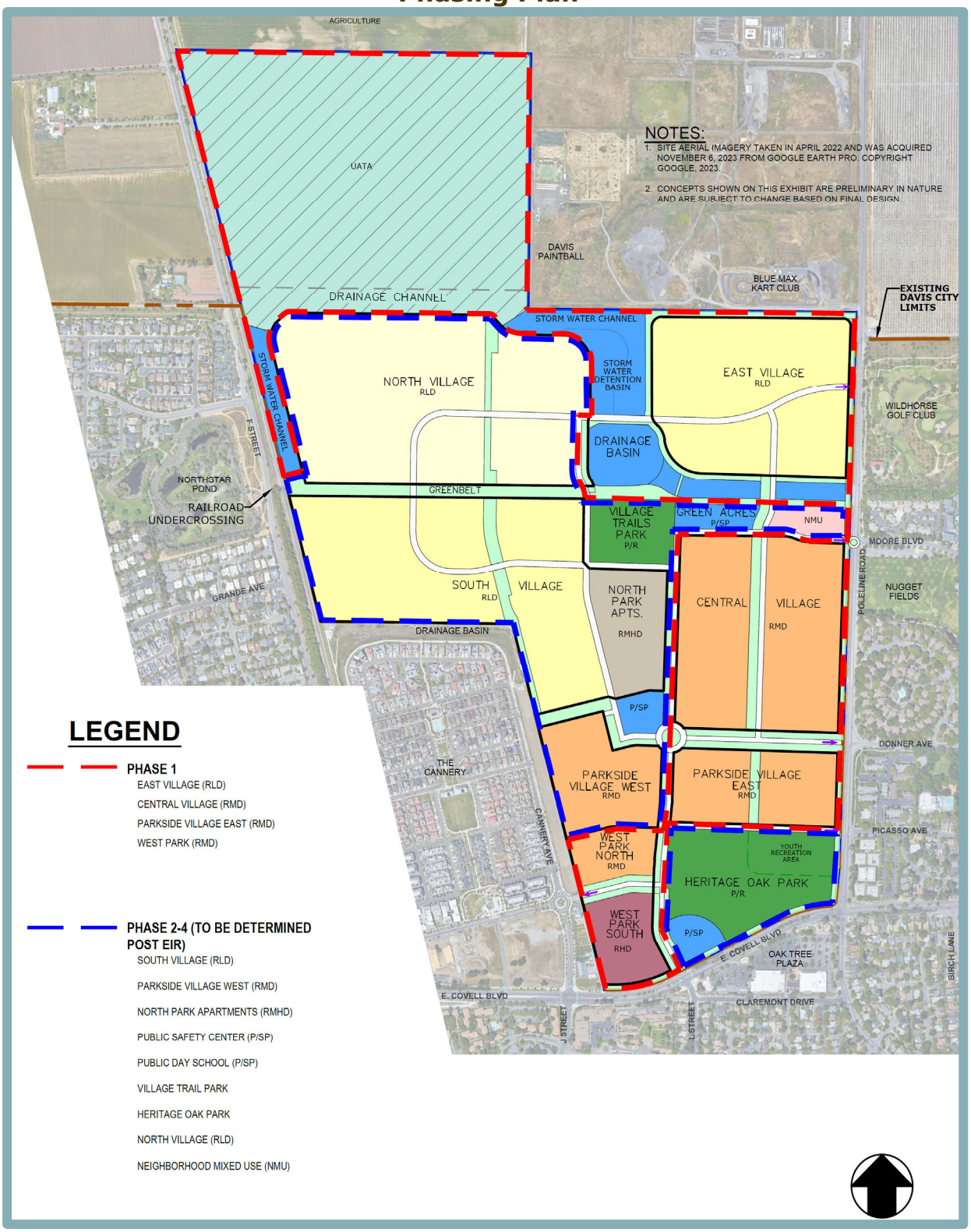
In addition, Phase 1 would include the installation of water, sewer, and storm drain infrastructure within existing and proposed roadways, as well as electrical and communication infrastructure. Phase 1 would also include the relocation and expansion of Channel A, and the new detention basin.

Phases 2, 3, and 4

Phases 2, 3, and 4 are anticipated to include development of the following:

- North Park Apartments (200 market-rate medium-high-density residential units);
- Parkside Village West (150 medium-density residential units);
- North and South Villages (460 low-density residential units);
- Fire station;
- Heritage Oak Park;
- Village Trail Park;
- Internal greenbelts and trails;

Figure 3-13
Phasing Plan



- Perimeter greenbelts along the site's southern boundary;
- Pre-K Early Learning Center;
- Neighborhood Services; and
- "Green Acres" Educational Farm.

Similar to Phase 1, Phases 2, 3, and 4 would include the installation of water, sewer, and storm drain infrastructure within existing and proposed roadways, as well as electrical and communication infrastructure. If determined feasible and upon final designs, the proposed pedestrian/bicycle undercrossing at Pole Line Road would be constructed during Phases 2, 3, and/or 4.

Development Agreement

A Development Agreement between the applicant and the City of Davis would be included as part of the Proposed Project, which would allow the City and the applicant to enter into an agreement to assure the City that the Proposed Project would be completed in compliance with the plans submitted by the applicant, and assure the applicant of vested rights to develop the project.

Project Approvals

The following section presents the actions that would be required to implement the Proposed Project.

City of Davis Discretionary Approvals

Implementation of the Proposed Project would require the following entitlements from the City of Davis:

1. Certification of the EIR and adoption of the Mitigation Monitoring Plan. Before the City can approve the Proposed Project, the City must certify that the EIR was completed in compliance with the requirements of CEQA, that the decision-making body has reviewed and considered the information in the EIR, and that the EIR reflects the independent judgment of the City of Davis. Approval of the EIR also requires adoption of a Mitigation Monitoring Plan (MMP), which specifies the methods for monitoring mitigation measures required to eliminate or reduce the project's significant effects on the environment. The City would also be required to adopt Findings of Fact, and for any impacts determined to be significant and unavoidable, a Statement of Overriding Considerations, as part of project approval.
2. SOI Amendment. Because the 114.88-acre portion of the Proposed Project is outside the City's SOI, the Proposed Project would require an SOI Amendment to include that portion of APN 042-110-029 within the City's SOI.
3. Annexation. The Proposed Project would require the annexation of the 497.6-acre project site into the City of Davis.
4. General Plan Amendment. The Proposed Project would require a General Plan Amendment to redesignate the 497.6-acre project site from Yolo County General Plan land use designations of S-P (382.72 acres) and Agricultural (114.88 acres) to the following City of Davis land use designations:
    - 157.4 acres of RLD;
    - 77.2 acres of RMD;
    - 11.6 acres of RMHD;
    - 7.9 acres of RHD;
    - 33.5 acres of P/SP;

- 2.8 acres of Neighborhood Mixed-Use;
- 27.8 acres of Park/Recreation;
- 39.7 acres of Neighborhood Greenbelt; and
- 118.4 acres of UATA.

5. Pre-zoning. The Proposed Project would require Pre-zoning of the site from the Yolo County zoning designations of S-P (382.72 acres) and A-N (114.88 acres) to the City of Davis zoning of P-D.
6. Development Agreement.

Responsible Agency Approvals – Yolo Local Agency Formation Commission

Pursuant to CEQA Guidelines Section 15381, a "responsible agency" is defined as a public agency which proposes to carry out or approve a project, for which a lead agency (in this case, the City of Davis) is preparing or has prepared an EIR. For the purposes of CEQA, the term "responsible agency" includes all public agencies, other than the lead agency, which have discretionary approval power over the project.

The Proposed Project would require the following approvals from Yolo LAFCo as part of the requested SOI Amendment and Annexation:

1. Combined Municipal Service Review (MSR) and SOI Amendment in order to bring the 114.88-acre portion of APN 042-110-029 within the City of Davis SOI (Government Code Section 56428).
2. Annexation of the entire 497.6-acre project site into the City of Davis (Government Code Section 56737).

The 497.6-acre project site is currently located within the Springlake Fire Protection District. The Springlake Fire Protection District encompasses a portion of eastern Yolo County, largely north of the City of Davis and south of the City of Woodland. The Springlake Fire Protection District consists of mostly agricultural land uses, but also commercial and industrial uses that are mainly oriented toward agriculture. Annexation of the project site to the City of Davis would also require Yolo County LAFCo approval of detachment of the project site from the Springlake Fire Protection District, as the City of Davis Fire Department would provide fire protection services to the project site upon Annexation.

3.3 BIOLOGICAL RESOURCES PRESERVATION ALTERNATIVE

A detailed description of the location, setting and surrounding uses, objectives, components, and required approvals for the BRPA is presented below.

3.3.1 BIOLOGICAL RESOURCES PRESERVATION ALTERNATIVE LOCATION

The approximately 497.6-acre BRPA site is located north of East Covell Boulevard, east of F Street, and west of Pole Line Road in a currently unincorporated portion of Yolo County (see Figure 3-1 and Figure 3-2) and consists of a 382.72-acre parcel identified by APN 035-970-033 and a 114.88-acre portion of a larger 169.9-acre parcel (APN 042-110-029). With the exception of APN 042-110-029, the site is within the City of Davis SOI. The Yolo County General Plan designates APN 035-970-033 as SP and the parcel is similarly zoned S-P by the County. APN 042-110-029 is designated by the County as Agricultural and zoned A-N.

3.3.2 BIOLOGICAL RESOURCES PRESERVATION ALTERNATIVE SETTING AND SURROUNDING USES

The following sections provide discussions of the site's setting and surrounding land uses.

Biological Resources Preservation Alternative Site Setting

The BRPA site consists of generally flat, agricultural land. Two agricultural structures are located in the southern portion of the site. The BRPA site is bisected by a north-to-south private access road (L Street), which also pivots to proceed in an east-to-west direction through a portion of the site. Channel A also flows east to west through the BRPA site, and a PG&E easement occurs along the western and northern site boundaries.

Surrounding Land Uses

The BRPA site is bounded by Pole Line Road to the east; East Covell Boulevard to the south; the UPRR mainline, F Street, and Cannery development to the west; and Davis Paintball, Blue Max Kart Club, and agricultural land to the north. Other surrounding uses include single- and multi-family residences, the Nugget Fields sports center, Wildhorse Golf Club, and commercial offices to the east, across Pole Line Road; and commercial uses, single- and multi-family residences, and commercial offices to the south, across East Covell Boulevard. It should be noted that the Davis Paintball business is located on the City's former WWTP and the Blue Max Kart Club is located at the site of the Old Davis Landfill.

3.3.3 BIOLOGICAL RESOURCES PRESERVATION ALTERNATIVE OBJECTIVES

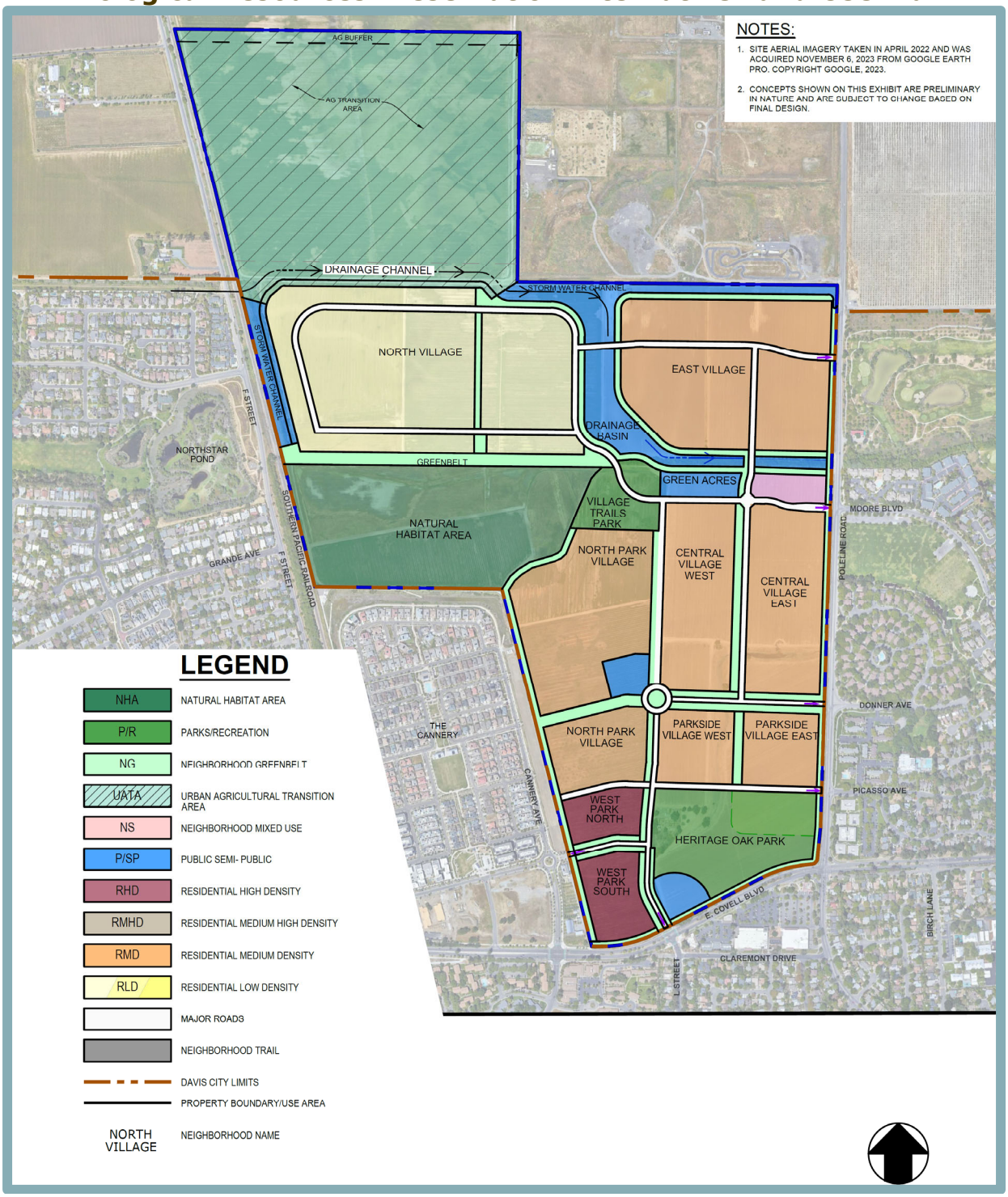
The following objectives have been developed by the project applicant for the BRPA:

1. Facilitate development of varied housing options, including affordable housing, and in sufficient quantities to meaningfully help to meet the City's RHNA expectations for multiple income levels.
2. Guide urban growth in undeveloped areas closest to the central City to facilitate compact growth and to reduce potential VMT and excessive sprawl.
3. Provide educational and other public service facilities to serve the needs of any population growth resulting from facilitated development.
4. Facilitate development that promotes non-vehicular travel and supports active modes of transportation.
5. Plan development to reduce GHG emissions by aligning with the City's 2040 Climate Action and Adaptation Plan.
6. Establish and preserve agricultural buffer areas where proposed development would border existing agricultural areas.
7. Increase City property tax revenue.
8. Create a balance of preserving sensitive habitat, while providing a variety of homes that reflect, enhance, and complement existing neighborhoods in Davis.

3.3.4 BIOLOGICAL RESOURCES PRESERVATION ALTERNATIVE COMPONENTS

Within the overall BRPA site, the BRPA would include a preserved Natural Habitat Area, comprised of 47.1 acres of Alkali Prairie Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) land cover that occurs around an alkali playa south of Channel A (see Figure 3-14).

Figure 3-14
Biological Resources Preservation Alternative Land Use Plan



The areas within the BRPA site outside of the preserved Natural Habitat Area would consist of a mixed-use development community that includes a total of 1,800 dwelling units, comprised of both affordable and market-rate single- and multi-family residences across various residential neighborhoods. In addition, the BRPA would include the development of neighborhood services; public, semi-public, and educational uses; associated on-site roadway improvements; utility improvements; parks, open space, and greenbelts; and off-site improvements. Similar to the Proposed Project, the BRPA would require City approval of an SOI Amendment, Annexation, General Plan Amendment, Pre-zoning, and Development Agreement.

The BRPA would also include a Baseline Project Features agreement into which the developer would enter and be bound by to ensure inclusion of the agreed-to project features and upon which a future ballot measure would be based. The BRPA components are discussed further below.

Sphere of Influence Amendment and Annexation

Similar to the Proposed Project, the BRPA would include a request to amend the Davis SOI to adjust the City's SOI boundary lines and annex the 497.6-acre site into the City of Davis. The overall site would encompass 332.1 acres for urban development, the 47.1-acre Natural Habitat Area, and a 118.4-acre UATA comprised of 114.88 acres on APN 042-110-029 and 3.52 acres on APN 035-970-033. It should be noted that the BRPA site boundaries to be annexed into the City would be the same as those shown in Figure 3-3.

General Plan Amendment

Because the overall BRPA site is the same boundaries as the overall project site, the majority of the BRPA site is designated by Yolo County as S-P, with a 114.88-acre portion of the site designated by the County as Agricultural (see Figure 3-15). The General Plan map amendment would redesignate the BRPA site with City of Davis land use designations, consistent with the uses proposed as part of the BRPA, which are discussed below and shown in Figure 3-15.

Pre-zoning

The BRPA site is zoned by Yolo County as S-P and A-N (see Figure 3-16). Following annexation into the City limits, the site would be pre-zoned to the City's P-D zone. As part of approval of the Pre-zoning to P-D, the BRPA would be required to adhere to the development standards set forth by the PPD and included in the Development Agreement. The components of the P-D proposed for the BRPA are discussed further below.

Residential Neighborhoods

As previously discussed, the BRPA would consist of a mixed-use development community, including a total of 1,800 dwelling units. The residential units would be developed across nine villages within the BRPA site. The villages would consist of RLD, RMD, and RHD neighborhoods, as summarized in Table 3-3 and Table 3-4.

Residential Low Density

Under the BRPA, the North Village would be designated RLD and would consist of 310 market-rate and enhanced affordable single-family residential units and duplexes. The residences would be located in the northwestern portion of the BRPA site, south of the rerouted Channel A.

The market-rate single-family units would be targeted towards small developers and individuals seeking to design and contract the construction of their homes. Initially, the project applicant would sell the lots through a lottery-style selection process.

Figure 3-15
Biological Resources Preservation Alternative
General Plan Amendment

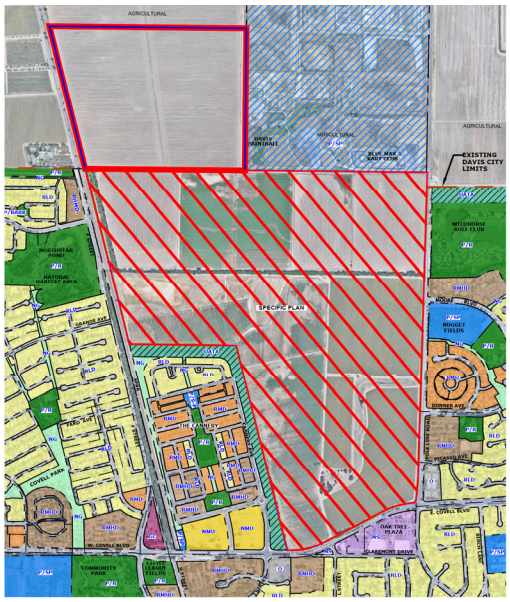
NOTE:

1. CONCEPTS SHOWN ON THIS EXHIBIT ARE PRELIMINARY IN NATURE AND ARE SUBJECT TO CHANGE BASED ON FINAL DESIGN.

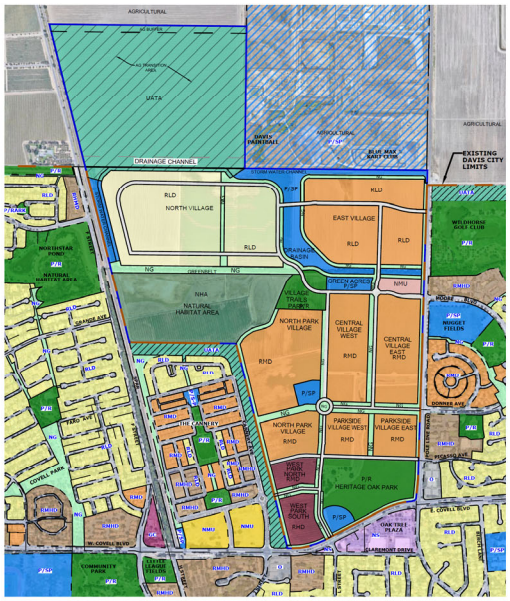
LAND USE SUMMARY:

EXISTING LAND USE	AREA
AGRICULTURAL	114.9 AC. ±
SPECIFIC PLAN	382.7 AC. ±
TOTAL:	497.6 AC. ±

PROPOSED LAND USE	AREA
RESIDENTIAL LOW DENSITY	61.4 AC. ±
RESIDENTIAL MEDIUM DENSITY	135.8 AC. ±
RESIDENTIAL HIGH DENSITY	12.3 AC. ±
PUBLIC SEMI- PUBLIC	29.1 AC. ±
NEIGHBORHOOD MIXED USE	2.9 AC. ±
PARK/RECREATION	27.1 AC. ±
NEIGHBORHOOD GREENBELT	40.8 AC. ±
MAJOR ROADS	21.3 AC. ±
URBAN AGRICULTURAL TRANSITION AREA	118.4 AC. ±
NATURAL HABITAT AREA	47.1 AC. ±
TOTAL:	497.6 AC. ±



EXISTING COUNTY



PROPOSED CITY

LEGEND

- COUNTY AGRICULTURAL
- YOLO COUNTY SPECIFIC PLAN
- NHA — NATURAL HABITAT AREA
- P/R — PARKS/RECREATION
- NG — NEIGHBORHOOD GREENBELT
- UATA — URBAN AGRICULTURAL TRANSITION AREA
- NMU — NEIGHBORHOOD MIXED USE
- P/SP — PUBLIC SEMI- PUBLIC
- RHD — RESIDENTIAL HIGH DENSITY
- RMHD — RESIDENTIAL MEDIUM HIGH DENSITY
- RMD — RESIDENTIAL MEDIUM DENSITY
- RLD — RESIDENTIAL LOW DENSITY
- MAJOR ROADS
- AGRICULTURAL (CITY OWNED)
- DAVIS CITY LIMITS
- PROPERTY BOUNDARY/USE AREA
- PS — PUMP STATION
- NORTH VILLAGE — NEIGHBORHOOD NAME
- RLD — LAND USE DESIGNATION

CUNNINGHAM ENGINEERING

VILLAGE FARMS DAVIS - BIOLOGICAL RESOURCE PRESERVATION ALTERNATIVE

GENERAL PLAN AMENDMENT EXHIBIT

0 1,000 2,000
SCALE: 1" = 2,000

Figure 3-16
Biological Resources Preservation Alternative Pre-zoning

NOTES:

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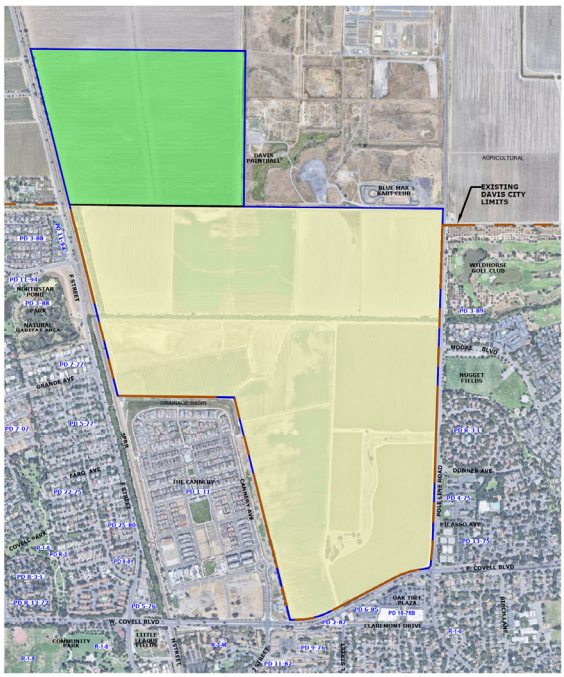
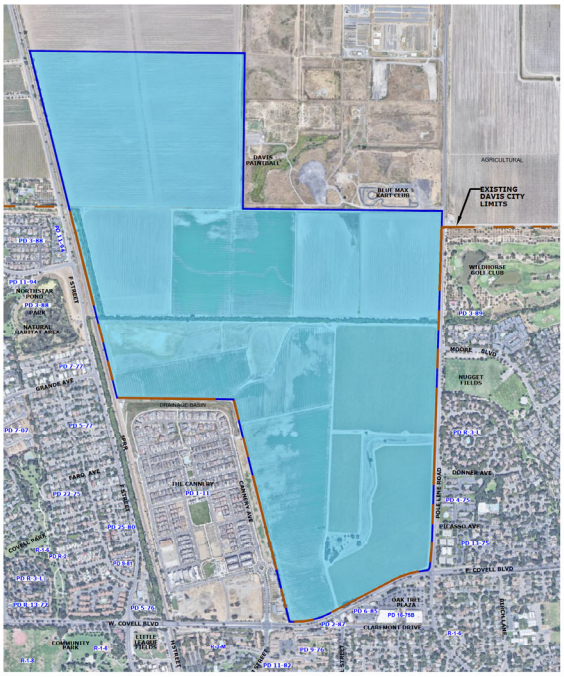




EXISTING ZONING DESIGNATION

- **SPECIFIC PLAN (S-P)**
- **AGRICULTURAL INTENSIVE (A-N)**

PROPOSED PREZONING DESIGNATION

- **VILLAGE FARMS DAVIS - BIOLOGICAL RESOURCE PRESERVATION ALTERNATIVE PLANNED DEVELOPMENT (P-D)**

PREZONING SUMMARY

EXISTING PREZONING	AREA	PROPOSED PREZONING	AREA
NEW PLANNED DEVELOPMENT	0.0 AC. ±	NEW PLANNED DEVELOPMENT	497.6 AC. ±
SPECIFIC PLAN	382.7 AC. ±	SPECIFIC PLAN	0.0 AC. ±
AGRICULTURAL	114.9 AC. ±	AGRICULTURAL	0.0 AC. ±

Table 3-3
Biological Resources Preservation Alternative Residential Uses

BRPA Land Use Designation	Neighborhood	Land Use Type	Units	Acres
Residential Low Density	North Village	Single-Family Units and Duplexes	310	61.4
Residential Medium Density	East Village	Single-Family Units and Duplexes	265	41.4
	Central Village East and West	Single-Family Units and Duplexes	315	40.1
	North Park Village	Single-Family Units and Duplexes	391	38.2
	Parkside Village East and West	Single-Family Units and Duplexes	159	16.2
Residential High Density	West Park Village North and South	Market-Rate and Affordable Multi-Family Units	360	12.2
Total			**1,800**	**209.5**

Table 3-4
Biological Resources Preservation Alternative Non-Residential Uses

BRPA Land Use Designation	Land Use Type	Acres
Neighborhood Mixed-Use	Neighborhood Services	2.9
Public/Semi Public	Emergency Services Community Center	2.5
Public/Semi Public	Pre-K Early Learning Center	2.4
Public/Semi Public	Educational Farm	2.8
Parks/Recreation	Heritage Oak Park	20.3
Parks/Recreation	Village Trails Park	6.8
Public/Semi Public	City Stormwater Conveyance	21.4
Urban Agricultural Transition Area	Urban Agricultural Transition Area	118.4
Neighborhood Greenbelt	Greenbelts	40.8
N/A	Roads	22.7
Natural Habitat Area	Natural Habitat Area	47.1
Total		**288.1**

The maximum number of lots purchased by a single buyer could be restricted to a specified total. As detailed in the PPD, permitted uses within the North Village would be those allowed in the R-1 zoning district, as set forth by Davis Municipal Code Article 40.03.

Residential Medium Density

Under the BRPA, the East Village, Central Villages East and West, North Park Village, and Parkside Villages East and West would be designated RMD and would include 1,130 market-rate and enhanced affordable single-family residential units and duplexes targeted towards small developers. Pursuant to the BRPA PPD, permitted uses within the villages would be those allowed in the R-1 and R-2 zoning district, as set forth by Davis Municipal Code Section 40.09.020.

Residential High Density

Under the BRPA, the West Park Villages North and South neighborhoods would be designated RHD and would include 360 RHD units, comprised of 270 affordable and 90 market-rate multi-family apartment units located in the southwest corner of the BRPA site, north of East Covell Boulevard. The 270 affordable multi-family residential units would be restricted for households meeting the definitions established by Davis Municipal Code Section 18.05.020. A land dedication would be developed and managed by a regional Affordable Housing developer. Pursuant to the

BRPA PPD, permitted uses within the West Park Villages North and South would be those allowed in the R-HD zoning district, as set forth by Davis Municipal Code Section 40.09.020.

Neighborhood Mixed Use

The BRPA would include approximately 2.9 acres of Neighborhood Mixed-Use immediately to the north of the Central Villages East and West and adjacent to Pole Line Road, which would be developed to serve existing neighborhoods and future residents of the BRPA residences. In consultation with City leadership, interested neighbors, and the business community, additional details for the site would be drafted for inclusion in the P-D (zoning) for the BRPA.

Public, Semi-Public, and Educational Uses

The BRPA would include a total of approximately 29.1 acres of public, semi-public, and educational uses, including 2.5 acres planned for development of a fire station, 2.4 acres for a DJUSD Pre-K Early Learning Center, 2.8 acres for an Educational Farm, and 21.43 acres for City stormwater conveyance. Each of the aforementioned components would be designated P-SP and would be consistent with the permitted uses and development standards set forth by Davis Municipal Code Article 40.20A.

The new fire station would be located in the southern portion of the BRPA site, adjacent to East Covell Boulevard and would include the same components as those included in the Proposed Project. With the exception of the location of the DJUSD Pre-K Early Learning Center, which would be centrally located in the lower half of the BRPA site, under the BRPA, all other details regarding the facility would be identical to those of the Proposed Project. Additional details for the Pre-K Early Learning Center would be finalized through consultation with the DJUSD and included in the BRPA's Development Agreement. The Educational Farm, tentatively proposed as "Green Acres," would be located in the northeast portion of the BRPA site, south of the East Village. The Educational Farm would include the same operational components as the Proposed Project. Additional details for the Educational Farm would be finalized through consultation with the DJUSD and included in the BRPA's Development Agreement.

Access and Circulation

Similar to the Proposed Project, primary access to the BRPA site would be provided from Pole Line Road and East Covell Boulevard (see Figure 3-17). L Street would be extended north into the site from East Covell Boulevard and Moore Boulevard, Donner Avenue, and Picasso Avenue would be extended west into the site from Pole Line Road. An additional entrance from Pole Line Road would be constructed in the northeast portion of the site. The BRPA would also include the extension of Cannery Loop, which is currently stubbed at the western site boundary, eastward into the BRPA site. Overall, the new internal streets would connect to form a semi-grid pattern within the BRPA site, similar to the layout of the Proposed Project; however, the BRPA roadway network would avoid the Natural Habitat Area. The ROWs associated with the BRPA roadway network would be identical to those associated with the Proposed Project (see Figure 3-7). In addition, the BRPA would include new intersection improvements on Pole Line Road, which are discussed further under the Off-Site Improvements subheading below.

The BRPA would include a multimodal network of bikeways, sidewalks, and transit stops (see Figure 3-18). With respect to bicycle facilities, the BRPA would include Class I, II, and III bikeways within the BRPA site.

Figure 3-17
Biological Resources Preservation Alternative
Vehicle Circulation Plan

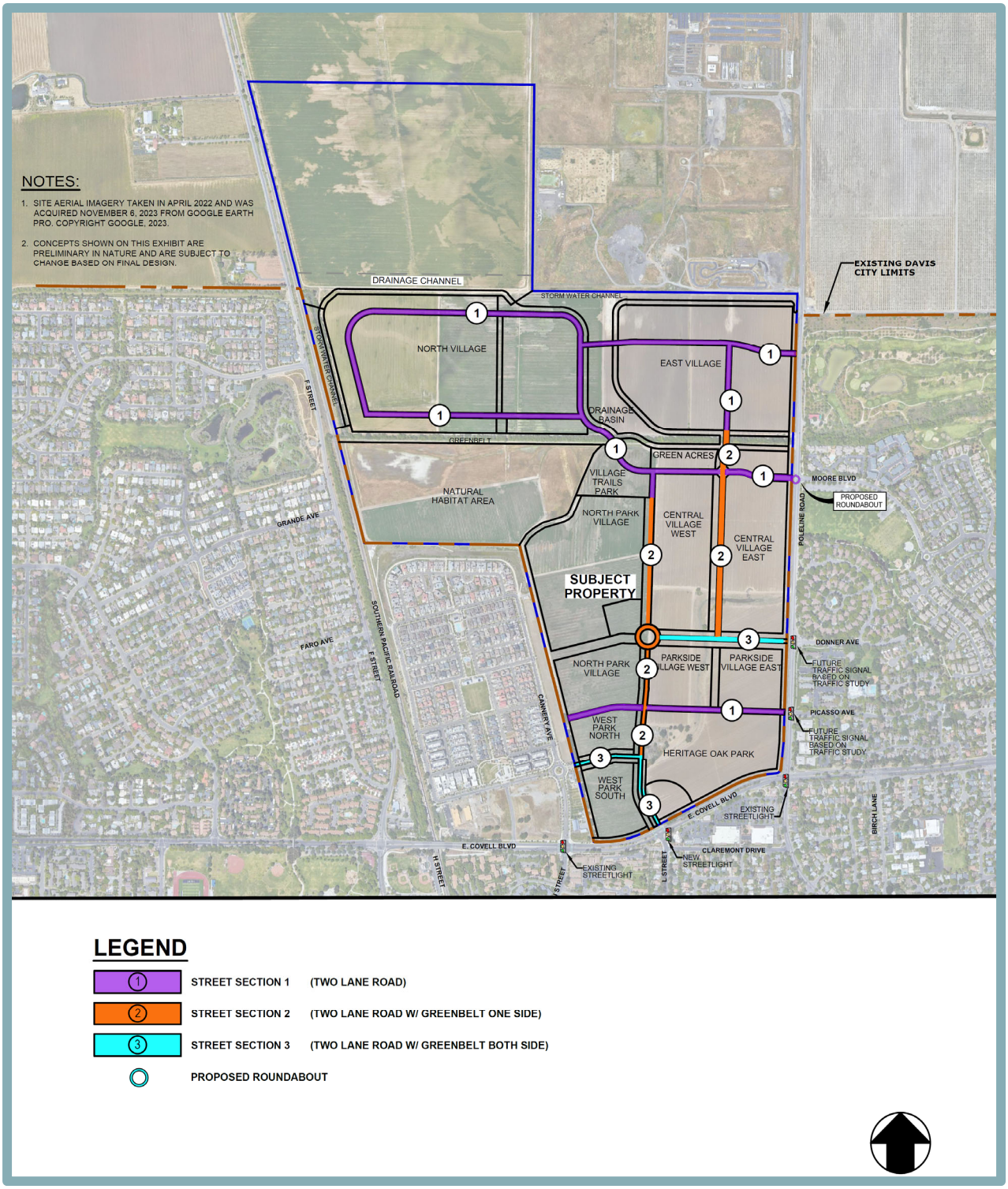
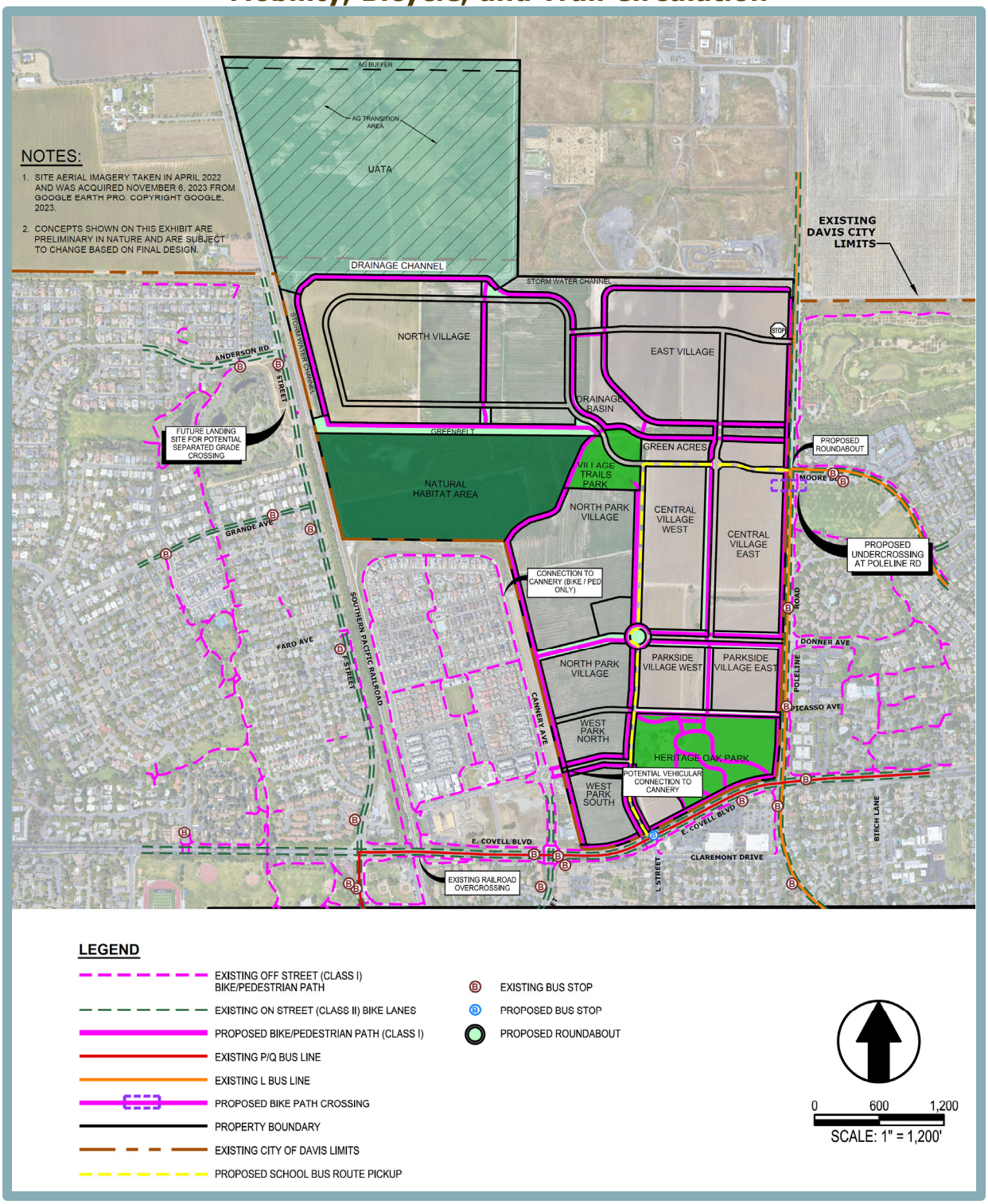


Figure 3-18
Biological Resources Preservation Alternative
Mobility, Bicycle, and Trail Circulation



The on-site Class I bike paths would primarily coincide with the new roadways and greenbelts (discussed further under the Parks, Open Space, and Greenbelts subheading below) and would provide a six-foot-wide travel lane in each direction for a total travel width of 12 feet. For example, a Class I bike path would be constructed within the greenbelt north of the Natural Habitat Area, and would connect to additional paths along the eastern border of the Natural Habitat Area before extending south to East Covell Boulevard. Details related to bikeways, sidewalks, and transit stops, including design, connection to existing facilities, and the pedestrian/bicycle crossings, would be largely similar to those associated with the Proposed Project.

Additionally, a pedestrian/bicycle crossing would be provided by an undercrossing near the Pole Line Road/Moore Boulevard intersection. An existing grade-separated crossing south of the Cannery subdivision at Covell Boulevard provides connection to F Street. Similar to the Proposed Project, the BRPA provides an opportunity to explore a grade-separated crossing at F Street. The study area of the EIR includes a potential landing area on the west side of F Street for a future connection. Ultimately, the feasibility of the crossings will depend on landing constraints, potential impacts to the surrounding area, other unforeseen challenges, and, for the F Street crossing specifically, UPRR's requirements.

The new grade-separated pedestrian/bicycle crossings being studied in this EIR would allow the proposed internal bikeway network to link to the wider Davis Bike Loop, which currently ends at the eastern and western project site boundaries at Moore Boulevard and Anderson Road, respectively.

Utilities

The BRPA would include utility improvements related to water, sanitary sewer, and storm drainage services, which are generally discussed below.

Water

Similar to the Proposed Project, water service would be provided by the City of Davis through new connections to the existing lines in East Covell Boulevard and Pole Line Road (see Figure 3-19). New eight-inch, 10-inch, and 12-inch water lines would be installed and extended into the BRPA site within the new on-site internal streets. The new water lines would not intrude upon the Natural Habitat Area.

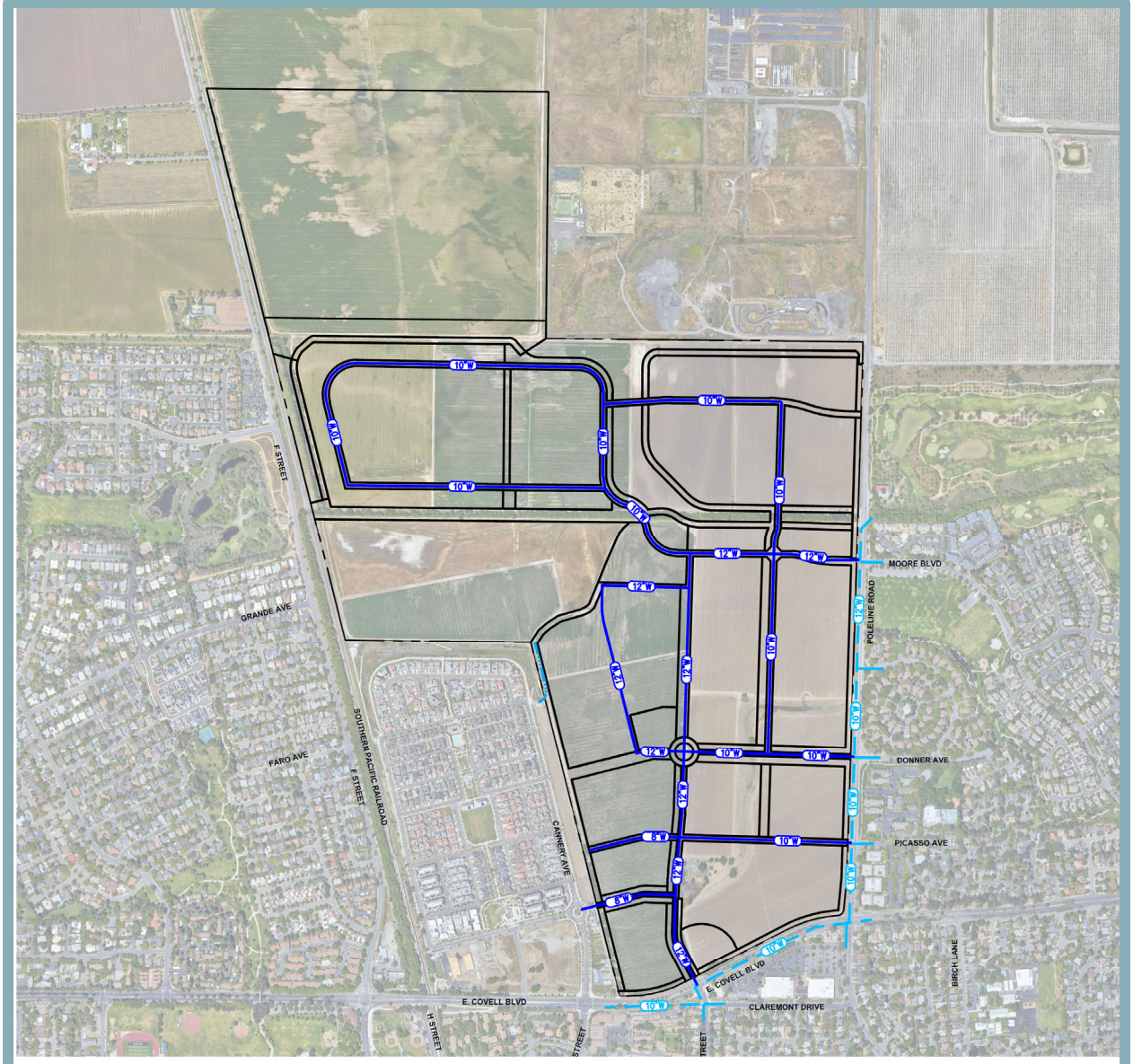
Sewer

Sanitary sewer service would be provided by the City of Davis through new connections to the existing sewer system (see Figure 3-20). New eight- and 10-inch sewer lines would be installed and extended into the site within the new on-site internal streets and would avoid the Natural Habitat Area.

Storm Drainage

Storm drainage service would be provided by the City of Davis through new connections to the existing system, improvements to the existing Channel A, and new storm drainage features (see Figure 3-21). The improvements to Channel A and new storm drainage features would be largely similar to those included as part of the Proposed Project, except no drainage infrastructure would be placed within the Natural Habitat Area. Additionally, the BRPA would similarly include LID measures throughout the BRPA site to provide stormwater quality treatment.

Figure 3-19
Biological Resources Preservation Alternative Water Infrastructure



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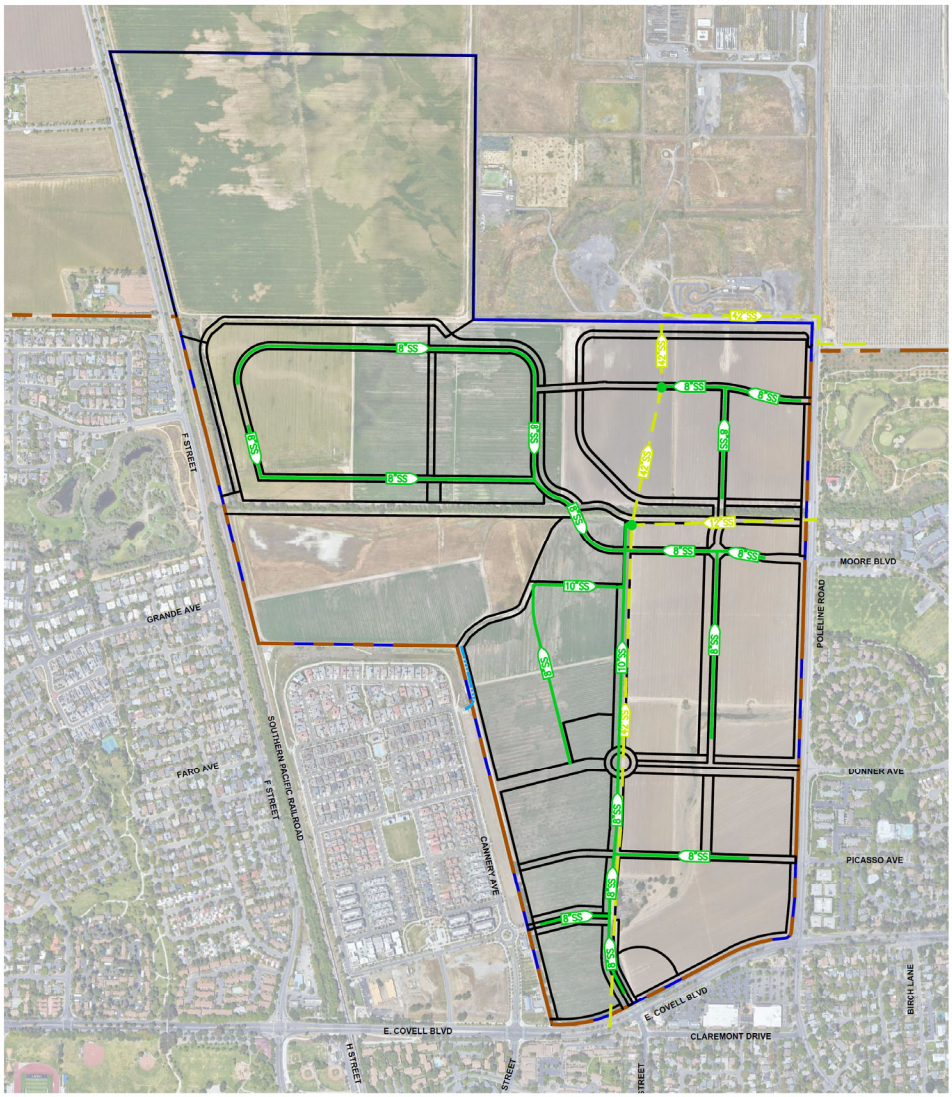
LEGEND

- PROPOSED WATER PIPELINE
- EXISTING WATER PIPELINE

Figure 3-20
Biological Resources Preservation Alternative Sewer Infrastructure



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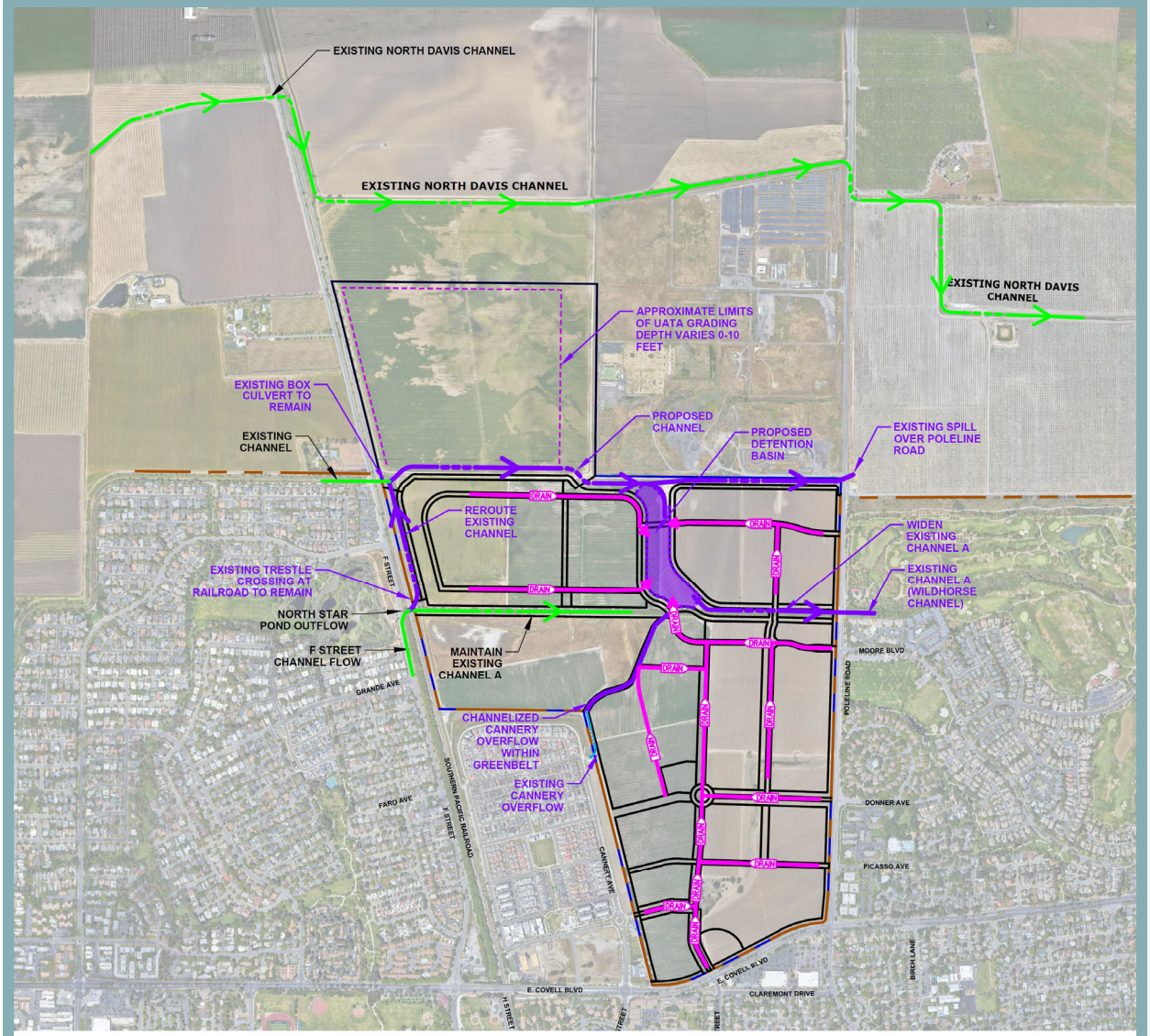
LEGEND

- PROPOSED SEWER PIPELINE
- EXISTING SEWER PIPELINE
- POINT OF CONNECTION AT EXISTING MANHOLE

Figure 3-21
Biological Resources Preservation Alternative
Stormwater Drainage Infrastructure



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LEGEND

- PROPOSED STORM DRAIN PIPELINE
- OPEN CHANNEL CONVEYANCE

Similar to the Proposed Project, the BRPA would reroute Channel A from the northwest corner of the BRPA site to convey flows along the northern site boundary to a new stormwater detention basin located between the North and East Villages. The overall depth of the detention basin would be approximately eight feet with a bottom elevation of 26.5 feet. From the new detention basin to Pole Line Road, Channel A would be expanded with a drainage capacity equivalent to the existing flows tributary of the off-site portion of Channel A within the adjacent Wildhorse neighborhood. An additional channel would be constructed on the northern boundary of East Village allowing larger storm events to overtop Pole Line Road and flow to the northeast, matching the existing flow conditions in a rare 100-year, 10-day storm event.

The UATA is proposed to extend 2,000 feet to the north, between F Street and the Davis Paintball/Blue Max Kart Club. The expanded UATA would exceed the City minimum 150-foot buffer requirement and would create a natural vegetation and wildlife area after the removed organic topsoil is returned to the site. Soil excavations from this area would be used for on-site fill to elevate pads above the flood plain.

Dry Utilities

Electricity service would be provided to the BRPA site by PG&E and VCE through connection to existing infrastructure in the project vicinity. The BRPA would not use natural gas. Telecommunication services would be provided by Xfinity and/or other providers through connection to existing infrastructure.

Parks, Open Space, and Greenbelts

The BRPA would include a total of approximately 186.3 acres of parks, open space, and greenbelts, including the Heritage Oak Park and Village Trails Park, natural vegetation areas along Channel A (including the agricultural buffer), and the greenbelts (see Figure 3-22). Heritage Oak Park and the UATA would be identical to the Proposed Project. Village Trails Park would be slightly reduced under the BRPA, from 7.5 acres under the Proposed Project to 6.8 acres. The 0.7-acre portion accounting for the reduction to Village Trails Park would instead be included in the northeastern corner of the Natural Habitat Area under the BRPA.

The BRPA would include approximately 40.8 acres of greenbelts, a 1.1-acre increase from the Proposed Project. Similar to the Proposed Project, the 50-foot-wide greenbelts would generally occur along portions of all the BRPA site's boundaries, as well as adjacent and/or within the new residential villages. The greenbelts would coincide with the Class I multi-use pathway and include new landscaping vegetation and habitat restoration. The additional 1.1 acres of greenbelt included as part of the BRPA would be located adjacent to the UATA that occurs between the southwestern BRPA site boundary and the Cannery development to the west.

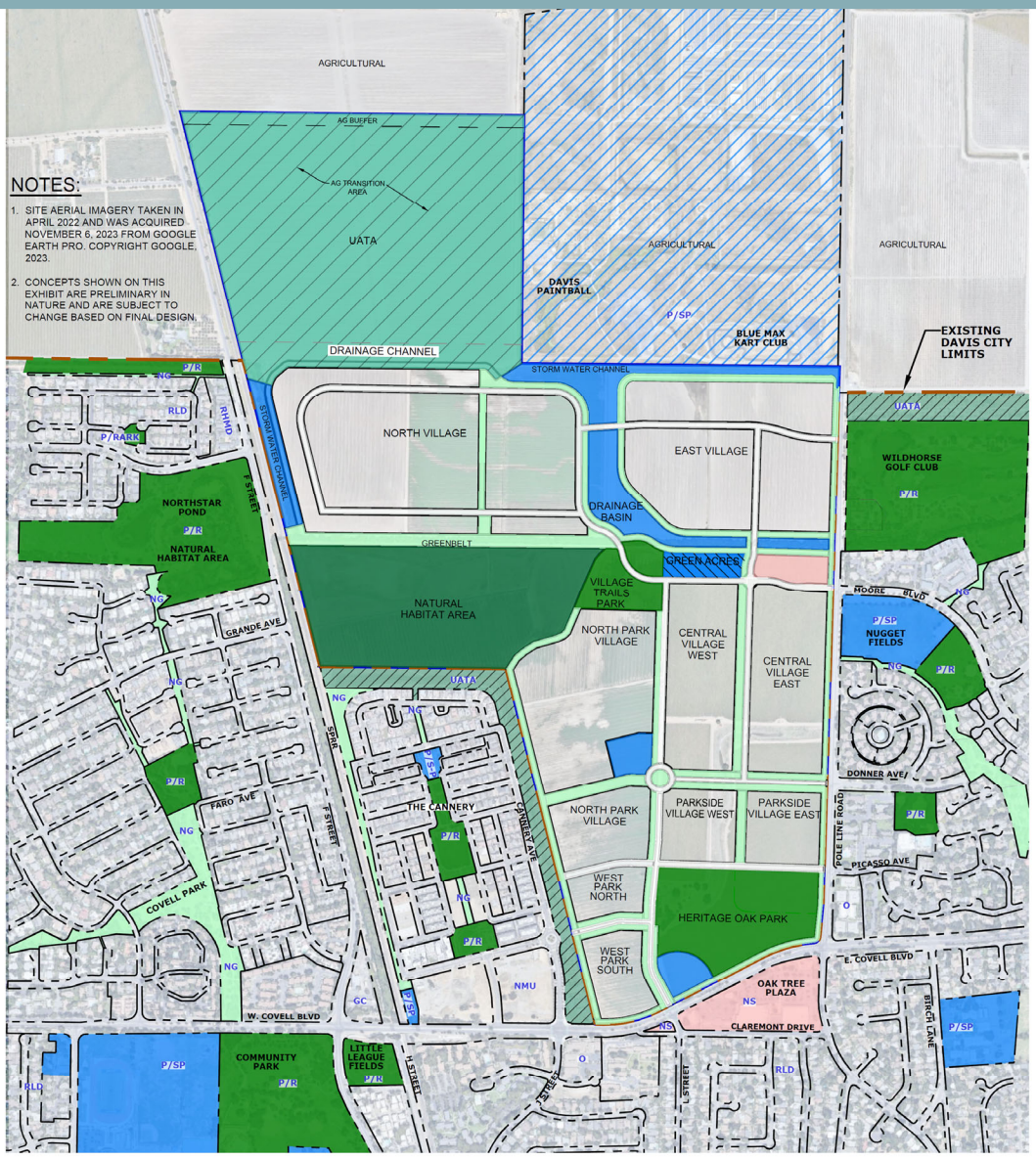
Natural Habitat Area

The BRPA would preserve the approximately 47.1-acre Natural Habitat Area, which is comprised of Alkali Prairie Yolo HCP/NCCP land cover and associated watershed and occurs around the alkali playa located south of Channel A.

Off-Site Improvements

The BRPA would include various off-site improvements, including new intersection improvements along Pole Line Road, a new north leg at the intersection of East Covell Boulevard and L Street, a pedestrian/bicycle crossing traversing Pole Line Road, potentially a grade-separated crossing at F Street, off-site water line improvements within three existing roadways in the project vicinity, and the UATA.

Figure 3-22
Biological Resources Preservation Alternative Open Space Map



LAND USE	AC.	% OF URBAN AREA	CITY REQUIRED %
PARK	27.1 AC. ±	12.9%	10%
GREENBELT	40.8 AC. ±	19.5%	
UATA	118.4 AC. ±	56.5%	
NATURAL HABITAT AREA	47.1 AC. ±	22.5%	
TOTAL OPEN SPACE	**186.3 AC. ±**	**73.2%**	10%

CUNNINGHAM ENGINEERING

VILLAGE FARMS DAVIS - BIOLOGICAL RESOURCE PRESERVATION ALTERNATIVE

OPEN SPACE MAP

0 600 1,200
SCALE: 1" = 1,200

The foregoing components would be largely similar to the off-site improvements discussed above for the Proposed Project. Similar to the Proposed Project, the feasibility of the crossings would depend on UPRR and City of Davis limitations, landing constraints, potential impacts to the surrounding area, and other unforeseen challenges.

Biological Resources Preservation Alternative Phasing

Development of the BRPA would occur over the course of four phases, which are generally discussed below (see Figure 3-23).

Phase 1

Phase 1 is anticipated to include development of the following:

- West Park North and South (360 multi-family units, 270 of which would be affordable and 90 of which would be market-rate multi-family units);
- East Village (265 medium-density units consisting single-family units and duplexes);
- Central Villages East and West (315 medium-density units consisting of single-family units and duplexes);
- Greenbelts along Pole Line Road, East Covell Boulevard, and the adjoining City-owned property to the north of the BRPA site;
- Internal greenbelts and trails;
- The UATA; and
- City Stormwater Conveyance.

In addition, Phase 1 would include the installation of water, sewer, and storm drain infrastructure within existing and new roadways, as well as electrical and communication infrastructure. Phase 1 would also include the relocation and expansion of Channel A and the new detention basin.

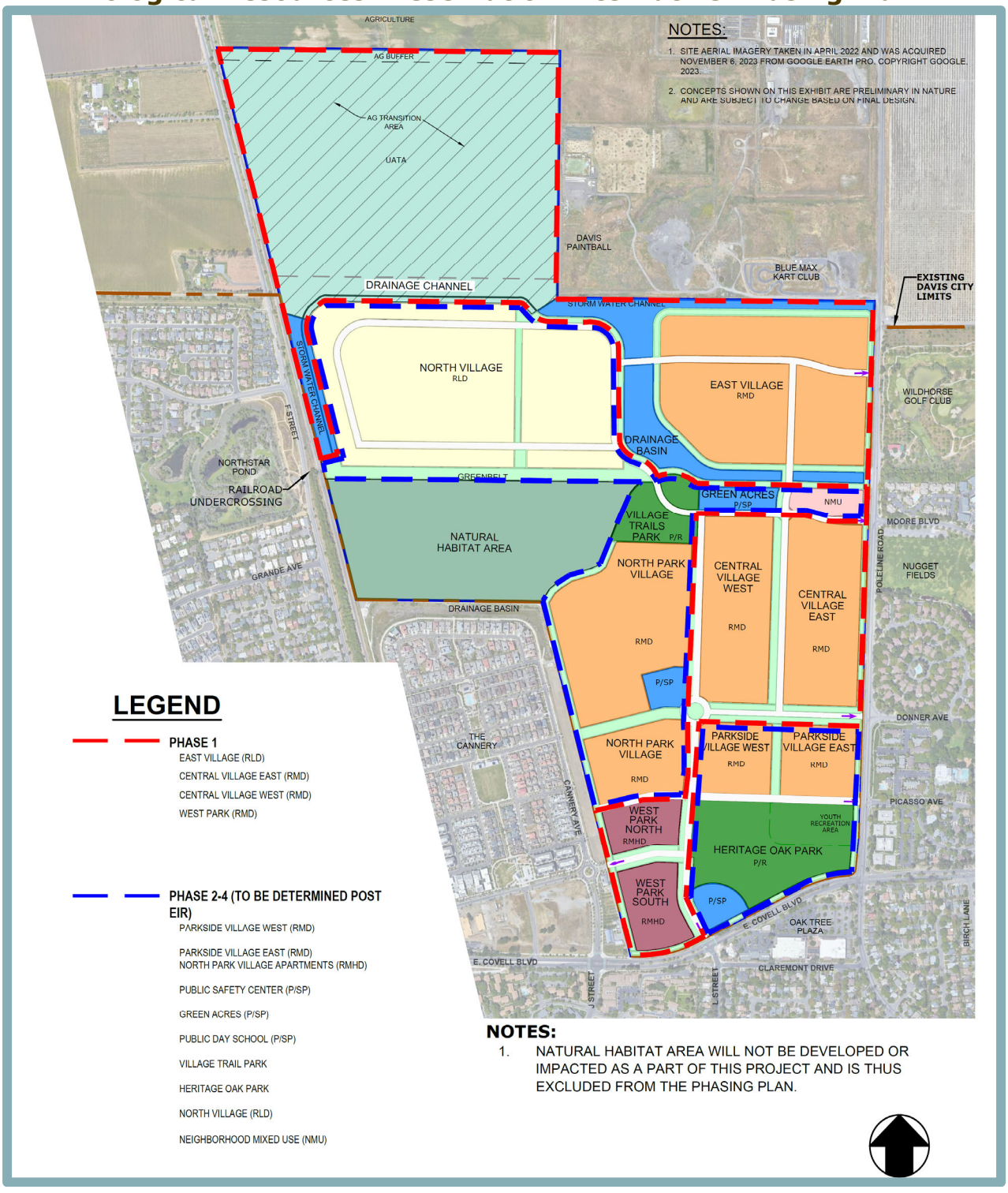
Phases 2, 3, and 4

Phases 2, 3, and 4 are anticipated to include development of the following:

- North Park Village (391 medium-density units consisting of single-family units and duplexes);
- Parkside Village East (68 medium-density units consisting of single-family units and duplexes);
- Parkside Village West (91 medium-density units consisting of single-family units and duplexes);
- North Village (310 low-density units consisting of single-family units and duplexes);
- Heritage Oak Park;
- Fire station;
- Village Trail Park;
- Internal greenbelts and trails;
- Perimeter greenbelts along the BRPA site's southern boundary;
- Pre-K Early Learning Center;
- Neighborhood Services; and
- "Green Acres" Educational Farm.

Similar to Phase 1, Phases 2, 3, and 4 would include the installation of water, sewer, and storm drain infrastructure within existing and new roadways, as well as electrical and communication infrastructure. If determined feasible and upon final designs, the proposed pedestrian/bicycle undercrossing at Pole Line Road would be constructed during Phases 2, 3, and/or 4.

Figure 3-23
Biological Resources Preservation Alternative Phasing Plan



Development Agreement

A Development Agreement between the applicant and the City of Davis would be included as part of the BRPA, which would allow the City and the applicant to enter into an agreement to assure the City that the BRPA would be completed in compliance with the plans submitted by the applicant and assure the applicant of vested rights to develop the BRPA.

Project Approvals

The following section presents the actions that would be required to implement the BRPA.

1. Certification of the EIR and adoption of the Mitigation Monitoring Plan. Before the City can approve the BRPA, the City must certify that the EIR was completed in compliance with the requirements of CEQA, that the decision-making body has reviewed and considered the information in the EIR, and that the EIR reflects the independent judgment of the City of Davis. Approval of the EIR would also require adoption of a MMP, which would specify the methods for monitoring mitigation measures required to eliminate or reduce the BRPA's significant effects on the environment. The City would also be required to adopt Findings of Fact, and for any impacts determined to be significant and unavoidable, a Statement of Overriding Considerations, as part of BRPA approval.
2. SOI Amendment. Because the 114.88-acre portion of the BRPA site is outside the City's SOI, the BRPA would require an SOI Amendment to include that portion of APN 042-110-029 within the City's SOI.
3. Annexation. The BRPA would require the annexation of the 497.6-acre BRPA site into the City of Davis.
4. General Plan Amendment. The BRPA would require a General Plan Amendment to redesignate the 497.6-acre BRPA site from Yolo County General Plan land use designations of S-P (382.72 acres) and Agricultural (114.88 acres) to the following City of Davis land use designations:
    - 61.4 acres of RLD;
    - 135.9 acres of RMD;
    - 12.2 acres of RHD;
    - 29.1 acres of P-SP
    - 2.9 acres of Neighborhood Mixed-Use;
    - 27.1 acres of Park/Recreation;
    - 40.8 acres of Neighborhood Greenbelt;
    - 47.1 acres of Natural Habitat Area; and
    - 118.4 acres of UATA.
5. Pre-zoning. The BRPA would require Pre-zoning of the BRPA site from the Yolo County zoning designations of S-P (382.72 acres) and Agricultural (114.88 acres) to the City of Davis zoning of P-D.
6. Development Agreement.

Responsible Agency Approvals – Yolo Local Agency Formation Commission

The BRPA would require the following approvals from Yolo LAFCo as part of the requested SOI Amendment and Annexation:

1. Combined MSR and SOI Amendment in order to bring the 114.88-acre portion of APN 042-110-029 within the City of Davis SOI (Government Code Section 56428).
2. Annexation of the entire 497.6-acre BRPA site into the City of Davis (Government Code Section 56737).

Annexation of the BRPA site to the City of Davis would also require Yolo County LAFCo approval of detachment of the BRPA site from the Springlake Fire Protection District, as the City of Davis Fire Department would provide fire protection services to the site upon Annexation.

3.4 OTHER AGENCY PERMITS AND APPROVALS

The Proposed Project and the BRPA would not require additional agency approvals and permits until such time that the project applicant receives approval of additional discretionary entitlements from the City of Davis, thereby enabling on-site construction. At this later stage, subsequent to City of Davis approval of a final PD and Tentative Subdivision Map(s), the following agency approvals and permits would likely be required:

1. National Pollutant Discharge Elimination System (NPDES) Construction General Permit – Central Valley Regional Water Quality Control Board (RWQCB).
2. NPDES Phase II Small MS4 General Permit – Central Valley RWQCB.
3. Section 404 Nationwide Permit (or Letter of Permission) – U.S. Army Corps of Engineers (USACE).
4. Section 401 Water Quality Certification – Central Valley RWQCB.
5. Section 1602 Lake or Streambed Alteration Agreement – California Department of Fish and Wildlife (CDFW).
6. Certificate of HCP/NCCP Authorization – Yolo Habitat Conservancy.

4. Existing Environmental Setting, Impacts, and Mitigation

4.0 Introduction to the Analysis

4.0 INTRODUCTION TO THE ANALYSIS

4.0.1 INTRODUCTION

The technical chapters of this EIR include the analysis of the potential impacts of buildout of the Village Farms Davis Project (Proposed Project) and Biological Resources Preservation Alternative (BRPA) on a range of environmental issue areas. Chapters 4.1 through 4.15 of the EIR describe the environmental setting related to each specific issue area, methods of analysis, project-specific and BRPA impacts and mitigation measures, and a cumulative impact analysis for each issue area. The format of each of the technical chapters is described at the end of this chapter. It should be noted that technical reports are either attached to this EIR, available by request from the City of Davis, or available on the City's website at: https://www.cityofdavis.org/city-hall/community-development-and-sustainability

According to CEQA Guidelines Section 15125(d), the EIR shall discuss any inconsistencies between the Proposed Project and applicable general plans, specific plans, and regional plans. An "applicable" plan is a plan that has already been adopted, and thus, legally applies to a project; draft plans need not be evaluated.[1] During the circulation of the Notice of Preparation (NOP) for public review, the City of Davis updated its General Plan, by adoption of the 2021-2029 Housing Element of the General Plan on December 5, 2023. This EIR relies on the City of Davis General Plan when determining whether any inconsistencies would occur between the Proposed Project and BRPA and the applicable General Plan.

4.0.2 DETERMINATION OF SIGNIFICANCE

Under CEQA, a significant effect is defined as a substantial or potentially substantial adverse change in the environment (Public Resources Code [PRC] Section 21068). The CEQA Guidelines require that the determination of significance be based on scientific and factual data. The specific criteria for determining the significance of a particular impact are identified within in each technical chapter and are consistent with significance criteria set forth in the CEQA Guidelines or as based on the professional judgment of the EIR preparers.

Significance Criteria

The CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic and aesthetic significance." In addition, the Guidelines state, "An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant." (CEQA Guidelines Section 15382).

As presented in Section 4.0.4 below, the level of significance of an impact prior to mitigation is included at the end of each impact discussion throughout the technical chapters of this EIR.

[1] Stephen L. Kostka and Michael H. Zischke. *Practice Under the California Environmental Quality Act, Volume 1.* Continuing Education of the Bar: March 2022, Section 12.27.

The following levels of significance prior to mitigation are used in this EIR:

1) Less than Significant: Impacts that may be adverse, but that do not exceed the specified thresholds of significance;
2) Significant: Impacts that exceed the defined standards of significance and require mitigation;
3) Less than Cumulatively Considerable: Where cumulative impacts have been identified, but the project's incremental contribution towards the cumulative impacts would not be considered significant; and
4) Cumulatively Considerable: Where cumulative impacts have been identified and the project's incremental contribution towards the cumulative impacts would be considered significant.

If an impact is determined to be significant or cumulatively considerable, mitigation is included, if available, in order to reduce the specific impact to the maximum extent feasible. A statement of the level of significance of an impact after mitigation is also included in each impact discussion throughout the technical chapters of this EIR. The following levels of significance after implementation of mitigation are used in the EIR:

1) Less than Significant: Impacts that exceed the defined standards of significance but can be eliminated or reduced to a less-than-significant level through the implementation of feasible mitigation measures;
2) Less than Cumulatively Considerable: Where the project's incremental contribution towards cumulative impacts would be eliminated or reduced to a less than cumulatively considerable level through the implementation of feasible mitigation measures; and
3) Significant and Unavoidable Impact: An impact (project-level or cumulative) that cannot be eliminated or reduced to a less-than-significant or less than cumulatively considerable level through the implementation of feasible mitigations measures.

Each environmental area of analysis uses a distinct set of significance criteria. The significance criteria are identified at the beginning of the Impacts and Mitigation Measures section in each of the technical chapters of this EIR. Although significance criteria are necessarily different for each resource considered, the provided significance levels ensure consistent evaluation of impacts for all resource areas evaluated.

4.0.3 ENVIRONMENTAL ISSUES ADDRESSED IN THIS EIR

The EIR provides the analysis necessary to address the technical environmental impacts of the Proposed Project and BRPA. The following environmental issues are addressed in the separate technical chapters of this EIR:

- Aesthetics;
- Agricultural Resources;
- Air Quality, Greenhouse Gas Emissions, and Energy;
- Biological Resources;
- Cultural and Tribal Cultural Resources;
- Geology and Soils;
- Hazards and Hazardous Materials;
- Hydrology and Water Quality;
- Land Use and Planning;

- Noise;
- Population and Housing;
- Public Services and Recreation;
- Transportation;
- Utilities and Service Systems; and
- Wildfire.

Chapter 5, Effects Not Found to be Significant, will address the project's effects that were determined not to be significant, and thus, were not discussed in detail in a technical chapter of the EIR. See Section 6.3, Cumulative Impacts, of Chapter 6, Statutorily Required Sections, for additional information on the scope of the cumulative impact analysis for each environmental issue area addressed in the EIR.

4.0.4 TECHNICAL CHAPTER FORMAT

Each technical chapter addressing a specific environmental issue begins with an **introduction** describing the purpose of the section. The introduction is followed by a description of the project's **existing environmental setting** as the setting pertains to that particular issue. The setting description is followed by the **regulatory context** and the **impacts and mitigation measures** discussion, which contains the **standards of significance**, followed by the **method of analysis**. The standards of significance section includes references to the specific checklist questions consistent with Appendix G of the CEQA Guidelines. The **impacts and mitigation measures** discussion includes impact statements prefaced by a number in bold-faced type and an analysis of potential impacts for both the Proposed Project and BRPA, as well as cumulative analyses. An explanation of each impact and an analysis of the impact's significance follow each impact statement, followed by all mitigation measures pertinent to each individual impact (see below). The degree of relief provided by identified mitigation measures is also evaluated. An example of the format is shown below.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts is based on the implementation of the Proposed Project and BRPA in comparison with the standards of significance.

4.x-1 Statement of Project-Specific and Biological Resources Preservation Alternative Impact

Brief introduction and explanation of the nature of the impact.

Proposed Project

Discussion of impact for the Proposed Project in paragraph format.

Biological Resources Preservation Alternative

Discussion of impact for the BRPA in paragraph format.

Conclusion

Statement of ***level of significance*** of impact prior to mitigation is included at the end of each impact discussion. The following levels of significance are used in the EIR: less than significant, significant, or significant and unavoidable. If an impact is determined to be significant, mitigation will be included in order to reduce the specific impact to the maximum extent feasible. Impacts that cannot be reduced to a less-than-

significant level with implementation of all feasible mitigation would be considered to remain significant and unavoidable.

Mitigation Measure(s)

Statement of *level of significance* after the mitigation is included immediately preceding mitigation measures.

4.x-1(a) *Required mitigation measure(s) presented in italics and listed in consecutive order.*

4.x-1(b) *Required additional mitigation measure, if necessary.*

Cumulative Impacts and Mitigation Measures

The following discussion of cumulative impacts is based on implementation of the Proposed Project and BRPA in combination with cumulative development within the applicable area or region.

4.x-2 Statement of Cumulative Impact

Based on the nature of cumulative impacts, the EIR is anticipated to discuss the cumulative impacts of both the Proposed Project and BRPA together in most cases.

Proposed Project, Biological Resources Preservation Alternative

Discussion of cumulative impacts for the Proposed Project and BRPA in paragraph format.

As discussed in detail in Chapter 6, Statutorily Required Sections, of the EIR, the cumulative setting for the Proposed Project and BRPA is generally considered to be development anticipated to occur through buildout of the Davis General Plan (i.e., City of Davis), as well as a list of past, present, and probable future projects.

Statement of ***level of significance*** of cumulative impact prior to mitigation is included at the end of each impact discussion. The following levels of significance are used in the EIR for cumulative impacts: less than significant, less than cumulatively considerable, cumulatively considerable, or significant and unavoidable. If an impact is determined to be cumulatively considerable, mitigation will be included in order to reduce the specific impact to the maximum extent feasible. Impacts that cannot be reduced to less-than-significant or less than cumulatively considerable levels with the implementation of all feasible mitigation would be considered to remain significant and unavoidable.

Mitigation Measure(s)

Statement of *level of significance* after the mitigation is included immediately preceding mitigation measures.

4.x-2(a) *Required mitigation measure(s) presented in italics and listed in consecutive order.*

4.x-2(b) *Required additional mitigation measure, if necessary.*

4.1. Aesthetics

4.1 AESTHETICS

4.1.1 INTRODUCTION

The Aesthetics chapter of the EIR describes existing aesthetic resources in the area of the project site, the Biological Resources Preservation Alternative (BRPA) site, and the broader region, and evaluates the potential aesthetic impacts of the Proposed Project and the BRPA. CEQA describes the concept of aesthetic resources in terms of scenic vistas, scenic resources (such as trees, rock outcroppings, and historic buildings within a State scenic highway), and the existing visual quality or character of the project area. In addition, pursuant to CEQA Guidelines, this chapter describes potential impacts related to light and glare. The following analysis is based on information drawn from the City of Davis General Plan[1] and the City of Davis General Plan EIR.[2]

Pursuant to the court ruling in *Preserve Poway v. City of Poway* (2016) 245 Cal. App.4th 560 [199 Cal.Rptr. 3d 600], community character is separate and apart from aesthetic impacts and, thus, is not a CEQA issue. Rather, the analysis of aesthetics should be limited to tangible, physical evidence that a project is visually inconsistent with the surrounding community (rather than a psychological "feel"). Therefore, where applicable, the analysis presented within this chapter focuses on potential physical changes to the visual composition of the project site/BRPA site and surrounding area, rather than overall community character.

The CEQA Guidelines differentiate between how urban and non-urban sites proposed for development could result in potential impacts to public views of the sites. Appendix G, Section I, Question 'c,' defines public views as those that are experienced from a publicly accessible vantage point. The sample Initial Study checklist found in Appendix G to the CEQA Guidelines suggests that different aesthetic standards apply in "non-urbanized" and "urbanized areas," respectively. For non-urbanized areas, the inquiry asks whether a proposed project "would substantially degrade the existing visual character or quality of public views of the site and its surroundings." For urbanized areas, the question is whether the project would "conflict with applicable zoning and other regulations governing scenic quality." Under the CEQA Guidelines, "urbanized area" is a term of art defined in CEQA Guidelines Section 15387 as "a central city or a group of contiguous cities with a population of 50,000 or more, together with adjacent densely populated areas having a population density of at least 1,000 persons per square mile."

The likely reason that the California Natural Resources Agency (CNRA), in fashioning the inquiries in Appendix G, suggests different approaches to aesthetic analyses in non-urbanized areas and urbanized areas is CNRA did not want purely aesthetic concerns – such as height and mass by themselves – to deter dense, land-efficient development in urbanized areas. In such highly developed areas, additional high-density development can reduce the long-term environmental effects of what is often called sprawl by making an efficient use of areas that are already highly urbanized. Thus, projects proposed in such areas only require an evaluation of consistency with city or county regulations that govern scenic quality, such as design guidelines (See *Bowman v. City of Berkeley* [2004] 122 Cal.App.4th 572, 592, 594 ["[t]he aesthetic difference

1 City of Davis. *City of Davis General Plan*. Adopted May 2001, Amended January 2007.
2 City of Davis. *Final Program EIR for the City of Davis General Plan Update and Final Project EIR for Establishment of a New Junior High School*. Certified May 2001.

between a four-story and a three-story building on a commercial lot on a major thoroughfare in a developed urban area is not a significant environmental impact, even under the fair argument standard"; "[w]here a project must undergo design review under local law that process itself can be found to mitigate purely aesthetic impacts to insignificance"]).

In contrast, in less developed areas, concerns about mass and height, and how they affect existing visual conditions, are more appropriate. Here, the project site/BRPA site is within an "urbanized area," as the surrounding populated areas within the City of Davis include 1,000 persons per square mile. The City has, therefore, undertaken the inquiry appropriate for "urbanized areas."

Additionally, CEQA case law has established that EIRs are not required to consider impacts on private views and may limit their analysis of aesthetic effects to impacts on public views. For example, in *Mira Mar Mobile Community v. City of Oceanside* (2004) 119 Cal.App.4th 477, 492-494, the court held that a county, in preparing an EIR for a proposed condominium project, acted within its discretion in choosing not to consider private views. The court noted that "California landowners do not have a right of access to air, light and view over adjoining property" and added that "[u]nder CEQA, the question is whether a project will affect the environment of persons in general, not whether a project will affect particular persons[,]" (*Id*. at p. 492). In this same vein, another court, in *Topanga Beach Renters Assn. v. Department of General Services* (1976) 58 Cal.App.3d 188, 195, observed that "all government activity has some direct or indirect adverse effect on some persons." Such conclusions are consistent with the inquiries set forth in Appendix G of the CEQA Guidelines, which, as previously discussed, ask whether projects outside urbanized areas would "substantially degrade the existing visual character or quality of *public* views" of a project site and its surroundings (italics added). In light of such considerations, the extent to which the project could conflict with applicable zoning and other regulations governing scenic quality is considered within the context of those who would view the project from public areas, rather than adjacent private neighborhoods.

Furthermore, pursuant to Public Resources Code (PRC) Section 21061.3 defines an "infill site" as a site in an urbanized area that has not been previously developed for urban uses and is both located immediately adjacent to parcels that are developed with urban uses, or at least 75 percent of the perimeter of the site adjoins parcels that are developed with qualified urban uses, and the remaining 25 percent of the site adjoins parcels that have been previously developed with urban uses, and is a site within which parcels have not been created within the past 10 years. Based on the foregoing definition, because the project site/BRPA site is surrounded to the west, south, and east with urban uses, and is bordered to the north by the Davis Paintball and Blue Max Kart Club/former wastewater treatment plant (WWTP) site and former Old Davis Landfill, the site is considered an infill site.

4.1.2 EXISTING ENVIRONMENTAL SETTING

The following setting information provides an overview of the existing conditions of visual resources in the project region and within the vicinity of the project site/BRPA site.

Visual Character of the Region

The City of Davis' planning area, comprised of approximately 160 square miles, is located 11 miles west of Sacramento and approximately 79 miles northeast of San Francisco. The planning area consists of approximately 160 square miles and is characterized by agricultural/open space landscapes to the north, west, and south; highly developed urban landscapes within the City

limits; and open space lands, including the Yolo Bypass Wildlife Area, to the east. Views from agricultural fields are enclosed on the west of the planning area by the Coast Range hills. Views of other directions are open to the horizon, although the Sierra Nevada Mountain range, Sutter Buttes, and Mount Diablo can be seen on clear days. The University of California, Davis (UC Davis) campus is located adjacent to the southwest corner of the City and occupies a total of 2,900 unincorporated acres, including the more-than-100-acre UC Davis Arboretum, which is comprised of demonstration gardens, scientific collections, and the Putah Creek Riparian Reserve. The Davis General Plan does not designate scenic vistas within the City's planning area.

State Scenic Highways

Designated State scenic highways are not currently located in the vicinity of the City of Davis. According to the California Department of Transportation (Caltrans) map of designated and eligible scenic routes under the California Scenic Highway Program, the nearest officially designated State scenic highway to the project site/BRPA site is State Route (SR) 160, approximately 11.5 miles southeast of the City limits.[3]

Visual Character of the Project Site and Surrounding Area

The following information provides an overview of the physical conditions of the project site/BRPA site and surrounding area in relation to visual character.

Project Site/Biological Resources Preservation Alternative Site

The approximately 497.6-acre project site/BRPA site is located north of East Covell Boulevard, east of F Street, and west of Pole Line Road in a currently unincorporated portion of Yolo County. The site consists of open, agricultural land recently planted with wheat, tomatoes, and corn. The site slopes gently to the southeast at elevations of approximately 35 to 45 feet above mean sea level. One agricultural structure is located in the southern portion of the site. In addition, the project site/BRPA site is bisected by a north-to-south private access road (L Street), which also pivots to proceed in an east-to-west direction through a portion of the site. A City of Davis drainage course (Channel A) also flows east to west through the site. Existing trees within the project site/BRPA site include planted trees located along East Covell Boulevard and along the southern-most west boundary of the site, as well as trees located along both sides of Channel A and those that occur in association with the on-site agricultural structure.

Public views of the project site/BRPA site are afforded from F Street (see Figure 4.1-1 and Figure 4.1-2) and a trail east of and parallel to Cannery Loop (see Figure 4.1-3 and Figure 4.1-4) to the west of the site; from East Covell Boulevard to the south of the site (see Figure 4.1-5); and from Pole Line Road to the east of the site (see Figure 4.1-6, Figure 4.1-7, and Figure 4.1-8). It is noted that the City's Priority Acquisition Areas exhibit indicates that distant views of the Sutter Buttes and the Sierra Nevada Mountains are available from portions of the project site/BRPA site.

Surrounding Areas

The area immediately north of the project site/BRPA site consists of agricultural land along the northern site boundary's western portion and Davis Paintball, Blue Max Kart Club along the northern site boundary's eastern portion. The Davis Paintball business is located on the City's former WWTP site and the Blue Max Kart Club is located at the site of a former landfill, the Old Davis Landfill.

[3] California Department of Transportation. *California State Scenic Highway System Map.* Available at: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. Accessed September 2024.

Figure 4.1-1
Existing Easterly View of the Site from F Street (1 of 2)

Figure 4.1-2
Existing Easterly View of the Site from F Street (2 of 2)

Figure 4.1-3
Existing Easterly View of the Site from Cannery Loop (1 of 2)

Figure 4.1-4
Existing Easterly View of the Site from Cannery Loop (2 of 2)

Figure 4.1-5
Existing Northerly View of the Site from East Covell Boulevard

Figure 4.1-6
Existing Westerly View of the Site
from Pole Line Road/Donner Avenue Intersection

Figure 4.1-7
Existing Westerly View of the Site
from Pole Line Road/Moore Boulevard Intersection

Figure 4.1-8
Existing Westerly View of the Site from Pole Line Road

East of the project site/BRPA site, across Pole Line Road, are single- and multi-family residences, the Nugget Fields sports center, Wildhorse Golf Club, and commercial offices. Commercial uses and single- and multi-family residences occur to the south of the site, across East Covell Boulevard. Single- and multi-family residences, Northstar Park, and an existing Urban Agricultural Transition Area (UATA) associated with the Cannery subdivision are located to the west of the site.

Off-Site Improvement Areas

Off-site improvements associated with both the Proposed Project and the BRPA include new intersection improvements along Pole Line Road, a new north leg at the East Covell Boulevard/L Street intersection, a potential pedestrian/bicycle undercrossing near the Pole Line Road/Moore Boulevard intersection, and off-site water line improvements within three existing roadways in the project vicinity. All of the foregoing off-site improvements would be located within or adjacent to existing roadways. This EIR also evaluates the conceptual landing area for a potential future, grade-separated crossing at the west side of F Street.

Viewer Types

Viewer types in the vicinity that have public views of the project site/BRPA site include the following:

- *Motorists* along Pole Line Road, East Covell Boulevard, Cannery Avenue/Cannery Loop, and F Street have existing views of the project site/BRPA site while driving past the site.
- *Pedestrians and bicyclists* in the area include nearby residents and visitors that use the public roadways to walk or bike to their destination. Such pedestrians have views of the project site/BRPA site from Pole Line Road, East Covell Boulevard, Cannery Avenue/Cannery Loop, and F Street. In general, views experienced by pedestrians and bicyclists are similar to views experienced by motorists.
- *Recreationists* include those individuals who are involved in recreational activities and have views of the project site/BRPA site. The group includes individuals visiting Nugget Fields or the Wildhorse Golf Club to the east, Davis Paintball or Blue Max Kart Club to the north, or Northstar Park to the west.

Light Pollution and Glare

Light pollution refers to all forms of unwanted light in the night sky, including glare, light trespass, sky glow, and excessive illumination at an intensity that is inappropriate. Views of the night sky can be an important part of the natural environment, particularly in communities surrounded by extensive open space. Excessive light and glare can also be visually disruptive to humans and nocturnal animal species.

Currently, the project site/BRPA site is primarily characterized by an undeveloped, unlit landscape, the only exception being the agricultural structure located in the southern portion of the site. As such, significant sources of light and glare do not currently occur on-site. However, the project site/BRPA site is located within the vicinity of existing commercial and residential uses surrounding the site. Lighting associated with such development, as well as street lighting along Pole Line Road, East Covell Boulevard, Cannery Avenue/Cannery Loop, and F Street and headlights from vehicles traveling on the roadways contribute to the overall nighttime lighting environment of the project area.

4.1.3 REGULATORY CONTEXT

Applicable federal laws or regulations pertaining to aesthetics do not exist. The existing State and local laws and regulations applicable to the Proposed Project and the BRPA are listed below.

State Regulations

The following is an applicable State regulation related to aesthetic resources.

California Scenic Highway Program

The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been so designated. The State Legislature lists highways that are eligible for designation in California Streets and Highways Code Sections 260 through 284. In order for an eligible highway to be officially designated by Caltrans, the local government with jurisdiction over the land that abuts the highway must adopt a program that limits development, outdoor advertising, and earthmoving along the highway segment, pursuant to Caltrans' approval of the program criteria.

Local Regulations

The following local regulations are applicable to the Proposed Project and BRPA.

City of Davis General Plan

The City of Davis General Plan urban design goals and policies that are applicable to the Proposed Project and BRPA are presented below.

Urban Design, Neighborhood Preservation and Community Forest Management Chapter

Goal UD 1 Encourage community design throughout the City that helps to build community, encourage human interaction, and support non-automobile transportation.

Policy UD 1.1 Promote urban/community design which is human-scaled, comfortable, safe, and conducive to pedestrian use.

Goal UD 2 Maintain an aesthetically pleasing environment and manage a sustainable community forest to optimize environmental, aesthetic, social, and economic benefits.

Policy UD 2.1 Preserve and protect scenic resources and elements in and around Davis, including natural habitat and scenery and resources reflective of place and history.

Policy UD 2.2 Maintain and increase the amount of greenery, especially street trees, in Davis, both for aesthetic reasons and to provide shade, cooling, habitat, air quality benefits, and visual continuity.

Policy UD 2.3 Require an architectural "fit" with Davis' existing scale for new development projects.

Policy UD 2.4 Create affordable and multi-family residential areas that include innovative designs and on-site open space amenities that are

linked with public bicycle/pedestrian ways, neighborhood centers, and transit stops.

Goal UD 3 Use good design as a means to promote human safety.

Policy UD 3.1 Use good design to promote safety for residents, employees, and visitors to the City.

Policy UD 3.2 Provide exterior lighting that enhances safety and night use in public spaces, but minimizes impacts on surrounding land uses.

Goal UD 4 Create an urban design framework that would strengthen the physical form of the city.

Policy UD 4.1 Develop an urban design framework plan to consolidate and clarify the relevant design concepts in this chapter and other chapters to promote a positive and memorable image for the city and to reinforce the functional systems of the city such as land use, circulation, and open space.

Goal UD 6 Strengthen the city's neighborhoods to retain desirable characteristics while allowing for change and evolution, promoting public and private investments, and encouraging citizen involvement in neighborhood planning.

Policy UD 6.1 Recognize the existence of individual neighborhoods with general boundaries and facilitate the development of neighborhood strategies in partnership with residents and property owners. The strategies should recognize the unique characteristics of the individual neighborhood and the potential for change, within the context of a well-planned city. The strategies should be directed toward solving unique neighborhood problems and implementing neighborhood priorities and enhancing livability.

Outdoor Lighting Control Ordinance

The City enacted the Outdoor Lighting Control Ordinance in 1998. The ordinance, set forth by Davis Municipal Code Article 8.17, commonly referred to as the City's "Dark Sky Ordinance," provides standards for outdoor lighting in an effort to minimize light pollution, glare, and light trespass caused by inappropriate or misaligned light fixtures, while improving nighttime public safety, utility, and security and preserving the night sky as a natural resource, thus, facilitating people's enjoyment of stargazing. The Outdoor Lighting Control Ordinance does not apply to interior lighting, including lighting at greenhouse facilities. Single-family and duplex residential properties are exempted.

4.1.4 IMPACTS AND MITIGATION MEASURES

This section describes the standards of significance and methodology used to analyze and determine the potential impacts of the Proposed Project and BRPA related to aesthetics. A discussion of the impacts, as well as mitigation measures, where necessary, is also presented.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines, an impact related to aesthetics is considered significant if the Proposed Project or the BRPA 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 a non-urbanized area, substantially degrade the existing visual character or quality of public views of the site and its surroundings (public views are those that are experienced from publicly accessible vantage point) 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.

Method of Analysis

The section below gives full consideration to the development of the Proposed Project and the BRPA and acknowledges physical changes to the existing setting. The standards of significance listed above are used to delineate the significance of any visual alterations of the site. As previously discussed, consistent with CEQA Guidelines Section 15387 and CEQA case law, the project site/BRPA site is identified as being within an "urbanized area," given that the site and surrounding properties include 1,000 persons per square mile. In addition, pursuant to PRC Section 21061.3, the site qualifies as an "infill site" because at least 75 percent of the perimeter of the site adjoins parcels that are developed with qualified urban uses, and the remaining 25 percent of the site adjoins parcels that have been previously developed with urban uses. Therefore, the appropriate inquiry to apply to the Proposed Project and BRPA is for "urbanized areas" and if the Proposed Project or BRPA would include alterations that would be inconsistent with the applicable zoning requirements for the project site/BRPA site, or other regulations established by the City governing scenic quality.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts related to aesthetics is based on implementation of the Proposed Project or the BRPA in comparison to existing conditions and the standards of significance presented above.

4.1-1 Have a substantial adverse effect on a scenic vista. Based on the analysis below, the impact would be *significant and unavoidable.*

The following discussion evaluates the potential for the Proposed Project and BRPA to have a substantial adverse effect on a scenic vista. Because the components of the Proposed Project and the BRPA would be developed within the same overall site boundaries, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

Examples of typical scenic vistas include mountain ranges, ridgelines, or bodies of water as viewed from a highway, public space, or other area designated for the express purpose of viewing or sightseeing. In general, a project's impact to a scenic

vista would occur if development of the project would substantially change or remove a scenic vista.

As previously discussed, the City's General Plan does not designate scenic vistas within the City's planning area. The City's General Plan EIR addresses potential impacts related to changes in views that would result from buildout of the General Plan, and specifically addresses the project site, then known as the Covell Center site. In discussing the Covell Center site, the General Plan EIR acknowledges the panoramic setting of the site area and the availability of open space/agricultural views before concluding that development of the Covell Center site would result in a significant and unavoidable impact related to changes in views. In addition, the City has identified the project site/BRPA site as a priority acquisition area for the protection of land providing views of the distant Sutter Buttes and the Sierra Nevada Mountains available from the site. The panoramic open space/agricultural views available on the project site/BRPA site, while not officially designated by the City as a scenic vista, can nevertheless be considered as such for purposes of CEQA analysis and in recognition of the General Plan EIR's treatment of the issue.

Similar to the site conditions when the General Plan EIR was prepared, the site consists almost entirely of uninterrupted active agricultural land. As development along the City's boundaries continues in the future, such areas will become increasingly lost due to conversion to urban uses. Views of the existing scenic vista of the site, as well as the surrounding agricultural area to the northwest, would be substantially affected by the Proposed Project and BRPA. While incorporation of the 118.4-acre UATA would preserve a portion of the currently available on-site scenic agricultural vista, the majority of the current scenic vista would be permanently altered by buildout of the Proposed Project and the BRPA. With respect to the BRPA, the incorporation of the 47.1-acre Natural Habitat Area would further minimize the effect on the existing scenic vista. Nonetheless, based on the above, the Proposed Project and BRPA could have a substantial adverse effect on a scenic vista, and a ***significant*** impact could occur.

Mitigation Measure(s)

The Proposed Project and BRPA would both result in permanent conversion of a currently open expanse of farmland. Feasible mitigation does not exist to reduce the above potential impact to a less-than-significant level. Therefore, the impact would remain *significant and unavoidable*.

4.1-2 Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway. Based on the analysis below, the impact would be *less than significant*.

The following discussion evaluates the potential for the Proposed Project and BRPA to substantially damage scenic resources within a State scenic highway. Because the components of the Proposed Project and the BRPA would be developed within the same overall site boundaries, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

According to the Caltrans State Scenic Highway Map, the nearest officially designated State scenic highway to the project site/BRPA site is SR 160, approximately 11.5 miles southeast of the City limits.[4] Therefore, the Proposed Project and BRPA would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, within a State Scenic Highway, and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

4.1-3 In a non-urbanized area, substantially degrade the existing visual character or quality of public views of the site and its surroundings (public views are those that are experienced from publicly accessible vantage point) or, in an urbanized area, conflict with applicable zoning and other regulations governing scenic quality. Based on the analysis below, the impact is *less than significant*.

The project site/BRPA site is located within an urbanized area; therefore, the relevant threshold is whether the Proposed Project or BRPA would conflict with applicable zoning and other regulations governing scenic quality. Because the components of the Proposed Project and the BRPA would be developed within the same overall site boundaries, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

The project site/BRPA site is currently zoned by Yolo County as Specific Plan (S-P) (Assessor's Parcel Number [APN] 035-970-033) and Agricultural Intensive (A-N) (APN 042-110-029). As discussed in Chapter 3, Project Description, of this EIR, following annexation into the City limits, the project site/BRPA site would be pre-zoned to the City's Planned Development (P-D) zone. The P-D zoning designation is intended to allow for greater flexibility from the development standards established for the City's conventional zoning districts.

As part of approval of the Pre-zoning to P-D, the Proposed Project or the BRPA would be required to adhere to the development standards set forth by the Preliminary Planned Development (PPD). As established by Section 40.22.060 of the Davis Municipal Code, the PPD for the Proposed Project or the BRPA would be required to contain basic information, such as land uses proposed for the zone, location of parks and trails, proposed street layout, and a preliminary study of facilities required, such as drainage, sewage, and public utilities. According to the PPD prepared for the Proposed Project and BRPA, the development standards for each proposed use within the P-D zone would substantially correspond with those established for permitted,

[4] California Department of Transportation. *California State Scenic Highway System Map.* Available at: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. Accessed September 2024.

accessory, and conditional uses in the Davis Municipal Code for the comparable zoning districts identified in the PPD, with limited exceptions provided therein.

In general, both the Proposed Project and the BRPA would consist of a mixed-use development community, including a total of 1,800 dwelling units, comprised of both affordable and market-rate single- and multi-family residences, as well as Neighborhood Mixed-Use services and public, semi-public, and educational uses across various residential neighborhoods. The BRPA would also include a 47.1-acre Natural Habitat Area that would preserve existing on-site alkali playa land cover and habitats. The proposed residential units would be developed across the nine villages within the project site/BRPA site. Under the Proposed Project, the villages would consist of Residential Low Density (RLD), Residential Medium Density (RMD), Residential Medium High Density (RMHD), and Residential High Density (RHD) neighborhoods, as summarized in Table 3-1 in the Project Description chapter of this EIR. As shown in Table 3-3 of this EIR, the villages under the BRPA would consist of RLD, RMD, and RHD neighborhoods.

As detailed in the proposed PPD, permitted, accessory, and conditional uses within the RLD neighborhoods would be those allowed in the Residential One-Family (R-1) zoning district, as set forth by Davis Municipal Code Article 40.03. Uses within the RMD neighborhoods would be those allowed in the Residential One- and Two-Family (R-2) zoning district, as set forth by Municipal Code Article 40.04. Uses within the RMHD neighborhood under the Proposed Project would be those allowed in the Residential High Density Apartment (R-HD) zoning district, as set forth by Municipal Code Article 40.09. Uses within the RHD neighborhoods would be those allowed in the R-HD zoning district, as set forth by Municipal Code Section 40.09.020. As established by the PPD, the new residential units would be constructed in accordance with the applicable development standards established in the Davis Municipal Code for each relevant zoning designation, including, but not limited to, those related to building height, lot area and width, setbacks, open space, and yard requirements.

In addition, the Proposed Project and BRPA would include a Development Agreement between the applicant and the City of Davis, which would allow the City and the applicant to enter into an agreement to assure the City that the Proposed Project or BRPA is completed in compliance with the plans submitted by the applicant and assure the applicant of vested rights to develop the project. Adherence to the Development Agreement would ensure that, consistent with General Plan Policy UD 2.3, the proposed structures are aesthetically consistent with the existing development in the vicinity of the project site/BRPA, such as the single- and multi-family residences to the east and west of the site. Furthermore, the Development Agreement between the applicant and the City would ensure that on-site signage would be attractive and functional, consistent with General Plan Policy UD 2.5, and that trash receptacle locations associated with the new multi-family residences are appropriately sited.

With respect to the new non-residential uses, according to the PPD, additional details for the proposed Neighborhood Mixed-Use services would be drafted for inclusion in the P-D zone for both the Proposed Project and the BRPA through consultation with City leadership, interested neighbors, and the business community. The proposed public, semi-public, and educational uses would be designated Public/Semi-Public (P/SP) and designed consistent with the uses and standards established for the

Public/Semi-Public (P-SP) zoning district by Municipal Code Article 40.20A. As established by the PPD, the new public, semi-public, and educational uses would be constructed in accordance with applicable development standards established in the Davis Municipal Code, including, but not limited to, those related to building height, setback distances, landscaping, and trash receptacle location. Similar to the new residential uses discussed above, approval of the Development Agreement between the City and applicant would ensure that the proposed non-residential uses are designed to be aesthetically consistent with surrounding existing development, and would comply with applicable General Plan policies, including, but not limited to, Policies UD 2.3 and UD 2.5. The Proposed Project and the BRPA would additionally comply with General Plan Policy UD 2.2, which requires maintenance of and an increase in greenery. The Proposed Project and the BRPA would include new plantings of native, drought-tolerant trees, shrubs, and seasonal grasses within the proposed Heritage Oak Park and Village Trails Park, as well as within the greenbelts that would occur along portions of all the site's boundaries, as well as adjacent to and/or within the proposed residential villages.

Inclusion of the proposed UATA would be consistent with the requirements established by Section 40A.01.050 of the City's Municipal Code. As discussed further under Impact 4.2-3 in the Agricultural Resources chapter of this EIR, agricultural operations exist within the project vicinity, specifically to the north of the project site/BRPA site. The proposed UATA in the northernmost portion of the site would serve as a 118.4-acre buffer between the agricultural land to the north and the areas developed as part of the Proposed Project or BRPA. Davis Municipal Code Section 40A.01.050 requires a 150-foot-wide agricultural buffer, comprised of a 50-foot-wide agricultural transition area and a contiguous 100-foot-wide buffer. Within the 50-foot-wide agricultural transition area, the City allows public access and various recreational uses, including bike paths, community gardens, organic agriculture, native plants, tree and hedge rows, benches, lights, trash enclosures, fencing, and any other use determined by the Davis Planning Commission to be of the same general character. The contiguous 100-foot-wide agricultural buffer is permitted to include the following: native plants, tree or hedge rows, drainage channels, stormwater retention ponds, natural areas such as creeks or drainage swales, railroad tracks or other utility corridors, and any other use determined by the Davis Planning Commission to be consistent with the use of the property as an agricultural buffer. Public access is prohibited within the 100-foot-wide portion of the buffer, unless otherwise permitted due to the nature of the area (i.e., railroad tracks). The proposed UATA would feature a width of approximately 2,150 feet and would not include any uses within the UATA prohibited by Davis Municipal Code Article 40A.01. Thus, inclusion of the UATA would be consistent with Davis Municipal Code Section 40A.01.050.

Consistent with Section 40.22.110 of the Davis Municipal Code, the PPD shall be required to be submitted for review and approval by the Planning Commission and/or City Council; Section 40.22.110 establishes the findings required for approval of a Final Planned Development (FPD). For example, pursuant to Section 40.22.110(c), the FPD shall be reviewed to ensure that any residential development shall constitute a residential environment of sustained desirability and stability in harmony with the character of the surrounding neighborhood, that sites for public facilities are adequate to serve the anticipated population, and that standards for open space are at least equivalent to standards otherwise specified in the Davis Municipal Code. Compliance

with the requirements of Section 40.22.110 would ensure that the FPD for the Proposed Project/BRPA would include specifications related to requiring development of the Proposed Project or the BRPA to be consistent with all applicable plans and ordinances, and to be compatible with surrounding existing uses.

Furthermore, when submitting individual development applications and site plans for future development within the project site/BRPA site, all such future development would be required to undergo Site Plan and Architectural approval. Pursuant to Section 40.31.085 of the Davis Municipal Code, all future development within the site shall be required to submit a site plan and architectural application to the Community Development and Sustainability Director for approval, contingent on the proposed development's consistency with the approved FPD, as well as compliance with standards governing the siting of structures; inclusion of landscaping, fencing, and other screening; design of circulation and parking facilities; design and installation of curbs, gutters, sidewalks, and drainage infrastructure; and location of open space, among other requirements. Compliance with the requirements of Section 40.31.085 of the Davis Municipal Code would ensure that future development within the project site/BRPA site would be designed to be compatible with neighboring uses.

Based on the above, the Proposed Project and BRPA would adhere to the design standards of the P-D zoning district. Therefore, the Proposed Project and BRPA would not conflict with applicable zoning and other regulations governing scenic quality, and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

4.1-4 Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

As noted previously, the project site/BRPA site is primarily characterized by an undeveloped, unlit landscape. Development of the site with residential, Neighborhood Mixed-Use, and P/SP uses would introduce additional sources of light and/or glare to a site where minimal sources currently exist. The following discussions include an analysis of potential impacts related to new sources of substantial light or glare associated with the development of the Proposed Project and the BRPA.

Proposed Project

The Proposed Project would consist of a mixed-use development community, including a total of 1,800 dwelling units; neighborhood services; public, semi-public, and educational uses; and parks, open space, and greenbelts. The change from an undeveloped agricultural property to a mixed-use development would generate new sources of light and glare. New sources of light would include exterior light sources associated with the new uses, such as lights installed within porches, patios, and parking lots; architectural accent lighting; motion-activated security lighting; driveway lighting; landscape lighting; and interior lighting visible through windows. New sources of glare would occur primarily from the windshields of vehicles travelling within the

project site/BRPA site, as well as through the use of reflective building materials, including polished steel and reflective glass.

All exterior lighting installed as part of the Proposed Project would be designed consistent with General Plan Policy UD 3.2, ensuring shielding fixtures are installed in such a manner as to prevent direct rays from passing property lines or into the public right-of-way. In addition, new lighting would be required to comply with the City's Outdoor Lighting Control Ordinance, which provides standards for outdoor lighting to minimize light pollution, glare, and light trespass. Compliance with General Plan Policy UD 3.2 and the City's Outdoor Lighting Control Ordinance would ensure that development of the Proposed Project does not result in new sources of substantial light. Furthermore, the Proposed Project would include 50-foot-wide greenbelts, which would occur along portions of all the site's boundaries and adjacent to or within the proposed residential villages. The greenbelts would include new landscaping vegetation, which would serve to reduce new sources of glare from project-generated traffic and new reflective surfaces at surrounding existing uses.

However, because the types of lighting and the specific locations have not yet been finalized, compliance with General Plan Policy UD 3.2 and the City's Outdoor Lighting Control Ordinance cannot be ensured without providing for additional enforcement mechanisms after project approval and at the time of construction. Therefore, the Proposed Project could increase the amount of light and glare generated on-site, which could be visible from the surrounding residential neighborhoods and roadways in the project vicinity, including contributions to nighttime sky glow that deteriorate the "dark sky" setting of the site and surrounding environs.

Biological Resources Preservation Alternative

Similar to the Proposed Project, the BRPA would consist of a mixed-use development community, including a total of 1,800 dwelling units; neighborhood services; public, semi-public, and educational uses; and parks, open space, and greenbelts. Under the BRPA, the change from an undeveloped agricultural property to a mixed-use development would generate new sources of light and glare, consistent with what is discussed above for the Proposed Project. Similar to the Proposed Project, development of the BRPA would be subject to General Plan Policy UD 3.2 and the City's Outdoor Lighting Control Ordinance, which would ensure that development of the BRPA does not result in new sources of substantial light. The BRPA would also include 50-foot-wide greenbelts, which, as discussed above, would serve to reduce new sources of light and glare from project-generated traffic and new reflective surfaces at surrounding existing uses.

Whereas the Proposed Project would include the development of the majority of the project site with urban uses, the BRPA would include a preserved Natural Habitat Area, comprised of 47.1 acres, which would remain undeveloped. As such, the BRPA would result in the generation of less light and glare as compared to the Proposed Project. Specifically, the Natural Habitat Area would be situated adjacent to the existing Cannery Subdivision and, thus, the BRPA would result in a reduced impact related to light and glare to residents of the foregoing area. Nonetheless, similar to the Proposed Project, because the types of lighting and the specific locations have not yet been finalized, compliance with General Plan Policy UD 3.2 and the City's Outdoor

Lighting Control Ordinance cannot be ensured without providing additional enforcement mechanisms after project approval and at the time of construction. Therefore, the BRPA could increase the amount of light and glare generated on-site, which could be visible from the surrounding residential neighborhoods and roadways in the project vicinity, including contributions to nighttime sky glow that deteriorate the "dark sky" setting of the site and surrounding environs.

Conclusion

Compliance with applicable requirements related to lighting shall be addressed through Site Plan and Architectural review, as discussed above. Nonetheless, based on the above, the Proposed Project and the BRPA could be considered to create a new source of substantial light or glare which would adversely affect day or nighttime views in the area, and a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure is applicable to both the Proposed Project and the BRPA and would reduce the above potential impact to a *less-than-significant* level.

Proposed Project, Biological Resources Preservation Alternative

4.1-4 *In conjunction with submittal of the first tentative subdivision map for the Proposed Project or Biological Resources Preservation Alternative (BRPA), the developer shall submit a lighting plan for the review and approval of the Chief Building Official and the Community Development Director of the City of Davis. The lighting plan shall address limiting light trespass and glare on the project site/BRPA site through the use of shielding and directional lighting methods, which may include, but is not limited to, fixture location and height. The lighting plan shall comply with Chapter 6 of the Davis Municipal Code- Article VIII: Outdoor Lighting Control.*

Cumulative Impacts and Mitigation Measures

As defined in Section 15355 of the CEQA Guidelines, "cumulative impacts" refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.

Some types of impacts to aesthetic resources are localized and not cumulative in nature. For example, the creation of glare or shadows at one location is not worsened by glare or shadows created at another location. Rather these effects are independent, and the determination as to whether they are adverse is specific to the project and location where they are created. Projects that block a view or affect the visual quality of a site also have localized aesthetic impacts. The impact occurs specific to a site or area and remains independent from another project elsewhere that may block a view or degrade the visual environment of a specific site.

Two types of aesthetic impacts may be additive in nature and thus cumulative, including night sky lighting and overall changes in the visual environment as the result of increasing urbanization of

large areas. As development in one area increases and possibly expands over time and meets or connects with development in an adjoining exurban area, the effect of night sky lighting experienced outside of the region may increase in the form of larger and/or more intense nighttime glow in the viewshed.

Similarly, as development in one area changes from rural to urban, and this pattern continues to occur throughout the undeveloped areas of a jurisdiction, the changes in visual character may become additive and cumulatively considerable. The incremental contribution to night sky lighting and changes in visual character by the Proposed Project and BRPA are addressed below.

The cumulative setting for impacts related to aesthetics encompasses development of the proposed project in conjunction with buildout of the Davis General Plan planning area, as well as a list of present and probable future projects. For more details regarding the cumulative setting, refer to Chapter 6, Statutorily Required Sections, of this EIR.

4.1-5 Have a substantial adverse effect on a scenic vista associated with development of the Proposed Project or Biological Resources Preservation Alternative in combination with future buildout of the City of Davis. Based on the analysis below, the incremental contribution of the Proposed Project and Biological Resources Preservation Alternative to the significant cumulative impact is *cumulatively considerable* and *significant and unavoidable*.

Because the components of the Proposed Project and the BRPA would be developed within the same overall site boundaries, the following evaluation applies to both the Proposed Project and the BRPA.

Proposed Project, Biological Resources Preservation Alternative

Due to the location of the project site/BRPA site, the geographic setting for analysis of long-term cumulative effects on scenic vistas is cumulative buildout of the project site/BRPA site in conjunction with future buildout of the City's General Plan and reasonably foreseeable development along the Mace Boulevard/East Covell Boulevard corridor. Other planned development projects in the cumulative setting for the Proposed Project and the BRPA include the Shriners Property Project, the Davis Innovation Sustainability Campus (DiSC) 2022 Project, and the Palomino Place Project. The sites of the DiSC 2022 and Shriners Property projects are both located on existing agricultural land outside of the City limits along Mace Boulevard/East Covell Boulevard to the east of the project site, whereas the Palomino Place project site is also east of the project site, but within the City limits. The DiSC 2022 project site consists of 102 acres (plus the 16.5-acre Mace Triangle property) immediately to the east of Mace Boulevard and north of County Road (CR) 32A, northeast of the City limits. The Shriners Property project site is comprised of 234 acres to the north of East Covell Boulevard, immediately east of the Palomino Place project site and the Wildhorse neighborhood and adjacent to the northeastern City limits boundary. The Palomino Place project site consists of 25.8 acres located north of East Covell Boulevard on an existing property known as the Wildhorse Ranch and/or Duffel Horse Ranch.

Similar to the Proposed Project and BRPA, development of the Shriners Property and DiSC 2022 projects would convert existing farmland to urban uses, which would cumulatively contribute to the elimination of open expanses of farmland in the area. As discussed above under Impact 4.1-1, although such panoramic open space/agricultural views are not technically considered a scenic vista, such views are addressed as such due to their inherent qualities. As such, the loss of the aforementioned panoramic open space/agricultural views could be a significant impact. Additionally, the General Plan EIR evaluated potential impacts that could occur to the existing visual character of the planning area through development facilitated by the buildout of the City's General Plan, noting in particular that development of the project site/BRPA site, which was formerly called the Covell Center site, would alter the open space views of surrounding visible areas and contrast with the surrounding open space/agricultural environment. According to the General Plan EIR, significant views exist to the north of the site, and development within the viewshed would be considered a significant and unavoidable impact. Thus, development of the Proposed Project or BRPA, in conjunction with future development in the cumulative setting, would result in a cumulative significant impact.

Based on the above, the Proposed Project and the BRPA's incremental contribution to the cumulative significant impact related to having a substantial adverse effect on a scenic vista would be ***cumulatively considerable***.

Mitigation Measure(s)

The Proposed Project and BRPA would both result in permanent conversion of a currently open expanse of farmland to urban uses, which would be a significant incremental contribution to the cumulative impact. Feasible mitigation does not exist to reduce the above potential impact to a less than cumulatively considerable level. Therefore, the contribution of the Proposed Project and BRPA to the significant impact would remain *cumulatively considerable* and *significant and unavoidable*.

4.1-6 Conflict with applicable zoning and other regulations governing scenic quality associated with development of the Proposed Project or Biological Resources Preservation Alternative in combination with future buildout of the City of Davis. Based on the analysis below, the cumulative impact is *less than significant*.

Because the components of the Proposed Project and the BRPA would be developed within the same overall site boundaries, the following evaluation applies to both the Proposed Project and the BRPA.

Proposed Project, Biological Resources Preservation Alternative

As discussed above, due to the location of the project site/BRPA site, the geographic setting for analysis of long-term cumulative effects related to conflicting with zoning and other regulations governing scenic quality is cumulative buildout of the project site/BRPA site in conjunction with future buildout of the City's General Plan and reasonably foreseeable development along the Mace Boulevard/East Covell

Boulevard corridor. Other planned development projects in the cumulative setting for the Proposed Project and the BRPA include the Shriners Property Project, the DiSC 2022 Project, and the Palomino Place Project.

Similar to the Proposed Project and BRPA, the foregoing projects would be required to demonstrate consistency with applicable policies and regulations governing scenic quality, including General Plan Policies UD 2.1, UD 2.2, UD 2.3, and UD 2.5 and Davis Municipal Code Section 40.22.060. Compliance with the foregoing policies and regulations would be ensured through the City's review and approval of the respective Planned Developments for each of the foregoing projects, consistent with Section 40.22.110 of the Davis Municipal Code. Compliance with the requirements of Section 40.22.110 would ensure that the FPDs for the aforementioned projects would include specifications related to requiring development of the projects to be consistent with all applicable plans and ordinances, and to be compatible with surrounding existing uses.

Based on the above, the Proposed Project and the BRPA, in combination with other reasonably foreseeable development, would have a ***less than significant*** cumulative impact related to conflicting with zoning and other regulations governing scenic quality.

Mitigation Measure(s)

None required.

4.1-7 Creation of new sources of light or glare associated with development of the Proposed Project or Biological Resources Preservation Alternative in combination with future buildout of the City of Davis. Based on the analysis below and with implementation of mitigation, the incremental contribution of the Proposed Project and Biological Resources Preservation Alternative to the significant cumulative impact is *less than cumulatively considerable*.

Because the Proposed Project and BRPA would be developed within the same overall site boundaries and the difference in light and glare generation under the Proposed Project versus the BRPA would be negligible in the cumulative context, the following evaluation applies to both the Proposed Project and the BRPA.

Proposed Project, Biological Resources Preservation Alternative

Cumulative effects of lighting are visible over a wide area, due to the potential for lighting from a number of projects to create sky glow. Cumulative development throughout the General Plan planning area, particularly conversion of agricultural or currently vacant sites to urban uses, would increase the sources of light and glare, which would have the potential to contribute to sky glow in the area and result in a significant cumulative impact. Such sources of light would be typical of existing residential development in the project vicinity, such as the residential uses to the east and west of the project site/BRPA site.

However, cumulative development within the General Plan planning area, including the Proposed Project or the BRPA and future projects with the project vicinity, such as

Palomino Place, DiSC 2022, and Shriners Property, would be subject to existing regulations and guidelines related to light and glare. For example, all projects proposed for construction within the City's General Plan planning area are required to comply with the applicable requirements established in the City's Outdoor Lighting Control Ordinance (set forth by Davis Municipal Code Article 8.17), which provides standards for outdoor lighting to minimize light pollution, glare, and light trespass. Projects within the cumulative setting would also be subject to General Plan Policy UD 3.2, ensuring shielding fixtures are installed in such a manner as to prevent direct rays from passing property lines or into the public right-of-way. Thus, compliance with the foregoing requirements would ensure that buildout of the City's planning area, as well as present and future probable projects, would not create new sources of substantial light or glare.

Additionally, as discussed under Impact 4.1-3, to ensure the Proposed Project or BRPA complies with General Plan Policy UD 3.2 and the City's Outdoor Lighting Control Ordinance, Mitigation Measure 4.1-3 of this EIR requires the developer to prepare a lighting plan, which would be subject to review and approval by the Chief Building Official and the Community Development Director and would address limiting light trespass and glare on the project site/BRPA site through the use of shielding and directional lighting methods.

Based on the above, development of the Proposed Project and BRPA, in conjunction with buildout of the Davis General Plan planning area and present and probable future projects, would be subject to the applicable requirements of the General Plan Policy UD 3.2 and the City's Outdoor Lighting Control Ordinance. However, without the implementation of Mitigation Measures 4.1-3 at the time of construction, the Proposed Project and BRPA could create a new source of substantial light or glare that would adversely affect day or nighttime views in the cumulative setting, and the contribution of the Proposed Project and BRPA to the cumulative significant impact could be ***cumulatively considerable***.

Mitigation Measure(s)

Implementation of the following mitigation measure is applicable to both development scenarios and would reduce the contribution of the Proposed Project and BRPA to the significant cumulative impact to a *less than cumulatively considerable* level.

Proposed Project, Biological Resources Preservation Alternative

4.1-7 Implement Mitigation Measure 4.1-4.

4.2. Agricultural Resources

4.2 AGRICULTURAL RESOURCES

4.2.1 INTRODUCTION

The Agricultural Resources chapter of the EIR describes the status of the existing agricultural resources within the boundaries of the project site/BRPA site, using current State data, including identification of any Prime Farmland, Unique Farmland or Farmland of Statewide Importance. In addition, potential conflicts with existing zoning for agricultural use or right-to-farm ordinances applicable to the Proposed Project are identified, as well as Williamson Act contracts. The chapter also focuses on the agricultural resources present on-site and addresses the potential for development of the Proposed Project or the Biological Resources Preservation Alternative (BRPA) to result in the loss of agricultural land or conversion of agricultural land to non-agricultural uses. Documents referenced to prepare this chapter primarily include the City of Davis General Plan[1] and the City of Davis General Plan EIR.[2] Further information was obtained from the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey[3] and the California Important Farmland Finder.[4]

Information regarding forestry resources is included in Chapter 5, Effects Not Found to be Significant, of this EIR.

4.2.2 EXISTING ENVIRONMENTAL SETTING

The Existing Environmental Setting section describes current farmland and soil productivity classification systems, as well as the extent and quality of the agricultural resources present on the project site/BRPA site.

Existing Agricultural Operations

The project site/BRPA site is currently irrigated farmland and includes agricultural-related uses (i.e., dirt roadways, graded surfaces, and agricultural structures) that provide access to recently planted fields located within the surrounding area. Fields in the western portion of the project site/BRPA site were planted with wheat for the 2024 growing season and the eastern on-site fields were planted with tomatoes. The project site/BRPA site is bisected by a north-to-south private access road ("L Street"), which also pivots to proceed in an east-to-west direction through a portion of the site. Two agricultural structures are located in the southern portion of the site. In addition, fields to the northeast are actively farmed with orchard crops, while lands to the north and northwest are considered agricultural fields.

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1 City of Davis. *City of Davis General Plan.* Adopted May 2001, Amended January 2007.
2 City of Davis. *Final Program EIR for the City of Davis General Plan Update and Final Project EIR for Establishment of a New Junior High School.* Certified May 2001.
3 U.S. Department of Agriculture, National Resources Conservation Service. *Web Soil Survey*. Available at: http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx. Accessed February 2024.
4 California Department of Conservation. *California Important Farmland Finder*. Available at: https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed February 2024.

Farmland Classifications

The Farmland Mapping and Monitoring Program (FMMP), part of the Division of Land Resource Protection, California Department of Conservation (DOC), uses soil agricultural productivity information from the NRCS to create maps illustrating the types of farmland in a particular area.

The FMMP was established in 1982 to continue the Important Farmland mapping efforts begun in 1975 by the USDA. The intent of the USDA was to produce agriculture maps based on soil quality and land use across the nation. As part of the nationwide agricultural land use mapping effort, the USDA developed a series of definitions known as Land Inventory and Monitoring (LIM) criteria. The LIM criteria classified the land's suitability for agricultural production; suitability included both the physical and chemical characteristics of soils and the actual land use. Important Farmland maps are derived from the USDA soil survey maps using the LIM criteria.

Since 1980, the State of California has assisted the USDA with completing the mapping in the State. The FMMP was created within the California DOC to carry on the mapping activity on a continuing basis, and with a greater level of detail. The California DOC applied a greater level of detail by modifying the LIM criteria for use in California. The LIM criteria in California use the Land Capability Classification and Storie Index Rating systems, but also consider physical conditions such as dependable water supply for agricultural production, soil temperature range, depth of the groundwater table, flooding potential, rock fragment content, and rooting depth.

The California DOC classifies lands into seven categories: Prime Farmland, Farmland of Statewide Importance (Statewide Farmland), Unique Farmland, Farmland of Local Importance (Local Farmland), Grazing Land, Urban and Built-up Land (Urban Land), and Other Land. The first three types listed above are collectively designated by the State as Agricultural Land for the purposes of CEQA (see Public Resources Code [PRC] Section 21060.1). Important Farmland maps for California are compiled using the modified LIM criteria and current land use information. The minimum mapping unit is 10 acres unless otherwise specified. Units of land smaller than 10 acres are incorporated into surrounding classifications. Each of the seven categories are summarized below, based on California DOC's A Guide to the Farmland Mapping and Monitoring Program.[5]

Prime Farmland

Prime Farmland is land with the best combination of physical and chemical features able to sustain the long-term production of agricultural crops. The land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. The land must have been used for the production of irrigated crops at some time during the two update cycles (a cycle is equivalent to two years) prior to the mapping date.

Farmland of Statewide Importance

Farmland of Statewide Importance is land similar to Prime Farmland, but with minor shortcomings, such as greater slopes or with less ability to hold and store moisture. The land must have been used for the production of irrigated crops at some time during the two update cycles prior to the mapping date.

[5] California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program. *A Guide to the Farmland Mapping and Monitoring Program*. 2004.

Unique Farmland

Unique Farmland is land of lesser quality soils used for the production of the State's leading agricultural crops. The land is usually irrigated, but may include non-irrigated orchards or vineyards, as found in some climatic zones in California. The land must have been cultivated at some time during the two update cycles prior to the mapping date.

Farmland of Local Importance

Farmland of Local Importance is land of importance to the local agricultural economy, as determined by each county's Board of Supervisors and a local advisory committee. Farmland of Local Importance includes lands which do not qualify for Prime, Statewide, or Unique designation, but are currently irrigated crops, pasture, or non-irrigated crops; lands that would meet the Prime or Statewide designation and have been improved for irrigation, but are now idle; and lands that currently support confined livestock, poultry operations, and aquaculture.

Farmland of Local Potential

Farmland of Local Potential is a subcategory of Farmland of Local Importance and is usually aggregated within the Farmland of Local Importance acreage in land use conversion tables. Four counties, including Yolo County, maintain definitions of Farmland of Local Potential. For Yolo County, Farmland of Local Potential is defined as Prime or Statewide soils which are not presently irrigated or cultivated.

Grazing Land

Grazing Land is land on which the existing vegetation, whether grown naturally or through management, is suited to the grazing of livestock. The minimum mapping unit for the Grazing Land category is 40 acres.

Urban and Built-up Land

Urban and Built-up Land is occupied with structures with a building density of at least one unit to one-half acre. Uses may include but are not limited to, residential, industrial, commercial, construction, institutional, public administration purposes, railroad yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment plants, water control structures, and other development purposes. Highways, railroads, and other transportation facilities are mapped as part of this unit, if they are part of a surrounding urban area.

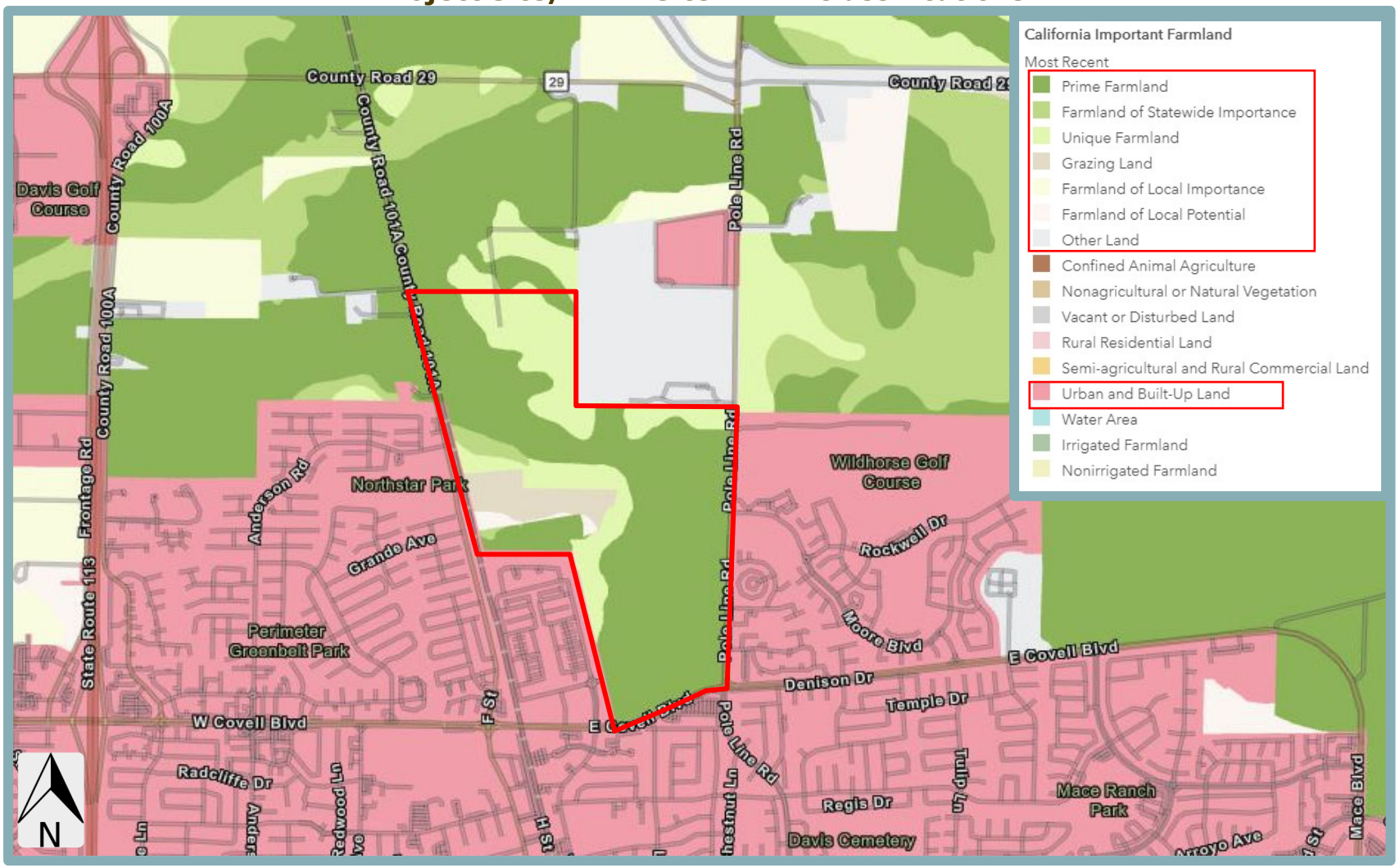
Other Land

Other Land is land that is not included in any other mapping categories. The following uses are generally included: rural development, brush timber, government land, strip mines, borrow pits, and a variety of other rural land uses.

Project Site Farmland Classifications

According to the FMMP, the project site/BRPA site contains Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Potential, Grazing Land, Other Land throughout the site, as well as Urban and Built-Up Land along the western site boundary (see Figure 4.2-1). In addition, the off-site areas contain Urban and Built-Up Land and Other Land. The specific acreages are summarized in Table 4.2-1 below.

Figure 4.2-1
Project Site/BRPA Site FMMP Classifications



Note: Site boundaries are approximate. Note also that the "Urban and Built-Up Land" identified in the Legend is associated with the conceptual footprints for the two grade-separated crossings being considered in this EIR, which are not shown on this exhibit.
Source: California Department of Conservation, Farmland Mapping and Monitoring Program, 2024.

Table 4.2-1 On- and Off-Site FMMP Classifications	
On-Site	
FMMP Classification	**Acreage**
Prime Farmland	323
Farmland of Statewide Importance	9
Unique Farmland	121
Farmland of Local Potential	6
Grazing Land	31
Other Land	4
Urban and Built-Up Land	4
Total:	**498**
Off-Site	
Urban and Built-Up Land	17
Total:	**17**
Note: Acreages have been rounded to the nearest approximate acre.	

Agricultural Productivity of Soils

The USDA NRCS uses two systems to determine a soil's agricultural productivity: the Land Capability Classification System and the Storie Index Rating System. The "prime" soil classification of both systems indicates the presence of few to zero soil limitations, which, if present, would require the application of management techniques (e.g., drainage, leveling, special fertilizing practices) to enhance production.

The Land Capability Classification System takes into consideration soil limitations, the risk of damage when soils are used, and the way in which soils respond to treatment. Capability classes range from Class I soils, which have few limitations for agriculture, to Class VIII soils, which are unsuitable for agriculture. Generally, as the rating of the capability classification system increases, yields and profits are more difficult to obtain. A general description of soil classification, as defined by the NRCS, is provided in Table 4.2-2.

The Storie Index Rating system ranks soil characteristics according to suitability for agriculture from Grade 1 soils (80 to 100 rating), which have few or zero limitations for agricultural production, to Grade 6 soils (less than 10 rating), which are not suitable for agriculture. Under the Storie Index Rating system, soils deemed less than prime can function as prime soils when limitations such as poor drainage, slopes, or soil nutrient deficiencies are partially or entirely removed. Unlike the Land Capability Classification outlined above, the Storie Index Rating System does not distinguish between irrigated and non-irrigated soils.

The six grades, ranges in index rating, and definition of the grades, as defined by the NRCS, are provided below in Table 4.2-3. Table 4.2-4 below summarizes the existing on-site soil types along with the Land Capability Classification and Storie Index Rating for each soil type. The locations of the soil types are shown in Figure 4.2-2.

As shown in Table 4.2-4, according to the USDA NRCS Web Soil Survey conducted for the project site/BRPA site, soils within the site have Land Capability Classifications of Class III, Class IV, and Class VI. Class III soils are defined as having severe limitations that restrict the choice of plants or that require special conservation practices. Similarly, Class IV soils are defined as having very severe limitations that restrict the choice of plants or that require very careful management, or both.

Table 4.2-2
Land Capability Classification

Class	Definition
I	Soils have slight limitations that restrict their use.
II	Soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.
III	Soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.
IV	Soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.
V	Soils are not likely to erode but have other limitations; impractical to remove that limit their use largely to pasture or range, woodland, or wildlife habitat.
VI	Soils have severe limitations that make them generally unsuited to cultivation and limit their use largely to pasture or range, woodland, or wildlife habitat.
VII	Soils have very severe limitations that make them unsuited to cultivation and that restrict their use largely to pasture or range, woodland, or wildlife habitat.
VIII	Soils and landforms have limitations that preclude their use for commercial plants and restrict their use to recreation, wildlife habitat, or water supply or to aesthetic purposes.

Source: U.S. Department of Agriculture, Natural Resources Conservation Service. Available at: https://directives.sc.egov.usda.gov/41985.wba#. Accessed February 2024.

Table 4.2-3
Storie Index Rating System

Grade	Index Rating	Definition
1 – Excellent	81 through 100	Few limitations that restrict their use for crops
2 – Good	61 through 80	Suitable for most crops, but have minor limitations that narrow the choice of crops and have a few special management needs
3 – Fair	41 through 60	Suited to a few crops, or special crops, and require special management
4 – Poor	21 through 40	If used for crops, severely limited and require special management
5 – Very Poor	11 through 20	Not suited for cultivated crops, but can be used for pasture/range
6 – Non-Agriculture	Less than 10	Soil and land types generally not suited to farming

Source: USDA, Web Soil Survey, 2024.

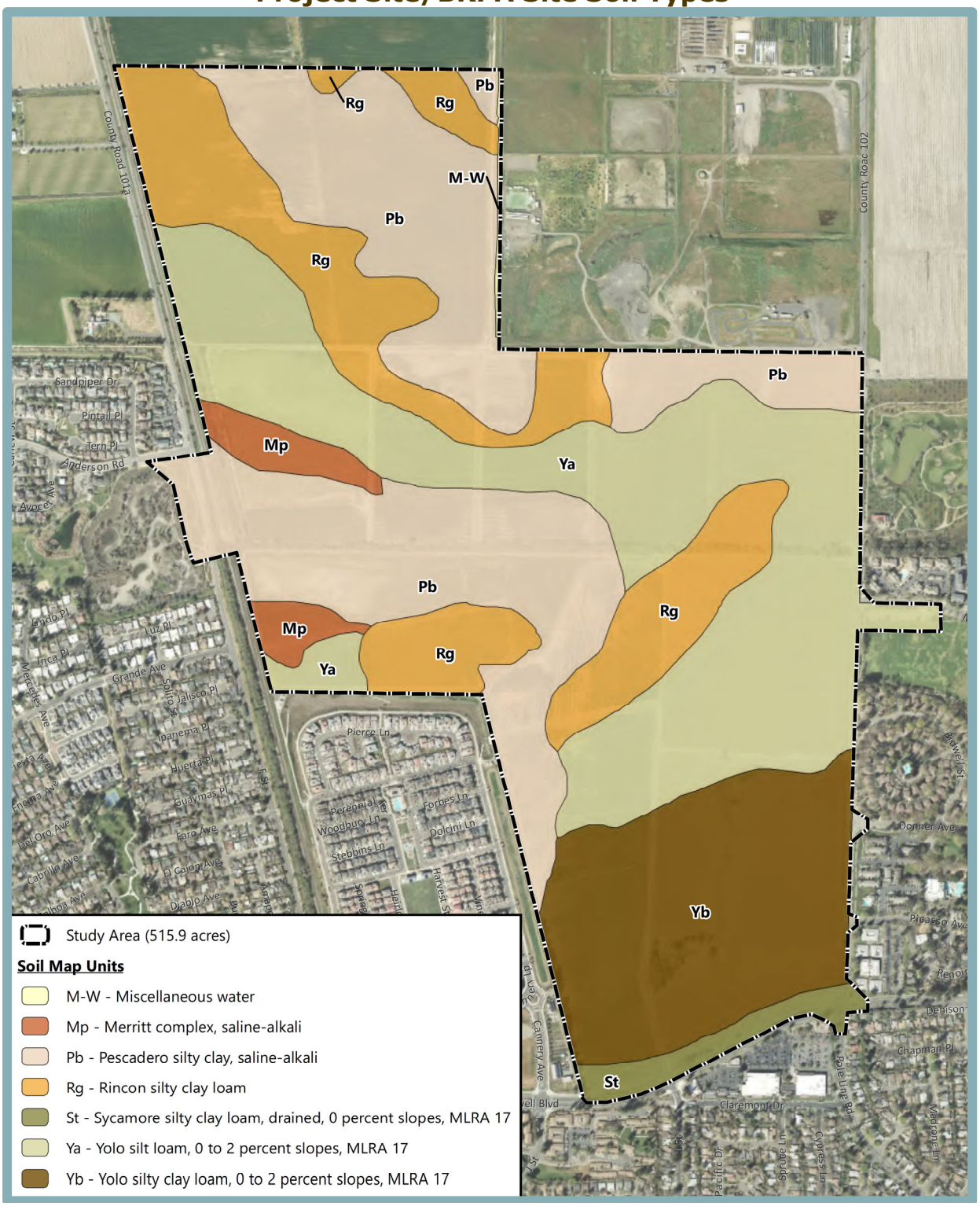
Table 4.2-4
Properties of On-Site Soils

Soil Type	Land Capability Classification	Storie Index Rating
Miscellaneous water[1]	N/A	N/A
Merritt complex, saline-alkali	Class IV	Grade 4 – Poor
Pescadero silty clay, saline-alkali	Class VI	Grade 5 – Very Poor
Rincon silty clay loam	Class III	Grade 1 – Excellent
Sycamore silty clay loam, drained, 0 percent slopes, MLRA 17	Class IV	Grade 2 – Good
Yolo silt loam, 0 to 2 percent slopes, MLRA 17	Class IV	Grade 1 – Excellent
Yolo silty clay loam, 0 to 2 percent slopes, MLRA 17	Class IV	Grade 2 – Good

[1] The area mapped as "Miscellaneous water" was historically a wastewater treatment facility.

Source: U.S. Department of Agriculture, National Resources Conservation Service, Web Soil Survey Database, 2024.

Figure 4.2-2
Project Site/BRPA Site Soil Types



Class VI soils are defined as having severe limitations that make them generally unsuited to cultivation and limit their use largely to pasture or range, woodland, or wildlife habitat. It should be noted that the landing areas for potential future grade-separated crossing to the west of the site and the proposed undercrossing on the east side of the site are Class VI and Class IV, respectively.

The Storie Index Ratings of the on-site soils are either Grade 1 – Excellent, Grade 2 – Good, Grade 4 – Poor, or Grade 5 – Very Poor. Grade 1 soils have few limitations to restrict soil use for crops, while Grade 2 soils are suitable for most crops, but have minor limitations that narrow crop choice. Grade 4 soils have severe limitations and require special management if used for crops, and Grade 5 soils are not suited for cultivated crops, but could be suitable for pasture/range uses. The landing areas for potential grade-separated crossing to the west and the proposed undercrossing on the east side of the site are Grade 5 and Grade 1, respectively.

Williamson Act Contracts

According to the Yolo County Geographic Information System (GIS) Viewer, the project site/BRPA site is not under a Williamson Act contract.[6]

4.2.3 REGULATORY CONTEXT

Federal laws or regulations pertaining to agricultural resources are not applicable for this analysis. The existing State and local laws and regulations pertaining to such resources are listed below, as applicable.

State Regulations

The following are applicable State regulations related to agricultural resources.

Williamson Act

The California Land Conservation Act, better known as the Williamson Act, has been the State's premier agricultural land protection program since the Act's enactment in 1965. The California Legislature passed the Williamson Act in 1965 to preserve agricultural and open space lands by discouraging premature and unnecessary conversion to urban uses. The Williamson Act creates an arrangement whereby private landowners enter into contractual agreements with counties and cities to voluntarily restrict land to agricultural and open space uses. The vehicle for such agreements is a rolling-term, 10-year contract (i.e., unless either party files a "notice of non-renewal," the contract is automatically renewed annually for an additional year). In return, restricted parcels are assessed for property tax purposes at a rate consistent with their actual use, rather than potential market value.

Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 – Prime Agricultural Definition

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (CKH Act) establishes procedures for local government changes of organization, including City incorporations, annexations to a City or special district, and City and special district consolidations. Local Agency Formation Commissions (LAFCo) have numerous powers under the CKH Act, but those of primary concern are the power to act on local agency boundary changes and to adopt spheres of influence for local agencies. According to Section 56064 of the CKH Act,

[6] Yolo County. *Yolo County GIS Viewer*. Available at: https://www.yolocounty.org/government/general-government-departments/innovation-and-technology-services/geographical-information-system/use-gis. Accessed April 2024.

prime agricultural land means an area of land, whether a single parcel or contiguous parcels, that has not been developed for a use other than an agricultural use and that meets five specific qualifications discussed further below. The project site/BRPA site is subject to Section 56064 of the CKH Act.

In compliance with Government Code Section 56064, "prime agricultural land" is defined as an area of land, whether a single parcel or contiguous parcels, that has not been developed for a use other than an agricultural use and which meets any of the following qualifications:

(a) Land that qualifies, if irrigated, for rating as Class I or Class II in the USDA Natural Resources Conservation Service land use capability classification, whether or not land is currently irrigated, provided that irrigation is feasible.
(b) Land that qualifies for rating 80 – 100 Storie Index rating.
(c) 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 United States Department of Agriculture in the National Range and Pasture Handbook, Revision 1, December 2003.
(d) 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 four hundred dollars ($400) per acre.
(e) Land that has returned from the production of unprocessed agricultural plant products an annual gross value of not less than four hundred ($400) per acre for three of the previous five calendar years.

Department of Pesticide Regulation

Certain pesticides can be especially dangerous to human health or the environment if used incorrectly. Therefore, California law allows the Department of Pesticide Regulation (DPR) to put special controls on these pesticides, called "restricted materials." Restricted materials are limited in their use to trained individuals, and then further restricted to times and places approved by the County Agricultural Commissioners. The commissioners evaluate the potential effects an application might have on people and the environment before the pesticide is used.

The purchase or use of most restricted materials in agriculture requires a permit from the County Agricultural Commissioner. Permits are also required to use pesticides for commodity treatment in fumigation chambers at ports and elsewhere. The major exception to the permit requirement is structural pest control (e.g., pesticide use to get rid of a termite infestation).

California is the only state with such a pesticide permitting system. Similar to other states, users of restricted materials must have certain training, but only California requires users of certain pesticides to get a permit from a local regulatory official. County Agricultural Commissioners, with their extensive knowledge of both pesticides and local conditions, are uniquely positioned to grant such permits. In addition, requiring a permit allows the commissioners to ensure that users of restricted materials prevent harmful effects or use alternatives to the pesticide.

Local Regulations

The following are the local regulations and standards relevant to agricultural resources.

Yolo Local Agency Formation Commission

The Yolo LAFCo is a State-mandated boundary commission responsible for coordinating logical and timely changes in local government boundaries. In consideration of annexation proposals,

Yolo LAFCo observes four basic statutory purposes: 1) the discouragement of urban sprawl; 2) the preservation of open space and agricultural land resources; 3) the efficient provision of government services; and 4) the encouragement of orderly growth boundaries based upon local conditions and circumstances. Yolo LAFCo's powers, procedures, and functions are set forth in the CKH Act.

California Government Code Section 56377 mandates that all LAFCos consider the following factors during review of projects that could reasonably be expected to convert existing open-space lands to uses other than open-space uses:

- Development of land for other than open-space uses shall be guided away from existing prime agricultural lands toward areas containing non-prime agricultural lands, unless that action would not promote the planned, orderly, efficient development of an area; and
- Development of existing vacant or non-prime agricultural lands for urban uses within the existing jurisdiction of a local agency or within the Sphere of Influence of a local agency should be encouraged before any proposal is approved that would allow or lead to the development of existing open-space lands for non-open-space uses outside the existing jurisdiction or sphere of influence of the local agency.

LAFCo Agricultural Conservation Policy

The Yolo LAFCo Agricultural Conservation Policy includes six criteria against which all development proposals are reviewed.[7] The criteria emphasize that, where feasible, non-prime land should be annexed before prime land, and require that a parcel's current zoning, pre-zoning, or land use designations are considered in determining whether mitigation should be required for the loss of agricultural land. LAFCo policies are a major protection for the County's agricultural lands, and enforce the preservation of agricultural lands to the greatest extent feasible.

Yolo LAFCo has adopted specific standards to ensure that fair and consistent decisions are rendered in accordance with State law. The following are the adopted policies and standards from Yolo LAFCo's Agricultural Conservation Policy that are relevant to the Proposed Project and BRPA.

4.3 Agricultural Policy Statement
Agriculture is a vital and essential part of the Yolo County economy and environment. Agriculture shapes the way Yolo County residents and visitors view themselves and the quality of their lives. Accordingly, boundary changes for urban development should only be proposed, evaluated, and approved in a manner which, to the fullest extent feasible, is consistent with the continuing growth and vitality of agriculture within the county.

4.4 Review Criteria
To promote the policy statement, proposals shall be reviewed based on the following considerations:

a) Existing developed areas should be maintained and renewed;
b) Vacant land within developed areas should be developed before agricultural land is annexed for non-agricultural purposes;
c) Land substantially surrounded by existing agency boundaries should be annexed before other lands;

[7] Yolo Local Agency Formation Commission. *Yolo LAFCo Policies & Procedures.* Available at: https://www.yololafco.org/yolo-lafco-policies-procedures. Accessed February 2024.

d) Urban development should be restricted in agricultural areas. For example, agricultural land should not be annexed for non-agricultural purposes when feasible alternatives exist;
e) The continued productivity and viability of agricultural land surrounding existing communities should be promoted, by preventing the premature conversion of agricultural land to other uses and, to the extent feasible, minimizing conflicts between agricultural and other land uses;
f) Development near agricultural land should not adversely affect the economic viability or constrain the lawful, responsible practices of the agricultural operations;
g) Where feasible, non-prime land should be annexed before prime land; and
h) A land's current zoning, pre-zoning, or land use designation is one of the factors the Commission will consider in determining whether mitigation will be required for the loss of agricultural land. A land's zoning, pre-zoning, or land use designation in the city's or County's general plan does not automatically exempt it from mitigation.

4.6 Standards for Annexations Involving Prime Agricultural Land
Annexation of prime agricultural lands shall not be approved unless the following factors have been considered:

a) There is insufficient marketable, viable, less prime land available in the subject jurisdiction for the proposed land use;
b) The adoption and implementation of effective measures to mitigate the loss of agricultural lands, and to preserve adjoining lands for agricultural use to prevent their premature conversion to other uses. Such measures may include, but need not be limited to: the acquisition and dedication of farmland, development rights, open space and conservation easements to permanently protect adjacent and other agricultural lands within the county; participation in other development programs (such as transfer or purchase of development rights); payments to responsible, recognized government and non-profit organizations for such purposes; the establishment of open space and similar buffers to shield agricultural operations from the effects of development; and
c) Less prime agricultural land generally should be annexed and developed before prime land is considered for boundary changes. The relative importance of different parcels of prime agricultural land shall be evaluated based upon the following (in a descending order of importance):
    i. Soil classification, with Class I or II soil receiving the most significance, followed by the Revised Storie Index Rating.
    ii. The land's economic viability for continued agricultural use.

4.8 Change of Organization/Reorganization Resulting in Conversion of Prime Agricultural Land
LAFCo will approve a change of organization which will result in the conversion of prime agricultural land or open space use to other uses only if the Commission finds that the proposal will lead to planned, orderly, and efficient development. The following factors shall be considered:

a) Contiguity of the subject land to developed urban areas;
b) Receipt of all other discretionary approvals for changes of boundary, such as prezoning, environmental review, and service plans as required by the Executive Officer before action by the Commission. If not feasible before the Commission acts, the proposal can be made contingent upon receipt of such discretionary approvals within not more than one (1) year following LAFCo action;

c) Consistency with existing planning documents of the affected local agencies, including a service plan of the annexing agency or affected agencies;
d) Likelihood that all or a substantial portion of the subject land will develop within a reasonable period of time for the project's size and complexity;
e) The availability of less prime land within the sphere of influence of the annexing agency that can be developed, and is planned and accessible, for the same or a substantially similar use; and
f) The proposal's effect on the physical and economic viability of other agricultural operations. In making this determination, LAFCo will consider the following factors:
    i. The agricultural significance of the subject and adjacent areas relative to other agricultural lands in the region;
    ii. The existing use of the subject and adjacent areas;
    iii. Whether public facilities related to the proposal would be sized or situated so as to facilitate the conversion of adjacent or nearby agricultural land, or will be extended through or adjacent to, any other agricultural lands which lie between the project site and existing facilities;
    iv. Whether natural or man-made barriers serve to buffer adjacent or nearby agricultural land from the effects of the proposed development;
    v. Provisions of the General Plan's open space and land use elements, applicable growth management policies, or other statutory provisions designed to protect agriculture. Such provisions may include, but not be limited to, designating land for agriculture or other open space uses on that jurisdiction's general plan, adopted growth management plan, or applicable specific plan; adopting an agricultural element to its general plan; and acquiring conservation easements on prime agricultural land to permanently protect the agricultural uses of the property; and
    vi. The establishment of measures to ensure that the new property owners shall recognize the rights of adjacent property owners conducting agricultural operations and practices in compliance with the agricultural zone in accordance with the Right to Farm Ordinance adopted by the Yolo County Board of Supervisors.

4.9 Agricultural Mitigation

Except as expressly noted in sections 4.13 and 4.14 below, annexation of prime agricultural lands shall not be approved unless one of the following mitigations has been instituted, at not less than a 1:1 replacement ratio:

a) The acquisition and dedication of farmland, development rights, and agricultural conservation easements to permanently protect adjacent and other agricultural lands within the County.
b) The payment of fees that is sufficient to fully fund the acquisition and maintenance of such farmland, development rights or easements. The per acre fees shall be specified by a Fee Schedule or Methodology, noted in Section 4.15, which may be periodically updated at the discretion of the Commission.
c) Any such measures must preserve prime agricultural property of reasonably equivalent quality and character that would otherwise be threatened, in the reasonably foreseeable future, by development and/or other urban uses.

The loss of fewer than twenty (20) acres of prime agricultural land generally shall be mitigated by the payment of in lieu fees as mitigation rather than the dedication of agricultural conservation easements. The loss of twenty (20) acres or more of prime agricultural land generally may be mitigated either with the payment of in lieu fees or the dedication of agricultural conservation easements. In all cases, the Commission reserves the right to review such mitigation on a case-by-case basis.

4.10 Agricultural Easement Requirements

If an applicant provides agricultural easements to satisfy this requirement, the easements must conform to the following characteristics:

a) The land used to mitigate the loss of prime agricultural land must also be prime agricultural land as defined in this Policy and the CKH Act.
b) In addition, it must also be of reasonably equivalent quality and character as the mitigated land as measured using both of the following methodologies:
    i. Average Storie Index – The USDA calculation methodology will be used to calculate the average Storie Index or Revised Storie Index score. The mitigating land's average Index score shall be no more than 10% less than the mitigated land's average Index score. The decision of whether to use the Storie Index or Revised Storie Index is within LAFCo's sole discretion.
    ii. Land Equivalency and Site Assessment ("LESA") Model – The LESA calculation shall be in accordance with the methodology adopted by this Commission (see appendices). The mitigating land's LESA score shall be no more than 10% below the mitigated land's LESA score.
c) As a general rule, the Commission will not accept, as mitigation required by this Policy, an agricultural conservation easement or property that is "stacked" or otherwise combined with easements or property acquired for habitat conservation purposes, nor for any other purposes that are incompatible with the maintenance and preservation of economically sound and viable agricultural activities and operations. The Commission retains the discretion to make exceptions on a case-by-case basis, based upon whether the applicant made a good-faith effort to mitigate separately for the loss of habitat in accordance with the Yolo Natural Heritage Program process but such efforts were infeasible, and whether the proposed "stacked" mitigation for the loss of prime agricultural land and habitat involves one of the following, whichever results in the greatest acreage of preserved land:
    i. Mitigation at a ratio of no less than 2:1 for the loss of prime agricultural soils; or
    ii. Mitigation at a ratio of no less than 1:1 for the loss of all agricultural lands in the proposal area; or
    iii. The property subject to the agricultural conservation easement is larger than the proposal area, meets the conditions specified in this Policy, and encompasses a complete field, legal parcel, or farm line.
d) The presence of a home on land that is subject to an agricultural conservation easement is generally incompatible with the maintenance and preservation of economically sound and viable agricultural activities and operations on that land. The presence or introduction of a home may diminish the value of the agriculture conservation easement as mitigation for the loss of prime agricultural land. Consequently, an agricultural conservation easement will generally not be accepted as mitigation for the loss of prime agricultural land if the easement permits the presence of a home, except an existing home that has been present on the proposed easement for at least twenty-five (25) years, or construction of a comparable replacement for such a home. Exceptions to this section of the Policy may be granted by the Commission on a case-by-case basis if the home site is less than two acres and if the applicant can provide sufficient evidence that a home site on the agriculture conservation easement is necessary to further the goals of maintaining and preserving economically sound and viable agricultural activities and operations on that easement.

4.11 Easement Holder
LAFCo favors the use of a local non-profit agricultural conservation entity or the regional branch of a nationally recognized non-profit agricultural conservation entity as the easement holder. The Commission will use the following criteria when approving the non-profit agricultural conservation entity for these purposes:

a) Whether the entity is a non-profit organization that is either based locally or is a regional branch of a national non-profit organization whose principal purpose is holding and administering agricultural conservation easements for the purposes of conserving and maintaining lands in agricultural production;
b) Whether the entity has a long-term proven and established record for holding and administering easements for the purposes of conserving and maintaining lands in agricultural production;
c) Whether the entity has a history of holding and administering easements in Yolo County for the foregoing purposes;
d) Whether the entity has adopted the Land Trust Alliance's "Standards and Practices" and is operating in compliance with those Standards; and
e) Any other information that the Commission finds relevant under the circumstances.

A local public agency may be an easement co-holder if that agency was the lead agency during the environmental review process. LAFCo also favors that applicants transfer the easement rights or in lieu fees directly to the recognized non-profit agricultural conservation entity in accordance with that entity's procedures. The Commission retains the discretion to determine whether the agricultural conservation entity identified by the applicant and the local lead agency has met the criteria delineated above.

4.12 Agricultural Mitigation Imposed by Other Agencies
The Commission prefers that mitigation measures consistent with this Policy be in place at the time that a proposal is filed with the Commission. The loss of prime agricultural land may be mitigated before Commission action by the annexing city, or the County of Yolo in the case of a district annexation, provided that such mitigation is consistent with this Policy. LAFCo will use the following criteria in evaluating such mitigation:

a) Whether the loss of prime agricultural land was identified during the project's or proposal's review process, including but not necessarily limited to review pursuant to the California Environmental Quality Act;
b) Whether the approval of the environmental documents included a legally binding and enforceable requirement that the applicant mitigate the loss of prime agricultural land in a manner consistent with this Policy; and
c) Whether, as part of the LAFCo application, an adopted ordinance or resolution was submitted confirming that mitigation has occurred, or requiring the applicant to have the mitigation measure in place before the issuance of a grading permit, a building permit or final map approval for the site.

4.15 Agricultural Conservation Policy Payment In Lieu Fee Methodology
In lieu of the dedication of agricultural conservation easements that would otherwise be required by the Agricultural Conservation Policy, the Commission may permit the payment of fees as set forth in this Schedule to fully fund the acquisition and maintenance of farmland, development rights or agricultural conservation easements.

No less than 35% of the average per acre price for full and unencumbered fee title price in the last five (5) unimproved land purchases plus a five percent (5%) endowment of the cost of the easement, and the payment of the estimated transaction costs associated with acquiring an easement. The purchases must be within the general vicinity of the annexing

entity and of a size equal to or greater than the total acreage of prime soils within the subject territory.

Payment of the In Lieu Fee is to be made directly to an agricultural conservation entity that meets the criteria set forth in Section 4.10 of this Policy. The agricultural conservation entity receiving these funds must present to the Commission a letter stating its intention to use these funds for the acquisition of farmland, development rights or agricultural conservation easements in Yolo County whose prime soils are reasonably equivalent to the proposal area's soils and that the location of the easements will be within the general vicinity of the annexing entity and in an area within the County of Yolo that would otherwise be threatened, in the reasonably foreseeable future, by development and/or other urban uses.

Yolo LAFCo Land Equivalency and Site Assessment

The Yolo LAFCo LESA Model has been designed as a potential planning tool to assist in making decisions concerning the relative significance of agricultural land resources. The model itself is rooted in concepts originally devised at the federal level, but has been customized to address the unique agricultural resources issues of Yolo County.

The LESA model requires a series of straightforward measurements and calculations to score a given project. Listed below are the materials that are generally needed to make these determinations.

A. Land Evaluation calculations require:

- An accurate map of the project, such as a parcel map. Parcel map books are available for review at the Yolo County Planning Department.
- A Yolo County Important Farmland Map produced biennially by the DOC. These maps are available upon request from DOC, and are also available for review at the Yolo LAFCo and Yolo County Farm Bureau offices.
- The Soil Survey of Yolo County, which is available for review at the NRCS, UC Davis Shields Library, etc.
- A planimeter for making acreage determinations of irregularly shaped units; and
- A Land Evaluation Worksheet.

B. Site Assessment Calculations require:

- A photocopy of the appropriate page from the Yolo County Addressing System.
- Access to current zoning maps. These are available in the Yolo County Planning Department.
- A planimeter, compass and engineer's scale.
- A Site Assessment Worksheet.
- Additionally, the Yolo County Planning Department has developed a County GIS that includes considerable land resource information. The GIS has the capability to calculate many of the specific acreage figures that are needed to operate the Yolo County LESA Model, thereby simplifying the procedure for obtaining a LESA score for a given project.

Yolo LAFCo also favors that applicants transfer the easement rights or in-lieu fees directly to the recognized non-profit agricultural conservation entity in accordance with that entity's procedures. The LAFCo Commission retains the discretion to determine whether the agricultural conservation entity identified by the applicant and the local lead agency has met the criteria delineated above.

Yolo County Code

Title 8, Land Development and Zoning, of the Yolo County Code contains the County's primary land development regulations. Yolo County Code Section 8-2.404, Agricultural Conservation and Mitigation Program, includes definitions, policies, and mitigation standards designed to permanently protect agricultural land located within the unincorporated areas of Yolo County. The following requirements apply to agricultural land.

Section 8-2.404(c) Mitigation requirements.

(1) Agricultural mitigation shall be required for conversion or change from agricultural use to a predominantly non-agricultural use prior to, or concurrent with, approval of a zone change from agricultural to urban zoning, permit, or other discretionary or ministerial approval by the County.

Except as provided in subsection (d)(2) below, relating to adjustment factors, for projects that convert prime farmland, a minimum of three (3) acres of agricultural land shall be preserved in the locations specified in subsection (d)(1) for each acre of agricultural land changed to a predominantly non-agricultural use or zoning classification (3:1 ratio). For projects that convert non-prime farmland, a minimum of two (2) acres of agricultural land shall be preserved in the locations specified in subsection (d)(1) for each acre of land changed to a predominantly non-agricultural use or zoning classification (2:1) ratio. Projects that convert a mix of prime and non-prime lands shall mitigate at a blended ratio that reflects for the percentage mix of converted prime and non-prime lands within project site boundaries.

(2) The following uses and activities shall be exempt from, and are not covered by, the Agricultural Conservation and Mitigation Program:

(i) Affordable housing projects, where a majority of the units are affordable to very low or low income households, as defined in Title 8, Chapter 8 of the Yolo County Code (Inclusionary Housing Requirements);
(ii) Public uses such as parks, schools, cultural institutions, and other public agency facilities and infrastructure that do not generate revenue. The applicability of this exemption to public facilities and infrastructure that generate revenue shall be evaluated by the approving authority on a case-by-case basis. The approving authority may partly or entirely deny the exemption if the approving authority determines the additional cost of complying with this program does not jeopardize project feasibility and no other circumstances warrant application of the exemption;
(iii) Gravel mining projects regulated under Title 10, Chapters 3-5 of the Yolo County Code, pending completion of a comprehensive update of the gravel mining program (anticipated in January 2017); and
(iv) Projects covered by an approved specific plan which includes an agricultural mitigation program.

(3) Applications deemed complete prior to the effective date of the ordinance shall provide mitigation at a 1:1 ratio in compliance with all other requirements of this Agricultural Conservation and Mitigation Program.

Section 8-2.404(d) Agricultural Mitigation Implementation.

Agricultural mitigation required by this section shall be implemented as follows:

(1) Location, Generally. Mitigation lands shall be located within two (2) miles of sphere of influence of a city or within two (2) miles of the General Plan urban growth

boundary of the town of Esparto ("Esparto Urban Growth Boundary"). Mitigation may also occur in any other area designated by the Board of Supervisors based on substantial evidence demonstrating that the parcel at issue consists predominantly of prime farmland and/or is subject to conversion to non-agricultural use in the foreseeable future. Any such designation shall be made by resolution and shall specify whether the designated area is a priority conservation area subject to a 1:1 mitigation ratio. For all other designated areas, the resolution shall specify the mitigation ratio for any mitigation occurring in the covered area, which may exceed the applicable base ratio.

(2) Adjustment Factors. The following adjustment factors shall be applied, where relevant, to modify the base ratio:

(i) Priority Conservation Areas. Mitigation occurring within a priority conservation area shall occur at a reduced 1:1 ratio unless otherwise specified below. The following areas shall be deemed priority conservation areas for purposes of this section:

(A) Parcels partly or entirely within one-quarter (0.25) mile of the sphere of influence of a city or the Esparto Urban Growth Boundary, or, for projects that convert primarily non-prime farmland, one (1) mile of the sphere of influence of a city or the Esparto Urban Growth Boundary. For the purposes of this subsection, the word "primarily" shall mean greater than fifty (50) percent.

(B) Parcels lying partly or entirely within the area bounded by County Roads 98 and 102 on the west and east, respectively, and by County Roads 29 and 27 on the north and south, respectively. For mitigation of impacts to prime farmland, the ratio shall be 2:1 within this area.

(3) Other Factors.

(i) If the area to be converted is twenty (20) acres or more in size, subject to the exception in (iii), below, by granting, in perpetuity, a farmland conservation easement to a qualifying entity with the County as a third party beneficiary, together with the provision of funds sufficient to compensate for all administrative costs incurred by the qualifying entity and the County as well as funds needed to establish an endowment to provide for monitoring, enforcement, and all other services necessary to ensure that the conservation purposes of the easement or other restriction are maintained in perpetuity.

(ii) If the area to be converted is a small project less than twenty (20) acres in size, by granting a farmland conservation easement as described in subsection (i), above, or payment of the in-lieu fee established by the County to purchase a farmland conservation easement consistent with the provisions of this section; and the payment of fees in an amount established by the County to compensate for all administrative costs incurred by the County inclusive of endowment funds for the purposes set forth in subsection (i), above. The in-lieu fee, paid to the County, shall be used for agricultural mitigation purposes only (i.e. purchases of conservation easements and related transaction and administrative costs).

(iii) If Yolo County or a qualifying entity establishes a local farmland mitigation bank and sufficient credits are available at a total cost not exceeding the

in lieu fee (and all related transactional and similar costs), small projects shall satisfy their farmland mitigation requirement by purchasing credits from the mitigation bank in a quantity sufficient to discharge the mitigation obligations of the project under this section. Other local projects converting twenty (20) or more acres of farmland may also purchase credits to discharge their farmland mitigation requirements, in lieu of providing an easement under subsection (i), above.

A farmland mitigation bank must be approved by the Board of Supervisors for local (i.e., within Yolo County) mitigation needs based upon a determination that it satisfies all of the farmland mitigation requirements of this section.

Landowners and project applicants that conserve more farmland than necessary to satisfy their mitigation obligations may seek approval of a farmland mitigation bank through an application process to be developed by the Planning, Public Works, and Environmental Services Department.

(iv) Agricultural mitigation shall be completed as a condition of approval prior to the acceptance of a final parcel or subdivision map, or prior to the issuance of any building permit or other final approval for development projects that do not involve a map.

Section 8-2.404(e) Eligible lands
Land shall meet all of the following criteria in sections (1) through (6), below, to qualify as agricultural mitigation:

(1) Agricultural conservation easements resulting from this program shall be acquired from willing sellers only;
(2) The property is of adequate size, configuration and location to be viable for continued agricultural use;
(3) The equivalent class of soil, based on the revised Storie index or NRCS soil survey maps, for the agricultural mitigation land shall be comparable to, or better than, the land which is converted;
(4) The land shall have an adequate water supply to maintain the purposes of the easement, i.e., to irrigate farmland if the converted farmland is irrigated or capable of irrigation. The water supply shall be sufficient to support ongoing agricultural uses;
(5) The mitigation land shall be located within the County of Yolo in a location identified for mitigation in accordance with this section;
(6) It is the intent of this program to work in a coordinated fashion with the habitat conservation objectives of the Yolo Habitat Conservancy joint powers agency and the developing Habitat Conservation Plan/Natural Communities Conservation Plan. The mitigation land may not overlap with existing habitat conservation easement areas; the intent is to not allow "stacking" of easements, except for habitat conservation easements protecting riparian corridors, raptor nesting habitat, wildlife-friendly hedgerows, or other restored or enhanced habitat areas so long as such areas do not exceed five percent (5%) of the total area of any particular agricultural conservation easement.

City of Davis General Plan

The following goals and policies from the City of Davis General Plan related to agricultural resources are applicable to the Proposed Project and BRPA.

Land Use and Growth Management Chapter

The following policies are applicable to the Urban Agricultural Transition Area (UATA).

Policy LU N.2 Include the lands in this category within city limits whenever feasible.

Policy LU N.3 Segments can vary in width but to the greatest extent possible, a minimum 150-foot width should be pursued. Wider segments should be pursued when opportunity permits.

Policy LU N.4 Where public access is desired, the width of the buffer must be sufficient to also include a 100-foot wide area where public access is restricted to allow for ground spraying on adjacent agricultural land.

Policy LU N.5 Ideally, wider segments should be located where:

- Willing sellers are available,
- Natural resource protection opportunities exist,
- Open space recreation opportunities exist.

Policy LU N.6 Prime agricultural land should remain in agricultural production in the wider segments of the Urban Agriculture Transition Area.

Agriculture, Soils and Minerals Chapter

Goal AG 1 Maintain agriculture as an important industry around Davis.

Policy AG 1.1 Protect agricultural land from urban development except where the general plan land use map has designated the land for urban uses.

Policy AG 1.2 Promote and enhance local agriculture.

Goal AG 3 Conserve soil resources within the planning area.

Policy AG 3.1 Develop programs to help to conserve soil resources.

City of Davis Municipal Code

The applicable sections of the City of Davis Municipal Code related to agricultural resources are presented below.

Davis Municipal Code Article 40A.01

The City of Davis has adopted a Right-to-Farm Ordinance (Chapter 40A of the Davis Municipal Code), the purpose and policies of which are as follows:

(a) It is a goal of the city general plan to work cooperatively with the counties of Yolo and Solano to preserve agricultural land in the Davis planning area which is not otherwise identified in the general plan as necessary for development. It is the policy of the city to preserve and encourage agricultural land use and operations within the city and Yolo

and Solano counties, and to reduce the occurrence of conflicts between agricultural and nonagricultural land uses and to protect the public health. One purpose of this law is to reduce the loss of agricultural resources by limiting the circumstances under which agricultural operations may be deemed a nuisance.

(b) It is also the policy of the city to provide purchasers and tenants of nonagricultural land close to agricultural land or operations with notice about the city's support of the preservation of agricultural lands and operations. An additional purpose of the notification requirement is to promote a good neighbor policy by informing prospective purchasers and tenants of nonagricultural land of the effects associated with living close to agricultural land and operations.

(c) It is further the policy of the city to require all new developments adjacent to agricultural land or operations to provide a buffer to reduce the potential conflicts between agricultural and nonagricultural land uses.

(d) Implementation of these policies can be strengthened by establishing a dispute resolution procedure designed to amicably resolve any complaints about agricultural operations that is less formal and expensive than court proceedings. (Ord. 1823 § 1).

Davis Municipal Code Article 40A.03

The City of Davis has established Farmland Preservation regulations (Chapter 40A of the Davis Municipal Code), the purpose and findings of which are as follows:

(a) The purpose of this chapter and this article is to implement the agricultural land conservation policies contained in the Davis general plan with a program designed to permanently protect agricultural land located within the Davis planning area for agricultural uses.

(b) Since 1995 the city has required agricultural mitigation for development projects that would change the general plan designation or zoning from agricultural land to nonagricultural land and for discretionary land use approvals that would change an agricultural use to a nonagricultural use, and the city council finds that this chapter and this article are necessary for the following reasons: California is losing farmland at a rapid rate; Yolo and Solano County farmland is of exceptional productive quality; loss of agricultural land is consistently a significant impact under CEQA in development projects; the Davis general plan has policies to preserve farmland; the city is surrounded by farmland; the Yolo and Solano County general plans clearly include policies to preserve farmland; the continuation of agricultural operations preserves the landscape and environmental resources; loss of farmland to development is irreparable and agriculture is an important component of the city's economy; and losing agricultural land will have a cumulatively negative impact on the economy of the city and the counties of Yolo and Solano.

(c) It is the policy of the city to work cooperatively with Yolo and Solano counties to preserve agricultural land within the Davis planning area, as shown in the "planning area" map found in the Davis general plan, beyond that deemed necessary for development. It is further the policy of the city to protect and conserve agricultural land, especially in areas presently farmed or having Class 1, 2, 3, or 4 soils.

(d) The city council finds that some urban uses when contiguous to farmland can affect how an agricultural use can be operated, which can lead to the conversion of agricultural land to urban use.

(e) The city council further finds that by requiring adjacent mitigation for land being converted from an agricultural use and by requiring a one hundred fifty foot buffer, the city shall be helping to ensure prime farmland remains in agricultural use. (Ord. 2300 Section 1, 2007).

In addition, Davis Municipal Code Section 40A.03.025 establishes the City's agricultural land mitigation requirements, as follows:

(a) The city shall require agricultural mitigation as a condition of approval for any development project that would change the general plan designation or zoning from agricultural land to nonagricultural land and for discretionary land use approvals that would change an agricultural use to a nonagricultural use.
(b) The city has determined that effectively locating mitigation lands provides increased protection of agricultural lands threatened with conversion to non-agricultural uses. Requirements and incentives are established in this article to direct mitigation to areas that are under threat of conversion. In recognizing the importance of the location of mitigation, the city has identified two general categories of agricultural mitigation: (1) adjacent mitigation; and (2) remainder mitigation. For every applicable development project, the determination as to whether a combination of adjacent and remainder mitigation shall be required or whether only remainder mitigation shall be required shall be based on site specific factors, as specified in this article. Adjacent mitigation is addressed in Section 40A.03.030; remainder mitigation is addressed in Section 40A.03.035.
(c) Total mitigation for a development project shall not be less than a ratio of two acres of protected agricultural land for each acre converted from agricultural land to nonagricultural land. Location based factors (credits) for remainder mitigation contained in Section 40A.03.035 may result in ratios greater than 2:1.

4.2.4 IMPACTS AND MITIGATION MEASURES

The following section describes the standards of significance and methodology used to analyze and determine the potential impacts of the Proposed Project and BRPA related to agricultural resources. A discussion of the project's impacts and mitigation measures where necessary, is presented.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines, a significant impact would occur if the Proposed Project or the BRPA would result in any of the following:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
- Conflict with existing zoning for agricultural use, or a Williamson Act contract;
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC Section 12220[g]), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104[g]) (see Chapter 5, Effects Not Found to be Significant);
- Result in the loss of forest land or conversion of forest land to non-forest use (see Chapter 5, Effects Not Found to be Significant);
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use; or
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of forest land to non-forest use (see Chapter 5, Effects Not Found to be Significant).

Issues related to whether the Proposed Project or BRPA would result in any of the following impacts are discussed in Chapter 5, Effects Not Found to be Significant, of this EIR:

- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC Section 12220[g]), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104[g]);
- Result in the loss of forest land or conversion of forest land to non-forest use; and
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of forest land to non-forest use.

Method of Analysis

Evaluation of potential impacts of the Proposed Project and BRPA on agricultural resources is based on the following: the City of Davis General Plan, the associated EIR, the NRCS Web Soil Survey, and the FMMP online mapping system. Soil data from the FMMP was used to determine the approximate amounts of Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance within the project site/BRPA site boundaries, as well as the off-site areas. The proposed area of disturbance was overlain on the known on-site agricultural resources to determine the overall impact to agricultural land that would occur during development of the Proposed Project or the BRPA. The standards of significance listed above are used to delineate the significance of any potential impacts.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts is based on implementation of the Proposed Project or the BRPA in comparison to existing conditions and the standards of significance presented above.

4.2-1 Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use or agricultural land as defined in the CKH Act (Government Code Section 56064). Based on the analysis below, even with implementation of mitigation, the impact is *significant and unavoidable.*

For environmental review purposes under CEQA, the categories of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland constitute “agricultural land.” The following discussions include an analysis of potential impacts related to the conversion of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland associated with the development of the Proposed Project and the BRPA.

Proposed Project

Pursuant to the California DOC Important Farmland Finder, approximately 323 acres of the project site/BRPA site are mapped as Prime Farmland (see Figure 4.2-1 and Table 4.2-1). In addition, the project site/BRPA site contains approximately 121 acres of Unique Farmland and approximately nine acres of Farmland of Statewide Importance, as well as land that is not Farmland. As such, approximately 453 acres of Farmland are located on-site. In addition, the off-site areas include approximately one acre of Farmland, bringing the total amount of potentially impacted Farmland to 454 acres. However, the 118.4-acre UATA is comprised entirely of Prime and Unique Farmland. As discussed in the Drainage Report for the Proposed Project, the UATA would be excavated approximately nine to 10 feet to an elevation of approximately 28

feet. The soil from the UATA would be used as fill material within the urban development area to raise the building sites above the flood plain.[8] The existing area is farmed annually; for the Proposed Project, the top layer of organics and 'top soil' would be scraped and set aside prior to excavation for fill soil. Following mass grading and excavation of the area, the organic soil would be replaced and spread across the UATA to aid in vegetative restoration. Thus, the ability to farm the UATA would not be permanently affected and pursuant to City Code, mitigation would not be required for this area. Also consistent with the City's Code, the entire project area that is in agricultural use, less the UATA, is subject to the provision of mitigation.

As such, based on the State's DOC designations, development of the Proposed Project would convert approximately 335.6 acres of Farmland to non-agricultural uses and a significant impact could occur.

Biological Resources Preservation Alternative

The BRPA would be developed within the same overall site boundaries as the Proposed Project. As such, development of the BRPA would convert a significant amount of on-site Farmland to non-agricultural uses. However, the BRPA would include preservation of the 47.1-acre Natural Habitat Area, which contains portions of the on-site Prime Farmland, Unique Farmland, and Farmland of Statewide Importance. Specifically, the Natural Habitat Area contains approximately one acre of Unique Farmland, one acre of Farmland of Statewide Importance, and 16 acres of Prime Farmland for a total of 18 acres of Farmland. Therefore, the BRPA's potential impact to existing Farmland would be 18 acres less, as compared to the Proposed Project. Nonetheless, due to the conversion of approximately 317.6 acres of Farmland within the overall BRPA site boundaries, a significant impact would still occur.

The BRPA would also require excavation of the UATA to generate fill for purposes of raising the urban development area above the flood plain. Similar to the Proposed Project, the top layer of organic and top soil would be set aside prior to excavation and replaced and spread across the UATA. Thus, the ability to farm the UATA would not be permanently affected, and mitigation would not be required for this area.

Farmland Preservation

The City of Davis defines "agricultural land" as "those lands in agricultural use," where "agricultural use" is defined as, "Use of land for the purpose of producing food, fiber, or livestock for commercial purposes." Agricultural lands are also considered throughout Yolo County and/or the City as lands zoned as agricultural preserve (A-P), agricultural exclusive (A-E), or agricultural general (A-I), as well as areas of the City with Class 1, 2, 3, or 4 soils. Davis Municipal Code Section 40A.03.025 states that, "The city shall require agricultural mitigation as a condition of approval for any development project that would change the general plan designation or zoning from agricultural land to nonagricultural land and for discretionary land use approvals that would change an agricultural use to a nonagricultural use."

[8] It should be noted that the topsoil from the development area would be placed atop the borrowed soils from the UATA.

The following discussions assess the consistency of the Proposed Project and BRPA with the Farmland Preservation requirements as established by the City, Yolo County, and Yolo LAFCo.

Proposed Project

Because the entire project site/BRPA site is in agricultural use, as defined by the Davis Municipal Code, agricultural mitigation would be required for the full site acreage, with the exception of the proposed UATA, given that the City's Municipal Code Section 40A.03.030 states "The land included within the agricultural buffer required by Section 40A.01.050(c) shall not be included in the calculation for the purposes of determining the amount of land that is required for mitigation."

The City's 2:1 agricultural mitigation requirement would satisfy Yolo County's 1:1 (minimum) agricultural land mitigation ratio requirement, which pertains broadly to conversion or change from agricultural use to an urban use prior to, or concurrent with, approval of a zone change from agricultural to urban zoning, permit, or other discretionary or ministerial approval by the County.

Similarly, the City's agricultural mitigation requirement would satisfy Yolo LAFCo's agricultural land mitigation ratio requirement, which are established at a 1:1 minimum mitigation ratio for all agricultural lands and a 2:1 ratio for Prime Agricultural Land, defined by Yolo LAFCo as land which meets any of five different criteria: rated as Class I or Class II in the USDA NRCS land use capability classification, provided that irrigation is feasible; land that qualifies for rating 80 through 100 on the Storie Index; land that supports livestock used for the production of food and fiber with an annual carrying capacity equivalent to at least one animal unit per acre; 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 on an annual basis from the production of unprocessed agricultural plant production not less than four hundred dollars ($400) per acre; and land that has returned from the production of unprocessed agricultural plant products an annual gross value of not less than four hundred ($400) per acre for three of the previous five calendar years.

None of the on-site soils are designated Class I or II soils, although a portion of the soils have a Storie Index rating of 80 to 100 (Grade 1 – Excellent) (see Table 4.2-3 and Table 4.2-4). However, because the project site/BRPA site would meet the minimum agricultural value ($400), the entire site would be considered Prime Farmland by Yolo LAFCo. Because the City of Davis agricultural mitigation regulations require affected on-site agricultural land to be mitigated at a 2:1 ratio with comparable soil quality taken into consideration, compliance with the City's agricultural mitigation requirement through Mitigation Measure 4.2-1 would satisfy Yolo County's and Yolo LAFCo's requirements.

Biological Resources Preservation Alternative

Because the BRPA site is in agricultural use, as defined by the Davis Municipal Code, agricultural mitigation would be required. As discussed above, development of the BRPA would impact a total of 317.6 acres of preserved agricultural land (excluding the acreage associated with the UATA and the Natural Habitat Area). Because the BRPA would include preservation of the 47.1-acre Natural Habitat Area, development of the

BRPA would reduce the amount of existing agricultural use converted to urban uses relative to the amount of converted acreage associated with the Proposed Project.

As discussed above, the City's agricultural mitigation requirement would satisfy the agricultural land mitigation ratio requirement established by Yolo County and Yolo LAFCo. Because the City of Davis agricultural mitigation regulations require affected on-site agricultural land to be mitigated at a 2:1 ratio with comparable soil quality taken into consideration, compliance with the City's agricultural mitigation requirement through Mitigation Measure 4.2-1 would satisfy Yolo County's and Yolo LAFCo's requirements.

Conclusion

Based on the above, the Proposed Project and the BRPA would convert Prime Farmland, Unique Farmland, and Farmland of Statewide Importance, to non-agricultural uses. Thus, a ***significant*** impact would occur.

Mitigation Measure(s)

While the following mitigation measure would preserve Farmland acreage elsewhere, that preservation would not create new Farmland. As such, the Proposed Project and the BRPA would both lead to an overall loss of Farmland, with the BRPA resulting in 18 acres less conversion of Farmland to non-agricultural uses than the Proposed Project. Therefore, although implementation of the following mitigation measure would reduce the above significant impact, the impact would remain *significant and unavoidable.*

Proposed Project, Biological Resources Preservation Alternative

4.2-1 *Prior to initiation of grading activities for each phase of development, the project applicant shall set aside in perpetuity, active agricultural acreage in an amount consistent with the applicable agricultural mitigation requirements of the appropriate jurisdiction.*

The agricultural land shall be located elsewhere in unincorporated Yolo County, through the purchase of development rights and execution of an irreversible conservation or agricultural easement, consistent with Section 40A.03.025 of the Davis Municipal Code. The location and amount of active agricultural acreage shall be subject to review and approval by the City of Davis Community Development Department. The amount of agricultural acreage set aside shall account for farmland lost due to the conversion of the project site. Pursuant to Davis Municipal Code Section 40A.03.040, the agricultural mitigation land shall be comparable in soil quality with the agricultural land being changed to nonagricultural use. The easement land must conform with the policies and requirements of Yolo Local Agency Formation Commission (LAFCo), including a LESA score that is a maximum of 10 percent below that of the project site. The easement instrument used to satisfy this measure shall conform to the conservation easement template of the Yolo Habitat Conservancy or to another conservation easement template acceptable to the City of Davis.

4.2-2 Conflict with existing zoning for agricultural use, or a Williamson Act contract. Based on the analysis below, the impact is *less than significant*.

The following discussion includes an analysis of potential impacts related to conflicts with existing zoning or Williamson Act contracts associated with the development of the Proposed Project, as well as the BRPA. Because the components of the Proposed Project and the BRPA would be developed within the same overall site boundaries, the following evaluation applies to both the Proposed Project and the BRPA.

Proposed Project, Biological Resources Preservation Alternative

The project site/BRPA site is not subject to any Williamson Act contracts. With respect to existing zoning, the site is currently zoned Specific Plan (S-P) and Agricultural Intensive (A-N) by Yolo County (see Figure 3-5 of this EIR). However, consistent with the CKH Act, Pre-zoning would be applied to the project site/BRPA site as part of annexation into the City of Davis (see Government Code Section 56375). The project site/BRPA site would be pre-zoned to the City's Planned Development (P-D) zone. As part of approval of the Pre-zoning to P-D, the Proposed Project and BRPA would be required to adhere to the development standards set forth by the Preliminary P-D (PPD) and included in the Development Agreement, which would be subject to City approval.

Approval of the Proposed Project or BRPA is a discretionary action of the Davis City Council. Should the City Council deny the Proposed Project or BRPA, the existing conditions on-site would remain and a conflict with the existing zoning for agricultural use on APN 042-110-029 would not occur. Should the City Council approve the Proposed Project or BRPA, the requested Pre-zoning to P-D would be approved concurrently and a conflict with existing zoning for agricultural use would not occur. Potential impacts to farmland are addressed in Impact 4.2-1 above.

Based on the above, neither the Proposed Project, nor the BRPA would conflict with existing zoning for agricultural use or a Williamson Act contract, and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

4.2-3 Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use. Based on the analysis below, the impact is *less than significant.*

The following discussions include an analysis of other potential impacts related to the conversion of Farmland to non-agricultural uses associated with the development of the Proposed Project and the BRPA, including those related to the City's Right-to-Farm Ordinance and agricultural buffer requirements.

City of Davis Agricultural Buffer Requirements

The following discussion includes an analysis of potential impacts related to inconsistency with the City's Right-to-Farm Ordinance associated with the Proposed Project and the BRPA. Because the Proposed Project and the BRPA would both include components with potential to affect adjacent existing agricultural operations, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

Agricultural operations exist within the project vicinity, specifically to the north of the project site/BRPA site. The Proposed Project and the BRPA would include a 118.4-acre buffer between the agricultural land to the north and the areas developed as part of the Proposed Project or BRPA through inclusion of the UATA in the northernmost portion of the site. Davis Municipal Code Section 40A.01.050 requires a minimum 150-foot-wide agricultural buffer, comprised of a 50-foot-wide agricultural transition area and a contiguous 100-foot-wide buffer. The proposed UATA would feature a width of 2,150 feet and would not include any uses prohibited by Davis Municipal Code Article 40A.01. Thus, inclusion of the UATA would satisfy the agricultural buffer requirements established by the Davis Municipal Code for existing agricultural operations to the north of the project site/BRPA site.

Because existing agricultural operations to the north, as well as those that occur to the northwest of the project site/BRPA site, would continue in perpetuity, pesticides could be sprayed in the near project vicinity. The Yolo County Agricultural Commissioner has established conditions covering the use of restricted materials, the purposes of which are to minimize undue hazards and risks associated with the application and handling of restricted materials.[9] Condition #1 addresses the use of restricted materials in the proximity of environmentally sensitive areas. Examples given for environmentally sensitive areas include residential areas (cities, towns, rural neighborhoods), schools, playgrounds, bus stops (when in use), parks, hospitals, shopping centers, occupied labor camps, organic crops, estuaries, reservoirs, lakes, waterways, livestock, state wildlife management areas, and critical habitats of rare, endangered or threatened species.

According to Condition #1, restricted pesticides shall not be applied in close proximity to environmentally sensitive areas unless the minimum distance between the closest operating nozzle and the sensitive area is maintained. Under the most conservative of conditions, which assumes application of pesticides through use of aircraft, a minimum distance between application area and environmentally sensitive areas is 500 feet. Because residential development is not proposed within the UATA, which creates a buffer of approximately 2,150 feet between the proposed residences and the northerly agricultural uses, the Proposed Project and the BRPA would not disrupt the ability of the existing agricultural operations to continue as they currently operate. In addition, the nearest boundary of the proposed North Village to the existing agricultural land to the northwest of the project site/BRPA site is separated by approximately 574 feet. Thus, the Proposed Project and the BRPA would be consistent with the minimum distances between pesticide application and environmentally sensitive areas established by the Yolo County Agricultural Commissioner.

[9] Yolo County, Yolo County Agricultural Commissioner. *Conditions Covering the Use of Restricted Materials*. January 1, 2014.

Conclusion

Based on the above, the Proposed Project and the BRPA would each satisfy the agricultural buffer requirements established by the Davis Municipal Code and be consistent with the minimum distances between pesticide application and environmentally sensitive areas established by the Yolo County Agricultural Commissioner. Thus, the Proposed Project and the BRPA would not involve changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural uses, and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

Cumulative Impacts and Mitigation Measures

As defined in Section 15355 of the CEQA Guidelines, "cumulative impacts" refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Additional detail regarding the cumulative setting is included in Chapter 6, Statutorily Required Sections, of this EIR.

4.2-4 Involve changes in the existing environment which, due to their location or nature, could cumulatively result in loss of Farmland to non-agricultural use. Based on the analysis below, even with implementation of mitigation, the contribution of the Proposed Project and Biological Resources Preservation Alternative to the significant impact would be *cumulatively considerable* and *significant and unavoidable*.

The following discussion includes an analysis of potential impacts related to cumulative changes which could convert farmland to non-agricultural uses associated with the development of the Proposed Project, as well as the BRPA. Because the components of the Proposed Project and the BRPA would be developed within the same overall site boundaries, the following evaluation applies to both the Proposed Project and the BRPA.

Proposed Project, Biological Resources Preservation Alternative

The geographic scope for the cumulative agricultural resources analysis includes development of the Proposed Project or BRPA in conjunction with buildout of the City's General Plan, as well as a list of present and probable future projects. With respect to buildout of the City's planning area, as discussed under Impact LU-3 in the City's General Plan EIR, the City's requirement that converted agricultural land be mitigated with preservation of existing agricultural land of comparable quality would reduce the severity of effects on existing Farmland. Nonetheless, the General Plan EIR concludes that the impact from converting existing Farmland to urban uses would remain significant and unavoidable.

The following present and probable future projects are located in the project vicinity: Bretton Woods Subdivision, Bretton Woods Activity and Wellness Center, and Bretton Woods Affordable Senior Apartments; Palomino Place; Shriner's Property; and the Davis Innovation and Sustainability Campus (DiSC) 2022. Of the foregoing projects, Shriner's Property and DiSC 2022 would result in the conversion of Farmland, as defined by CEQA, to non-agricultural uses. In addition, the Bretton Woods developments did result in conversion of Farmland of Local Importance to non-agricultural uses. The Bretton Woods developments are currently under construction. Overall, a portion of the foregoing projects would further contribute to the cumulative loss of existing Farmland in and adjacent to the City of Davis.

With respect to the Proposed Project and the BRPA, as discussed under Impact 4.2-1 above, the project site/BRPA site contains Prime Farmland, Unique Farmland, and Farmland of Statewide Importance. Therefore, because both the Proposed Project and the BRPA are located on the same site, both developments would convert the aforementioned Farmland types to non-agricultural uses, with the BRPA, due to its inclusion of a 47.1-acre Natural Habitat Area, resulting in less conversion of existing Farmland than the Proposed Project. Although the Proposed Project and the BRPA would be subject to mitigation measures for the loss of Farmland, each potential development scenario would still lead to an overall loss of Farmland. It should be noted that the present and probable future projects within the City of Davis would also be subject to agricultural land mitigation requirements established by the appropriate jurisdiction.

Based on the above, development facilitated by buildout of the City's General Plan in conjunction with the Proposed Project or the BRPA, as well as other present and/or probable future projects, would result in a significant impact related to the conversion of Farmland to non-agricultural uses. Thus, the contribution of the Proposed Project or BRPA to the significant cumulative impact would be ***cumulatively considerable***.

Mitigation Measure(s)

Implementation of the following mitigation measure would help reduce the incremental contribution towards the cumulative impact related to conversion of important farmland identified above. However, the impact would remain *cumulatively considerable* and *significant and unavoidable* due to the permanent loss of agricultural land attributable to the Proposed Project or the BRPA.

Proposed Project, Biological Resources Preservation Alternative

4.2-4 Implement Mitigation Measure 4.2-1.

4.3. Air Quality, Greenhouse Gas Emissions, and Energy

4.3 AIR QUALITY, GREENHOUSE GAS EMISSIONS, AND ENERGY

4.3.1 INTRODUCTION

The Air Quality, Greenhouse Gas Emissions, and Energy chapter of the EIR describes the potential impacts of the Proposed Project/Biological Resources Preservation Alternative (BRPA) on local and regional air quality emissions, potential impacts related to greenhouse gas (GHG) emissions and climate change, and potential impacts related to energy. The chapter includes a discussion of the existing air quality, GHG, and energy setting, the existing regulatory setting, as well as potential local and regional air quality, GHG, and energy impacts resulting from construction and operation of the project/BRPA. In addition, the chapter includes mitigation measures warranted to reduce or eliminate any identified significant impacts. The chapter is primarily based on information and guidance within the Yolo-Solano Air Quality Management District (YSAQMD) Handbook for Assessing and Mitigating Air Quality Impacts,[1] as well as the City of Davis General Plan[2] and associated City of Davis General Plan EIR,[3] the City of Davis Climate Action and Adaptation Plan (CAAP),[4] and a technical analysis performed by Raney Planning and Management, Inc. (see Appendix C).

4.3.2 EXISTING ENVIRONMENTAL SETTING

The following information provides an overview of the existing environmental setting in relation to air quality within the Proposed Project area/ BRPA area. Air basin characteristics, ambient air quality standards (AAQS), attainment status and regional air quality plans, local air quality monitoring, odors, and sensitive receptors are discussed. In addition to the information pertaining to air quality, information related to climate change and GHGs, as well as energy, is provided.

Air Basin Characteristics

The City of Davis is located in Yolo County, within the Yolo-Solano portion of the Sacramento Valley Air Basin (SVAB), which is under the jurisdiction of the YSAQMD. Air quality in the SVAB is largely the result of the following factors: emissions, geography, and meteorology (wind, atmospheric stability, and sunlight). The Sacramento Valley is often described as a bowl-shaped valley, with the SVAB being bounded by the North Coast Ranges on the west, the northern Sierra Nevada Mountains on the east, and the intervening terrain being flat.

The Sacramento Valley has a Mediterranean climate, characterized by hot, dry summers and mild, rainy winters. During the year, the temperature may range from 20 to 115 degrees Fahrenheit, with summer highs usually in the 90-degree Fahrenheit range and winter lows occasionally below freezing. Average annual rainfall is approximately 20 inches, with snowfall

1 Yolo-Solano Air Quality Management District. *Handbook for Assessing and Mitigating Air Quality Impacts*. July 11, 2007.
2 City of Davis. *Davis General Plan*. Adopted May 2001, Amended January 2007.
3 City of Davis. *Final Program EIR for the City of Davis General Plan Update and Final Project EIR for Establishment of a New Junior High School*. Certified May 2001.
4 City of Davis. *Climate Action and Adaptation Plan*. April 18, 2023.

being very rare. The winds in the area are moderate in strength and vary from moist, clean breezes from the south to dry land flows from the north.[5]

The mountains surrounding the Sacramento Valley create a barrier to airflow, which can trap air pollutants in the valley when meteorological conditions are right and a temperature inversion exists. The highest frequency of air stagnation occurs in the autumn and early winter when large high-pressure cells lie over the valley. The lack of surface wind during autumn and early winter and the reduced vertical flow caused by less surface heating reduces the influx of outside air and allows air pollutants to become concentrated in the air. The surface concentrations of pollutants are highest when these conditions are combined with smoke from agricultural burning, which is regulated through YSAQMD permits, or when temperature inversions trap cool air, fog, and pollutants near the ground.

The ozone season (May through October) in the Sacramento Valley is characterized by stagnant morning air or light winds, with the Delta sea breeze arriving in the afternoon out of the southwest. Usually the evening breeze transports the airborne pollutants to the north out of the Sacramento Valley. However, during approximately half of the days from July to September, a phenomenon called the "Schultz Eddy" prevents the transport from occurring. Instead of allowing for the prevailing wind patterns to move north, carrying the pollutants out of the valley, the Schultz Eddy causes the wind pattern and pollutants to circle back southward. The Schultz Eddy effect exacerbates the pollution levels in the area and increases the likelihood of violating the federal and State air quality standards.

Ambient Air Quality Standards

Both the U.S. Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) have established AAQS for common pollutants. The federal standards are divided into primary standards, which are designed to protect the public health, and secondary standards, which are designed to protect the public welfare. The AAQS for each contaminant represent safe levels that avoid specific adverse health effects. Pollutants for which AAQS have been established are called "criteria" pollutants. Table 4.3-1 identifies the major pollutants, characteristics, health effects and typical sources. The national and California AAQS (NAAQS and CAAQS, respectively) are summarized in Table 4.3-2. The NAAQS and CAAQS were developed independently with differing purposes and methods. As a result, the national and State standards differ in some cases. In general, the State of California standards are more stringent than the federal standards, particularly for ozone and particulate matter (PM).

A description of each criteria pollutant and its potential health effects is provided in the following section.

Ozone

Ozone is a reactive gas consisting of three oxygen atoms. In the troposphere, ozone is a product of the photochemical process involving the sun's energy, and is a secondary pollutant formed as a result of a complex chemical reaction between reactive organic gases (ROG) and oxides of nitrogen (NO_X) emissions in the presence of sunlight. As such, unlike other pollutants, ozone is not released directly into the atmosphere from any sources. In the stratosphere, ozone exists naturally and shields Earth from harmful incoming ultraviolet radiation.

[5] Yolo-Solano Air Quality Management District. *Handbook for Assessing and Mitigating Air Quality Impacts*. July 11, 2007.

Table 4.3-1
Summary of Criteria Pollutants

Pollutant	Characteristics	Health Effects	Major Sources
Ozone	A highly reactive gas produced by the photochemical process involving a chemical reaction between the sun's energy and other pollutant emissions. Often called photochemical smog.	• Eye irritation • Wheezing, chest pain, dry throat, headache, or nausea • Aggravated respiratory disease such as emphysema, bronchitis, and asthma	Combustion sources such as factories, automobiles, and evaporation of solvents and fuels.
Carbon Monoxide	An odorless, colorless, highly toxic gas that is formed by the incomplete combustion of fuels.	• Impairment of oxygen transport in the bloodstream • Impaired vision, reduced alertness, chest pain, and headaches • Can be fatal in the case of very high concentrations	Automobile exhaust, combustion of fuels, and combustion of wood in woodstoves and fireplaces.
Nitrogen Dioxide	A reddish-brown gas that discolors the air and is formed during combustion of fossil fuels under high temperature and pressure.	• Lung irrigation and damage • Increased risk of acute and chronic respiratory disease	Automobile and diesel truck exhaust, industrial processes, and fossil-fueled power plants.
Sulfur Dioxide	A colorless, irritating gas with a rotten egg odor formed by combustion of sulfur-containing fossil fuels.	• Aggravation of chronic obstruction lung disease • Increased risk of acute and chronic respiratory disease	Diesel vehicle exhaust, oil-powered power plants, and industrial processes.
Particulate Matter (PM_{10} and $PM_{2.5}$)	A complex mixture of extremely small particles and liquid droplets that can easily pass through the throat and nose and enter the lungs.	• Aggravation of chronic respiratory disease • Heart and lung disease • Coughing • Bronchitis • Chronic respiratory disease in children • Irregular heartbeat • Nonfatal heart attacks	Combustion sources such as automobiles, power generation, industrial processes, and wood burning. Also from unpaved roads, farming activities, and fugitive windblown dust.
Lead	A metal found naturally in the environment as well as in manufactured products.	• Loss of appetite, weakness, apathy, and miscarriage • Lesions of the neuromuscular system, circulatory system, brain, and gastrointestinal tract	Industrial sources and combustion of leaded aviation gasoline.

Sources:

- ***CARB. California Ambient Air Quality Standards (CAAQS). Available at: https://ww2.arb.ca.gov/resources/california-ambient-air-quality-standards. Accessed March 2024.***
- ***Sacramento Metropolitan, El Dorado, Feather River, Placer, and Yolo-Solano Air Districts, Spare the Air website. Air Quality Information for the Sacramento Region. Available at: sparetheair.com. Accessed March 2024.***
- ***CARB. Glossary of Air Pollution Terms. Available at: https://ww2.arb.ca.gov/glossary. Accessed March 2024.***

Table 4.3-2
Ambient Air Quality Standards

Pollutant	Averaging Time	CAAQS	NAAQS	
			Primary	Secondary
Ozone	1 Hour	0.09 ppm	-	Same as primary
	8 Hour	0.070 ppm	0.070 ppm	
Carbon Monoxide	8 Hour	9 ppm	9 ppm	-
	1 Hour	20 ppm	35 ppm	
Nitrogen Dioxide	Annual Mean	0.030 ppm	53 ppb	Same as primary
	1 Hour	0.18 ppm	100 ppb	-
Sulfur Dioxide	24 Hour	0.04 ppm	-	-
	3 Hour	-	-	0.5 ppm
	1 Hour	0.25 ppm	75 ppb	-
Respirable Particulate Matter (PM_{10})	Annual Mean	20 ug/m^3	-	Same as primary
	24 Hour	50 ug/m^3	150 ug/m^3	
Fine Particulate Matter ($PM_{2.5}$)	Annual Mean	12 ug/m^3	9 ug/m^3	15 ug/m^3
	24 Hour	-	35 ug/m^3	Same as primary
Lead	30 Day Average	1.5 ug/m^3	-	-
	Calendar Quarter	-	1.5 ug/m^3	Same as primary
Sulfates	24 Hour	25 ug/m^3	-	-
Hydrogen Sulfide	1 Hour	0.03 ppm	-	-
Vinyl Chloride	24 Hour	0.010 ppm	-	-
Visibility Reducing Particles	8 Hour	see note below	-	-

ppm = parts per million
ppb = parts per billion
µg/m^3 = micrograms per cubic meter

Note: Statewide Visibility Reducing Particle Standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

Source: CARB. Ambient Air Quality Standards. July 16, 2024. Available at: https://ww2.arb.ca.gov/sites/default/files/2024-08/AAQS%20Table_ADA_FINAL_07222024.pdf. Accessed November 2024.

The primary source of ozone precursors is mobile sources, including cars, trucks, buses, construction equipment, and agricultural equipment.

Ground-level ozone reaches the highest level during the afternoon and early evening hours. High levels occur most often during the summer months. Ground-level ozone is a strong irritant that could cause constriction of the airways, forcing the respiratory system to work harder in order to provide oxygen. Ozone at the Earth's surface causes numerous adverse health effects and is a major component of smog. High concentrations of ground level ozone can adversely affect the human respiratory system and aggravate cardiovascular disease and many respiratory ailments.

Reactive Organic Gas

ROG refers to several reactive chemical gases composed of hydrocarbon compounds typically found in paints and solvents that contribute to the formation of smog and ozone by involvement

in atmospheric chemical reactions. A separate health standard does not exist for ROG. However, some compounds that make up ROG are toxic, such as the carcinogen benzene.

Oxides of Nitrogen

NO_X are a family of gaseous nitrogen compounds and are precursors to the formation of ozone and particulate matter. The major component of NO_X, nitrogen dioxide (NO_2), is a reddish-brown gas that discolors the air and is toxic at high concentrations. NO_X results primarily from the combustion of fossil fuels under high temperature and pressure. On-road and off-road motor vehicles and fuel combustion are the major sources of NO_X. NO_X reacts with ROG to form smog, which could result in adverse impacts to human health, damage the environment, and cause poor visibility. Additionally, NO_X emissions are a major component of acid rain. Health effects related to NO_X include lung irritation and lung damage and can cause increased risk of acute and chronic respiratory disease.

Nitrogen Dioxide

A particular oxide of nitrogen that is of concern to human health is NO_2. NO_2 is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NO), which is a colorless, odorless gas.

A large body of health science literature indicates that exposure to NO_2 can induce adverse health effects. The strongest health evidence, and the health basis for the AAQS for NO_2, results from controlled human exposure studies that show that NO_2 exposure can intensify responses to allergens in allergic asthmatics. In addition, several epidemiological studies have demonstrated associations between NO_2 exposure and premature death, cardiopulmonary effects, decreased lung function growth in children, respiratory symptoms, emergency room visits for asthma, and intensified allergic responses. Infants and children are particularly at risk because they have disproportionately higher exposure to NO_2 than adults due to their greater breathing rate for their body weight and their typically greater outdoor exposure duration. Several studies have shown that long-term NO_2 exposure during childhood, the period of rapid lung growth, can lead to smaller lungs at maturity in children with higher compared to lower levels of exposure. In addition, children with asthma have a greater degree of airway responsiveness compared with adult asthmatics. In adults, the greatest risk is to people who have chronic respiratory diseases, such as asthma and chronic obstructive pulmonary disease.

Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless, poisonous gas produced by incomplete burning of carbon-based fuels such as gasoline, oil, and wood. When CO enters the body, the CO combines with chemicals in the body, which prevents blood from carrying oxygen to cells, tissues, and organs. Symptoms of exposure to CO can include problems with vision, reduced alertness, and general reduction in mental and physical functions. Exposure to CO can result in chest pain, headaches, reduced mental alertness, and death at high concentrations.

Sulfur Dioxide

Sulfur dioxide (SO_2) is a colorless, irritating gas with a rotten egg odor formed primarily by the combustion of sulfur-containing fossil fuels from mobile sources, such as locomotives, ships, and off-road diesel equipment. SO_2 is also emitted from several industrial processes, such as petroleum refining and metal processing. Similar to airborne NO_X, suspended sulfur oxide particles contribute to poor visibility. The sulfur oxide particles are also a component of PM_{10}.

Particulate Matter

Particulate matter, also known as particle pollution or PM, is a complex mixture of extremely small particles and liquid droplets. Particle pollution is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. The size of particles is directly linked to their potential for causing health impacts. The USEPA is concerned about particles that are 10 micrometers in diameter or smaller (PM_{10}) because those are the particles that generally pass through the throat and nose and enter the lungs. Once inhaled, the particles could affect the heart and lungs and cause serious health effects. USEPA groups particle pollution into three categories based on their size and where they are deposited:

- "Inhalable coarse particles ($PM_{2.5-10}$)," which are found near roadways and dusty industries, are between 2.5 and 10 micrometers in diameter. $PM_{2.5-10}$ is deposited in the thoracic region of the lungs.
- "Fine particles ($PM_{2.5}$)," which are found in smoke and haze, are 2.5 micrometers in diameter and smaller. $PM_{2.5}$ particles could be directly emitted from sources such as forest fires, or could form when gases emitted from power plants, industries, and automobiles react in the air. They penetrate deeply into the thoracic and alveolar regions of the lungs.
- "Ultrafine particles (UFP)," are very, very small particles (less than 0.1 micrometers in diameter) largely resulting from the combustion of fossil fuels, meat, wood, and other hydrocarbons. While UFP mass is a small portion of $PM_{2.5}$, their high surface area, deep lung penetration, and transfer into the bloodstream could result in disproportionate health impacts relative to their mass. UFP is not currently regulated separately, but is analyzed as part of $PM_{2.5}$.

PM_{10}, $PM_{2.5}$, and UFP include primary pollutants, which are emitted directly to the atmosphere and secondary pollutants, which are formed in the atmosphere by chemical reactions among precursors. Generally speaking, $PM_{2.5}$ and UFP are emitted by combustion sources like vehicles, power generation, industrial processes, and wood burning, while PM_{10} sources include the same sources plus roads and farming activities. Fugitive windblown dust and other area sources also represent a source of airborne dust. Long-term PM pollution, especially fine particles, could result in significant health problems including, but not limited to, the following: increased respiratory symptoms, such as irritation of the airways, coughing or difficulty breathing; decreased lung function; aggravated asthma; development of chronic respiratory disease in children; development of chronic bronchitis or obstructive lung disease; irregular heartbeat; heart attacks; and increased blood pressure.

Lead

Lead is a relatively soft and chemically resistant metal that is a natural constituent of air, water, and the biosphere. Lead forms compounds with both organic and inorganic substances. As an air pollutant, lead is present in small particles. Sources of lead emissions in California include a variety of industrial activities. Gasoline-powered automobile engines were a major source of airborne lead through the use of leaded fuels. The use of leaded fuel has been mostly phased out, with the result that ambient concentrations of lead have dropped dramatically. However, because lead was emitted in large amounts from vehicles when leaded gasoline was used, lead is present in many soils (especially urban soils) as a result of airborne dispersion and could become re-suspended into the air.

Because lead is slowly excreted by the human body, exposures to small amounts of lead from a variety of sources could accumulate to harmful levels. Effects from inhalation of lead above the

level of the AAQS may include impaired blood formation and nerve conduction. Lead can adversely affect the nervous, reproductive, digestive, immune, and blood-forming systems. Symptoms could include fatigue, anxiety, short-term memory loss, depression, weakness in the extremities, and learning disabilities in children. Lead also causes cancer.

Sulfates

Sulfates are the fully oxidized ionic form of sulfur and are colorless gases. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. The sulfur is oxidized to SO_2 during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO_2 to sulfates takes place comparatively rapidly and completely in urban areas of California due to regional meteorological features.

The sulfates standard established by CARB is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in ventilatory function, aggravation of asthmatic symptoms, and an increased risk of cardio-pulmonary disease. Sulfates are particularly effective in degrading visibility, and, because they are usually acidic, can harm ecosystems and damage materials and property.

Hydrogen Sulfide

Hydrogen sulfide (H_2S) is associated with geothermal activity, oil and gas production, refining, sewage treatment plants, and confined animal feeding operations. Hydrogen sulfide is extremely hazardous in high concentrations, especially in enclosed spaces (800 ppm can cause death).

Vinyl Chloride

Vinyl chloride (C_2H_3Cl, also known as VCM) is a colorless gas that does not occur naturally, but is formed when other substances such as trichloroethane, trichloroethylene, and tetrachloro-ethylene are broken down. Vinyl chloride is used to make polyvinyl chloride (PVC) which is used to make a variety of plastic products, including pipes, wire and cable coatings, and packaging materials.

Visibility Reducing Particles

Visibility reducing particles are a mixture of suspended particulate matter consisting of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. The standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

Toxic Air Contaminants

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are also a category of environmental concern. TACs are present in many types of emissions with varying degrees of toxicity. Public exposure to TACs can result from emissions from normal operations, as well as accidental releases. Common stationary sources of TACs include gasoline stations, dry cleaners, and diesel backup generators, which are subject to YSAQMD stationary source permit requirements. The other, often more significant, common source type is on-road motor vehicles, such as cars and trucks, on freeways and roads, and off-road sources such as construction equipment, ships, and trains.

Fossil fueled combustion engines, including those used in cars, trucks, and some pieces of construction equipment, release at least 40 different TACs. In terms of health risks, the most volatile contaminants are diesel particulate matter (DPM), benzene, formaldehyde, 1,3-butadiene, toluene, xylenes, and acetaldehyde. Gasoline vapors contain several TACs, including benzene, toluene, and xylenes. Diesel engines emit a complex mixture of air pollutants, including both gaseous and solid material. The solid material in diesel exhaust, DPM, is composed of carbon particles and numerous organic compounds, including over 40 known cancer-causing organic substances. Examples of such chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene. Diesel exhaust also contains gaseous pollutants, including ROG and NO_X. Due to the published evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health effects, the CARB has identified DPM from diesel-fueled engines as a TAC. Although a variety of TACs are emitted by fossil fueled combustion engines, the cancer risk due to DPM exposure represents a more significant risk than the other TACs discussed above.[6]

More than 90 percent of DPM is less than one micrometer in diameter, and, thus, DPM is a subset of $PM_{2.5}$. As a California statewide average, DPM comprises about eight percent of $PM_{2.5}$ in outdoor air, although DPM levels vary regionally due to the non-uniform distribution of sources throughout the State. Most major sources of diesel emissions, such as ships, trains, and trucks, operate in and around ports, rail yards, and heavily-traveled roadways. Such areas are often located near highly populated areas. Thus, elevated DPM levels are mainly an urban problem, with large numbers of people exposed to higher DPM concentrations, resulting in greater health consequences compared to rural areas.

Due to the high levels of diesel activity, high volume freeways, stationary diesel engines, rail yards and facilities attracting heavy and constant diesel vehicle traffic are identified as having the highest associated health risks from DPM. Construction-related activities also have the potential to generate concentrations of DPM from on-road haul trucks and off-road equipment exhaust emissions.

The size of diesel particulates that are of the greatest health concern are fine particles (i.e., $PM_{2.5}$) and UFPs. The small diameter of UFPs imparts the particulates with unique attributes, such as high surface areas and the ability to penetrate deeply into lungs. Once UFPs have been deposited in lungs, the small diameter allows the UFPs to be transferred to the bloodstream. The high surface area of the UFPs also allows for a greater adsorption of other chemicals, which are transported along with the UFPs into the bloodstream of the inhaler, where the chemicals can eventually reach critical organs.[7] The penetration capability of UFPs may contribute to adverse health effects related to heart, lung, and other organ health.[8] UFPs are a subset of DPM and activities that create large amounts of DPM, such as the operations involving heavy diesel-powered engines, also release UFPs. Considering that UFPs are a subset of DPM, and DPM represents a subset of $PM_{2.5}$, estimations of either concentrations or emissions of $PM_{2.5}$ or DPM include UFPs.

Health risks from TACs are a function of both the concentration of emissions and the duration of exposure, which typically are associated with long-term exposure and the associated risk of contracting cancer. Health effects of exposure to TACs other than cancer can include birth

6 California Air Resources Board. *Reducing Toxic Air Pollutants in California's Communities*. February 6, 2002.
7 Health Effects Institute. *Understanding the Health Effects of Ambient Ultrafine Particles*. January 2013.
8 South Coast Air Quality Management District. *Final 2012 Air Quality Management Plan*. December 2012.

defects, neurological damage, and death. Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, State, and federal level. The identification, regulation, and monitoring of TACs is relatively new compared to criteria air pollutants that have established AAQS. TACs are regulated or evaluated on the basis of risk to human health rather than comparison to an AAQS or emission-based threshold.

Naturally Occurring Asbestos

Another concern related to air quality is naturally occurring asbestos (NOA). Asbestos is a term used for several types of naturally-occurring fibrous minerals found in many parts of California. The most common type of asbestos is chrysotile, but other types are also found in California. When rock containing asbestos is broken or crushed, asbestos fibers may be released and become airborne. Exposure to asbestos fibers may result in health issues such as lung cancer, mesothelioma (a rare cancer of the thin membranes lining the lungs, chest and abdominal cavity), and asbestosis (a non-cancerous lung disease which causes scarring of the lungs). Because asbestos is a known carcinogen, NOA is considered a TAC. Sources of asbestos emissions include: unpaved roads or driveways surfaced with ultramafic rock; construction activities in ultramafic rock deposits; or rock quarrying activities where ultramafic rock is present.

According to mapping prepared by the California Geological Survey, Yolo County is not in an area likely to contain NOA.[9] Therefore, NOA is not expected to be present at the project site/BRPA site.

Attainment Status and Regional Air Quality Plans

The Federal Clean Air Act (FCAA) and the California Clean Air Act (CCAA) require all areas of California to be classified as attainment, nonattainment, or unclassified as to their status with regard to the NAAQS and/or CAAQS. Areas not meeting the NAAQS presented in Table 4.3-2, above, are designated by the USEPA as nonattainment. Further classifications of nonattainment areas are based on the severity of the nonattainment problem, with marginal, moderate, serious, severe, and extreme nonattainment classifications for ozone. Nonattainment classifications for PM range from marginal to serious. Because of the differences between the national and State standards, the designation of nonattainment areas is different under the federal and State legislation. The FCAA requires areas violating the NAAQS to prepare an air quality control plan referred to as the State Implementation Plan (SIP). The SIP contains the strategies and control measures for states to use to attain the NAAQS. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, rules, and regulations of air basins as reported by the agencies with jurisdiction over them. The USEPA reviews SIPs to determine if they conform to the mandates of the FCAA amendments and would achieve air quality goals when implemented.

The CARB is the agency responsible for coordination and oversight of State and local air pollution control programs in California and for implementing the CCAA. The CCAA classifies ozone nonattainment areas as moderate, serious, severe, and extreme based on severity of violations of CAAQS. The CCAA requires local air pollution control districts with air quality that is in violation of CAAQS to prepare air quality attainment plans that demonstrate district-wide emission reductions of five percent per year averaged over consecutive three-year periods, unless an approved alternative measure of progress is developed.

[9] California Department of Conservation, Division of Mines and Geology. *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos*. August 2000.

Table 4.3-3 below presents the current attainment status of the jurisdictional area of the YSAQMD, including Yolo County. As shown in the table, Yolo County is in an area designated as attainment for all State and federal AAQS, with the exception of ozone, PM_{10}, and $PM_{2.5}$. At the federal level, the area is designated as severe nonattainment for the 8-hour ozone standard, nonattainment for the 24-hour $PM_{2.5}$ standard, and attainment or unclassified for all other criteria pollutants. At the State level, the area is designated as a nonattainment area for the 1-hour ozone standard, nonattainment for the 8-hour ozone standard, nonattainment for the PM_{10} standards, and attainment or unclassified for all other State standards. Although the 1-hour federal ozone standard has been revoked, on October 18, 2012, the USEPA officially determined that the Sacramento Federal Nonattainment Area (SFNA), which includes Sacramento and Yolo counties, Placer and El Dorado counties (except Lake Tahoe Basin portions), Solano County (eastern portion), and Sutter County (southern portion), attained the revoked 1-hour ozone NAAQS. The determination became effective November 19, 2012.

Table 4.3-3
Attainment Status

Pollutant	Designation/Classification	
	Federal Standards	**State Standards**
Ozone – 1-Hour	Revoked in 2005	**Nonattainment**
Ozone – 8-Hour	**Nonattainment**	**Nonattainment**
Carbon Monoxide	Attainment	Attainment
Nitrogen Dioxide	Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment
PM_{10} – 24-Hour	Unclassified	**Nonattainment**
PM_{10} – Annual	--	**Nonattainment**
$PM_{2.5}$ – 24-Hour	**Nonattainment**	--
$PM_{2.5}$ – Annual	Unclassified	Attainment
Lead	Attainment	Attainment
Sulfates	No Federal Standard	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Visibility Reducing Particles	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	Unclassified

Source: YSAQMD. Attainment Status. Available at: https://www.ysaqmd.org/plans-data/attainment/. Accessed March 2024.

In compliance with the FCAA and CCAA, due to the nonattainment designations, the YSAQMD, along with the other air districts in the SVAB region, is required to develop plans to attain the federal and State standards for ozone and PM. The air quality plans include emissions inventories to measure the sources of air pollutants, to evaluate how well different control measures have worked, and show how air pollution would be reduced. In addition, the plans include the estimated future levels of pollution to ensure that the area would meet air quality goals. Each of the attainment plans currently in effect are discussed in further detail in the Regulatory Context discussion of this chapter.

Local Air Quality Monitoring

Air quality is monitored by CARB at various locations to determine which air quality standards are being violated, and to direct emission reduction efforts, such as developing attainment plans and rules, incentive programs, etc. The nearest local air quality monitoring station to the project site/BRPA site is the Davis-UCD Campus station, located along Campbell Road between Hutchinson Drive and Garrod Road in Davis, approximately 2.75 miles from the project site/BRPA

site. The Davis-UCD Campus station does not have data available for $PM_{2.5}$ or PM_{10}; thus, the nearest station with $PM_{2.5}$ and PM_{10} data was used, which was the Woodland-Gibson Road station located at 41929 Gibson Road in Woodland, approximately seven miles northwest of the project site/BRPA site. Table 4.3-4 presents the number of days that the NAAQS and CAAQS were exceeded for the three-year period from 2021 to 2023.

Table 4.3-4
Air Quality Data Summary (2021-2023)

Pollutant	Standard	Days Standard Was Exceeded		
		2021	2022	2023
1-Hour Ozone	State	0	0	0
	Federal	0	0	0
8-Hour Ozone	State	3	1	0
	Federal	2	1	0
24-Hour $PM_{2.5}$	Federal	0	0	1
24-Hour PM_{10}	State	4	2	2
	Federal	0	0	0
1-Hour Nitrogen Dioxide	State	0	0	0
	Federal	0	0	0

Source: CARB. Aerometric Data Analysis and Management (iADAM) System. Available at http://www.arb.ca.gov/adam/welcome.html. Accessed November 2024.

Odors

While offensive odors rarely cause physical harm, they can be unpleasant, leading to considerable annoyance and distress among the public and can generate citizen complaints to local governments and air districts. Adverse effects of odors on residential areas and other sensitive receptors warrant the closest scrutiny; but consideration is also be given to other land use types where people congregate, such as recreational facilities, worksites, and commercial areas. The potential for an odor impact is dependent on a number of variables including the nature of the odor source, distance between a receptor and an odor source, and local meteorological conditions.

One of the most important factors influencing the potential for an odor impact to occur is the distance between the odor source and receptors, also referred to as a buffer zone or setback. The greater the distance between an odor source and receptor, the less concentrated the odor emission would be when reaching the receptor.

Meteorological conditions also affect the dispersion of odor emissions, which determines the exposure concentration of odiferous compounds at receptors. The predominant wind direction in an area influences which receptors are exposed to the odiferous compounds generated by a nearby source. Receptors located upwind from a large odor source may not be affected due to the produced odiferous compounds being dispersed away from the receptors. Wind speed also influences the degree to which odor emissions are dispersed away from any area.

Odiferous compounds could be generated from a variety of source types including both construction and operational activities. Examples of common land use types that typically generate significant odor impacts include, but are not limited to, wastewater treatment plants, sanitary landfills, composting/green waste facilities, recycling facilities, petroleum refineries, chemical manufacturing plants, painting/coating operations, rendering plants, and food packaging plants. The project site is not located near any of the aforementioned odor-generating uses.

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others, due to the types of population groups or activities involved. Children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the effects of air pollution. Accordingly, land uses that are typically considered to be sensitive receptors include residences, schools, day care centers, playgrounds, and medical facilities. In the vicinity of the project site/BRPA site, sensitive land uses include residential uses to the west, south, and east, with the nearest residences located approximately 150 feet from the project site's/BRPA site's eastern boundary.

Greenhouse Gas Emissions

GHGs are gases that absorb and emit radiation within the thermal infrared range, trapping heat in the Earth's atmosphere. Some GHGs occur naturally and are emitted into the atmosphere through both natural processes and human activities. Other GHGs are created and emitted solely through human activities. The principal GHGs that enter the atmosphere due to human activities are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated carbons. Other common GHGs include water vapor, ozone, and aerosols. The increase in atmospheric concentrations of GHG due to human activities has resulted in more heat being held within the atmosphere, which is the accepted explanation for global climate change.

The primary GHG emitted by human activities is CO_2, with the next largest components being CH_4 and N_2O. A wide variety of human activities result in the emission of CO_2. Some of the largest sources of CO_2 include the burning of fossil fuels for transportation and electricity, industrial processes including fertilizer production, agricultural processing, and cement production. The primary sources of CH_4 emissions include domestic livestock sources, decomposition of wastes in landfills, releases from natural gas systems, coal mine seepage, and manure management. The main human activities producing N_2O are agricultural soil management, fuel combustion in motor vehicles, nitric acid production, manure management, and stationary fuel combustion. Emissions of GHG by economic sector indicate that transportation-related activities account for the majority of U.S. emissions. Transportation is the largest single-source of GHG emissions, and electricity generation is the second largest source, followed by industrial activities. The agricultural, commercial, and residential sectors account for the remainder of GHG emission sources.[10]

Emissions of GHG are partially offset by uptake of carbon and sequestration in trees, agricultural soils, landfilled yard trimmings and food scraps, and absorption of CO_2 by the Earth's oceans. Additional emission reduction measures for GHG could include, but are not limited to, compliance with local, State, or federal plans or strategies for GHG reductions, on-site and off-site mitigation, and project design features. Attainment concentration standards for GHGs have not been established by the federal or State government.

Global Warming Potential

Global warming potential (GWP) is one type of simplified index (based upon radiative properties) that can be used to estimate the potential future impacts of emissions of various gases. According to the USEPA, the GWP of a gas, or aerosol, to trap heat in the atmosphere is the "cumulative radiative forcing effects of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to a reference gas." The reference gas for comparison is CO_2. GWP is based

[10] U.S. Environmental Protection Agency. *Sources of Greenhouse Gas Emissions*. Available at: https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions. Accessed March 2024.

on a number of factors, including the heat-absorbing ability of each gas relative to that of CO_2, as well as the decay rate of each gas relative to that of CO_2. Each gas's GWP is determined by comparing the radiative forcing associated with emissions of that gas versus the radiative forcing associated with emissions of the same mass of CO_2, for which the GWP is set at one. Methane gas, for example, is estimated by the USEPA to have a comparative global warming potential 25 times greater than that of CO_2, as shown in Table 4.3-5.

Table 4.3-5
GWPs and Atmospheric Lifetimes of Select GHGs

Gas	Atmospheric Lifetime (years)	GWP (100-year time horizon)
Carbon Dioxide (CO_2)	See footnote[1]	1
Methane (CH_4)	12	25
Nitrous Oxide (N_2O)	114	298
HFC-23	270	14,800
HFC-134a	14	1,430
HFC-152a	1.4	124
PFC: Tetrafluoromethane (CF_4)	50,000	7,390
PFC: Hexafluoroethane (C_2F_6)	10,000	12,200
Sulfur Hexafluoride (SF_6)	3,200	22,800

[1] For a given amount of CO_2 emitted, some fraction of the atmospheric increase in concentration is quickly absorbed by the oceans and terrestrial vegetation, some fraction of the atmospheric increase will only slowly decrease over a number of years, and a small portion of the increase will remain for many centuries or more.

Source: USEPA. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019 [Table 1-2]. April 14, 2021.

As shown in the table, at the extreme end of the scale, sulfur hexafluoride is estimated to have a comparative GWP 22,800 times that of CO_2. The atmospheric lifetimes of such GHGs are estimated by the USEPA to vary from 50 to 200 years for CO_2, to 50,000 years for CF_4. Longer atmospheric lifetimes allow GHG to buildup in the atmosphere; therefore, longer lifetimes correlate with the GWP of a gas. The common indicator for GHG is expressed in terms of metric tons of CO_2 equivalents ($MTCO_2e$), which is calculated based on the GWP for each pollutant.

Effects of Global Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. The Intergovernmental Panel on Climate Change's (IPCC) Climate Change 2021: The Physical Science Basis report indicated that warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia.[11] Signs that global climate change has occurred include:

- Warming of the atmosphere and ocean;
- Diminished amounts of snow and ice;
- Rising sea levels; and
- Ocean acidification.

[11] Intergovernmental Panel on Climate Change. *Climate Change 2021: The Physical Science Basis Summary for Policymakers*. Available at: https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf. Accessed March 2024.

Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California. The Office of Environmental Health Hazard Assessment (OEHHA) identified various indicators of climate change in California, which are scientifically based measurements that track trends in various aspects of climate change. Many indicators reveal discernable evidence that climate change is occurring in California and is having significant, measurable impacts in the State. Changes in the State's climate have been observed, including:

- An increase in annual average air temperature with record warmth in recent years;
- More frequent extreme heat events;
- More extreme drought;
- A decline in winter chill; and
- An increase in variability of statewide precipitation.

Warming temperatures and changing precipitation patterns have altered California's physical systems—the ocean, lakes, rivers and snowpack—upon which the State depends. Winter snowpack and spring snowmelt runoff from the Sierra Nevada and southern Cascade Mountains provide approximately one-third of the State's annual water supply. Impacts of climate on physical systems have been observed, such as high variability of snow-water content (i.e., amount of water stored in snowpack), decrease in snowmelt runoff, glacier change (loss in area), rise in sea levels, increase in average lake water temperature and coastal ocean temperature, and a decrease in dissolved oxygen in coastal waters. Impacts of climate change on biological systems, including humans, wildlife, and vegetation, have also been observed, including climate change impacts on terrestrial, marine, and freshwater ecosystems. However, it should be noted that the effects of climate change are not fully understood. For example, due to a series of atmospheric rivers that occurred throughout the 2022-2023 winter season, California saw the most snow the State has seen since the record was set in the 1982-1983 winter season. The California Department of Water Resources (DWR) has noted that the snowpack in the Sierra was 205 percent of the average in February 2023,[12] 190 percent of the average for March 2023,[13] 237 percent of the average for April 2023,[14] and 254 percent of the average for May of 2023.[15]

Nonetheless, according to the Climate Change Vulnerability Assessment conducted as part of the City's CAAP, like much of California, the City is already experiencing impacts from extreme heat events, flooding and extreme precipitation, drought and poor air quality caused by wildfire smoke. The Climate Change Vulnerability Assessment identified how such impacts are likely to change through mid-century and end-of-century timeframes. Specifically, projected changes

[12] California Department of Water Resources. *Second Snow Survey Reflects Boost from Atmospheric Rivers.* Available at: https://water.ca.gov/News/News-Releases/2023/Feb-23/Second-Snow-Survey-Reflects-Boost-from-Atmospheric-Rivers. Accessed March 2024.

[13] California Department of Water Resources. *California's Snowpack Shows Huge Gains from Recent Storms.* Available at: https://water.ca.gov/News/News-Releases/2023/March-23/March-2023-Snow-Survey. Accessed March 2024.

[14] California Department of Water Resources. *California's Snowpack is Now One of the Largest Ever, Bringing Drought Relief, Flooding Concerns.* Available at: https://water.ca.gov/News/News-Releases/2023/April-23/Snow-Survey-April-2023. Accessed March 2024.

[15] California Department of Water Resources. *DWR Conducts May 1 Snow Survey to Continue to Collect Data on Spring Runoff.* Available at: https://water.ca.gov/News/News-Releases/2023/May-2023/May-2023-Snow-Survey. Accessed March 2024.

include an increase in the number of extreme heat days, increased wildfire frequency and intensity, more intense precipitation events, and more frequent and/or prolonged droughts.[16]

Energy Use in California

California is one of the highest energy demanding states within the nation. According to the U.S. Department of Energy, the State consumes approximately 303,300 gigawatt-hours (GWh) of electricity per year.[17] Activities such as heating and cooling structures, lighting, the movement of goods, agricultural production, and other facets of daily life consume a variety of energy sources. However, despite California's high rate of energy use, the State has one of the lowest per capita energy consumption levels in the U.S.

In 2022, California was the fourth-largest electricity producer in the nation. Energy within the State is provided primarily to consumers through a mix of sources including natural gas, hydroelectric, non-hydroelectric renewable sources, nuclear, coal, and petroleum. California is the nation's top producer of electricity from solar, geothermal, and biomass energy. Renewable resources, including hydroelectric power and small-scale (less than 1-megawatt [MW]), customer-sited solar photovoltaic (PV) systems, accounted for 49 percent of California's in-state electricity generation; natural gas-fired power plants fueled another 42 percent of the State's energy generation; and nuclear power supplied almost all the rest.

Figure 4.3-1 presents the sources that are used to produce energy in the State. As presented therein, energy is mostly generated from natural gas combustion, followed by non-hydroelectric renewables (such as wind and solar) and hydroelectric.

Figure 4.3-2 presents energy consumption within California for the most recent year for which data is available (2021). As shown in the figure, transportation-related activity consumes the largest single share of energy within the State. The second largest consumer is the industrial sector.

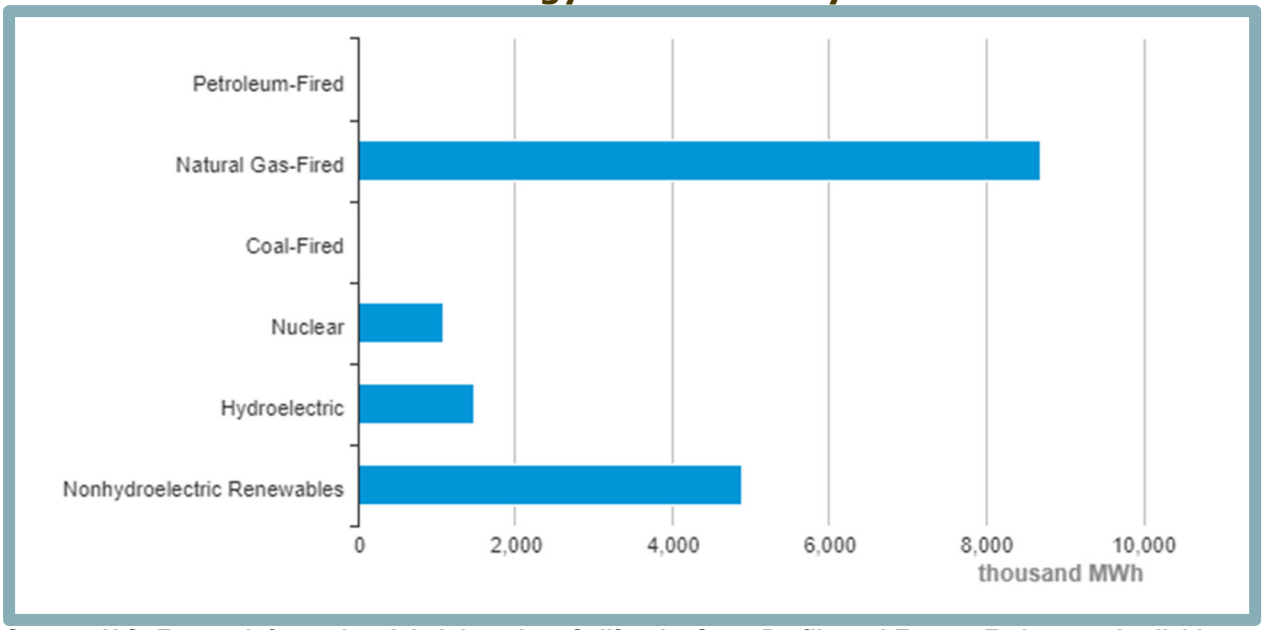
Of the total electricity supplied to the State in the year 2022, Yolo County consumed approximately 1,797 GWh,[18] which constitutes approximately 0.6 percent of the total energy consumed annually within the State.

Energy Consumption Within the City of Davis and at the Project Site

Historically, electricity and natural gas has been supplied to the City of Davis by the Pacific Gas and Electric Company (PG&E). However, on October 25, 2016, the Davis City Council adopted Resolution Number 16-153, Series 2016, which approved the Joint Exercise of Powers Agreement with Yolo County to form the Valley Clean Energy Alliance, now referred to as Valley Clean Energy (VCE). The resolution adopted by the City, along with similar resolutions adopted by the City of Woodland and Yolo County, led to the formation of the VCE Joint Powers Authority.

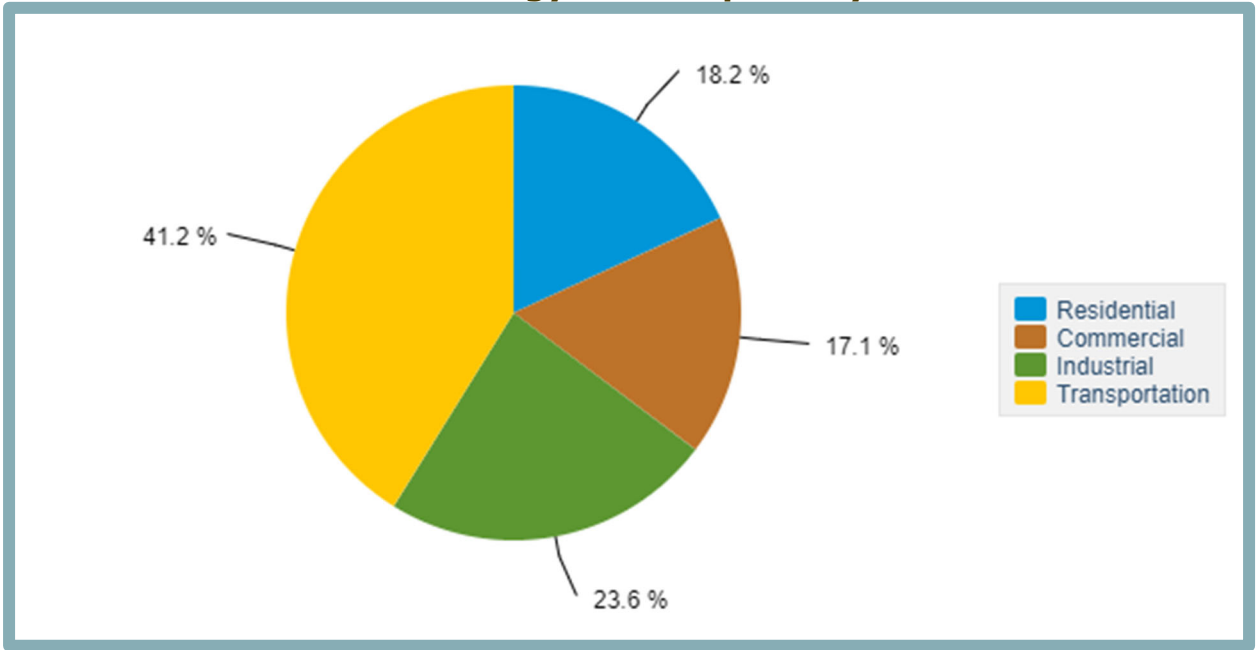
[16] City of Davis. *Climate Action and Adaptation Plan* [pg. 42]. April 18, 2023.
[17] U.S. Department of Energy. *State of California Energy Sector Risk Profile.* March 2021.
[18] California Energy Commission. *Electricity Consumption by County*. Available at: http://ecdms.energy.ca.gov/elecbycounty.aspx. Accessed March 2024.

Figure 4.3-1
California Energy Generation by Source



Source: U.S. Energy Information Administration. California: State Profile and Energy Estimates. Available at: https://www.eia.gov/state/index.php?sid=CA. Accessed March 2024.

Figure 4.3-2
California Energy Consumption by Sector



Source: U.S. Energy Information Administration. California: State Profile and Energy Estimates. Available at: https://www.eia.gov/state/index.php?sid=CA. Accessed March 2024.

Beginning in June 2018, the VCE started serving the electricity needs of the cities of Woodland and Davis, as well as unincorporated areas of Yolo County. Customers within the participating areas have the opportunity to continue receiving service from PG&E or to receive energy from VCE. VCE plans to provide energy with a higher renewable content and lower associated GHG emissions than PG&E. While VCE supplies the energy for customers enrolled in the VCE program, VCE electricity is transmitted through PG&E owned and operated distribution and power lines. PG&E will continue to provide natural gas supplies to the City. It should be noted that a Pacific Gas and Electric Co. (PG&E) easement occurs along the western and northern site boundaries.

Given the existing nature of the project site/BRPA site, which consists of generally flat agricultural land with a water tank house located in the southern portion of the site, the existing energy demand associated with the project site/BRPA site is little to null.

Public Safety Power Shutoffs

In an effort to prevent fires, PG&E initiated public safety power shutoffs (PSPS) in 2019, which may continue in subsequent years until fire risks associated with power lines are decreased. PSPS events involve PG&E turning off electrical service during times when the weather is predicted to have a heightened fire risk from gusty winds and dry conditions. Dependent on the fire risks, the power outage events may occur in specific areas or for all PG&E customers across the City. Based on the project site's location, the site is located within an area that is more likely to be affected by a PSPS event.[19] Areas more likely to be affected by a PSPS event include areas where PSPS events have previously occurred, or areas in or near high fire-risk areas. However, according to PG&E, zero PSPS events have occurred within the City of Davis since the initiative began in 2019.

4.3.3 REGULATORY CONTEXT

Air quality, GHG emissions, and energy consumption are monitored and regulated through the efforts of various international, federal, State, and local government agencies. Agencies work jointly and individually to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies responsible for regulating and improving the air quality within the project area and monitoring or reducing GHG emissions and energy consumption are discussed below.

Federal Regulations Related to Air Quality

The following discussion provides a summary of the federal regulations relevant to air quality, organized by pollutant type.

Criteria Pollutants

The FCAA, passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The USEPA is responsible for implementing most aspects of the FCAA, including setting NAAQS for major air pollutants; setting hazardous air pollutant standards; approving state attainment plans; setting motor vehicle emission standards; issuing stationary source emission standards and permits; and establishing acid rain control measures, stratospheric ozone

[19] Pacific Gas & Electric Co. *Interactive PSPS Planning Map.* Available at: https://vizmap.ss.pge.com/?_ga=2.94997403.624386528.1664230975-1068345172.1664230975. Accessed March 2024.

protection measures, and enforcement provisions. Under the FCAA, NAAQS are established for the following criteria pollutants: ozone, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead.

The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The NAAQS (other than for ozone, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. NAAQS for ozone, NO_2, SO_2, PM_{10}, $PM_{2.5}$ are based on statistical calculations over one- to three-year periods, depending on the pollutant. The FCAA requires the USEPA to reassess the NAAQS at least every five years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a state implementation plan that demonstrates how those areas will attain the standards within mandated time frames.

Hazardous Air Pollutants/Toxic Air Contaminants

The 1977 FCAA amendments required the USEPA to identify national emission standards for hazardous air pollutants to protect public health and welfare. Hazardous air pollutants include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Under the 1990 FCAA Amendments, which expanded the control program for hazardous air pollutants, 189 substances and chemical families were identified as hazardous air pollutants.

Federal Regulations Related to GHG Emissions

The following are the federal regulations relevant to GHG emissions.

Federal Vehicle Standards

In 2010, President Obama issued a memorandum directing the Department of Transportation, Department of Energy, USEPA, and National Highway Traffic Safety Administration (NHTSA) to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the USEPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017 through 2025 light-duty vehicles. The proposed standards were projected to achieve emission rates as low as 163 grams of CO_2 per mile by model year 2025 on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if the foregoing emissions level was achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017 through 2021 (77 FR 62624–63200), and NHTSA intended to set standards for model years 2022 through 2025 in future rulemaking.

In August 2016, the USEPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program would have applied to vehicles with model years 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types of sizes of buses and work trucks. The final standards were expected to lower CO_2 emissions by approximately 1.1 billion metric tons (MT), and reduce oil consumption by up to two billion barrels over the lifetime of the vehicles sold under the program.

In August 2018, the USEPA and NHTSA proposed to amend certain fuel economy and GHG standards for passenger cars and light trucks and establish new, less-stringent standards for model years 2021 through 2026. Compared to maintaining the post-2020 standards that were previously in place, the 2018 proposal would increase U.S. fuel consumption by approximately

0.5 million barrels per day, and would impact the global climate by 3/1000th of one degree Celsius by 2100. California and other states stated their intent to challenge federal actions that would delay or eliminate GHG reduction measures, and committed to cooperating with other countries to implement global climate change initiatives.

On September 27, 2019, the USEPA and NHTSA published the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program (84 FR 51,310), which became effective November 26, 2019. The Part One Rule revokes California's authority to set its own GHG emissions standards and set zero-emission-vehicle mandates in California. On March 31, 2020, the USEPA and NHTSA issued the Part Two Rule, which sets CO_2 emissions standards and corporate average fuel economy standards for passenger vehicles and light-duty trucks for model years 2021 through 2026. On January 20, 2021, an Executive Order (EO) was issued on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, which includes review of the Part One Rule by April 2021 and review of the Part Two Rule by July 2021. In response to the Part One Rule, in December 2021, the U.S. Department of Transportation withdrew its portions of the "SAFE I" rule. As a result, states are now allowed to issue their own GHG emissions standards and zero-emissions vehicle mandates.[20] In addition, the Part Two Rule was adopted to revise the existing national GHG emission standards for passenger cars and light trucks through model year 2026. These standards are the strongest vehicle emissions standards ever established for the light-duty vehicle sector and will result in avoiding more than three billion tons of GHG emissions through 2050.[21]

Federal Regulations Related to Energy

The following are the federal regulations relevant to energy.

Energy Policy and Conservation Act

The Energy Policy and Conservation Act was originally enacted in 1975 with the intention of ensuring that all vehicles sold in the U.S. meet established fuel economy standards. Following congressional establishment of the original set of fuel economy standards the U.S. Department of Transportation was tasked with establishing additional on-road vehicle standards and making revisions to standards as necessary. Compliance with established standards is based on manufacturer fleet average fuel economy, which originally applied to both passenger cars and light trucks but did not apply to heavy-duty vehicles exceeding 8,500 pounds in gross vehicle weight. The fuel economy program implemented under the Energy Policy and Conservation Act is known as the Corporate Average Fuel Economy (CAFE) Standards. Updates to the CAFE standards since original implementation have increased fuel economy requirements and begun regulation of medium- and heavy-duty vehicles.

Energy Policy Act of 2005

The Energy Policy Act of 2005 addressed energy production in the U.S. from various sources. In particular, the Energy Policy Act of 2005 included tax credits, loans, and grants for the implementation of energy systems that would reduce GHG emissions related to energy production.

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[20] National Highway Traffic Safety Administration. *In Removing Major Roadblock to State Action on Emissions Standards, U.S. Department of Transportation Advances Biden-Harris Administration's Climate and Jobs Goals.* Available at: https://www.nhtsa.gov/press-releases/cafe-preemption-final-rule. Accessed March 2024.

[21] U.S. Environmental Protection Agency. *Final Rule to Revise Existing National GHG Emissions Standards for Passenger Cars and Light Trucks Through Model Year 2026*. Available at: https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-revise-existing-national-ghg-emissions. Accessed March 2024.

State Regulations Related to Air Quality

The following discussion summarizes applicable State regulations related to air quality, organized by pollutant type. Only the most prominent and applicable California air quality-related legislation is included below. An exhaustive list and extensive details of California air quality legislation can be found at the CARB website (http://www.arb.ca.gov/html/lawsregs.htm).

Criteria Air Pollutants

The FCAA delegates the regulation of air pollution control and the enforcement of the NAAQS to the states. In California, the task of air quality management and regulation has been legislatively granted to CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. CARB, which became part of the California Environmental Protection Agency (CalEPA) in 1991, is responsible for ensuring implementation of the CCAA of 1988, responding to the FCAA, and regulating emissions from motor vehicles and consumer products.

CARB has established CAAQS, which are generally more restrictive than the NAAQS. The CAAQS describe adverse conditions; that is, pollution levels must be below these standards before a basin can attain the standard. Air quality is considered "in attainment" if pollutant levels are continuously below the CAAQS and do not violate the standards more than once each year. The CAAQS for ozone, CO, SO_2 (one-hour and 24-hour), NO_2, PM_{10}, $PM_{2.5}$, and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. The NAAQS and CAAQS are presented in Table 4.3-2.

Hazardous Air Pollutants/Toxic Air Contaminants

The State Air Toxics Program was established in 1983 under Assembly Bill (AB) 1807 (Tanner), and involved definition of a list of TACs. The California TAC list identifies more than 700 pollutants, of which carcinogenic and noncarcinogenic toxicity criteria have been established for a subset of these pollutants pursuant to the California Health and Safety Code. The State list of TACs includes the federally-designated hazardous air pollutants. In 1987, the Legislature enacted the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) to address public concern over the release of TACs into the atmosphere. AB 2588 law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hot spots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over five years. TAC emissions from individual facilities are quantified and prioritized. "High-priority" facilities are required to perform a health risk assessment, and, if specific thresholds are exceeded, the facility operator is required to communicate the results to the public in the form of notices and public meetings.

CARB Air Quality and Land Use Handbook

CARB's Air Quality and Land Use Handbook: A Community Health Perspective (CARB Handbook) addresses the importance of considering health risk issues when siting sensitive land uses, including residential development, in the vicinity of intensive air pollutant emission sources including freeways or high-traffic roads, distribution centers, ports, petroleum refineries, chrome plating operations, dry cleaners, and gasoline dispensing facilities (GDFs).[22] The CARB Handbook draws upon studies evaluating the health effects of traffic traveling on major interstate highways in metropolitan California centers within Los Angeles (Interstate-405 and Interstate-

[22] California Air Resources Board. *Air Quality and Land Use Handbook: A Community Health Perspective*. April 2005.

710), the San Francisco Bay, and San Diego areas. The recommendations identified by CARB, including siting residential uses a minimum distance of 500 feet from freeways or other high-traffic roadways, are consistent with those adopted by the State of California for location of new schools. Specifically, the CARB Handbook recommends, "Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day."[23]

Importantly, the Introduction chapter of the CARB Handbook clarifies that the guidelines are strictly advisory, recognizing that: "[l]and use decisions are a local government responsibility. The Air Resources Board Handbook is advisory and these recommendations do not establish regulatory standards of any kind." CARB recognizes that there may be land use objectives as well as meteorological and other site-specific conditions that need to be considered by a governmental jurisdiction relative to the general recommended setbacks, specifically stating, "[t]hese recommendations are advisory. Land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues."[24]

Diesel Particulate Matter

In 2000, CARB approved a comprehensive diesel risk reduction plan to reduce diesel emissions, including DPM, from new and existing diesel-fueled vehicles and engines. The regulation was anticipated to result in an 80 percent decrease in statewide diesel health risk by 2020 compared with the diesel risk in 2000. Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In-Use Off-Road Diesel Vehicle Regulation, and the New Off-Road Compression-Ignition (Diesel) Engines and Equipment program. The aforementioned regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel-powered equipment. Several Airborne Toxic Control Measures (ATCMs) exist that reduce diesel emissions, including In-Use Off-Road Diesel-Fueled Fleets (13 California Code of Regulations [CCR] 2449 et seq.) and In-Use On-Road Diesel-Fueled Vehicles (13 CCR 2025).

Heavy-Duty Diesel Truck and Bus Regulation

CARB adopted the final Heavy-Duty Truck and Bus Regulation, Title 13, Division 3, Chapter 1, Section 2025, on December 31, 2014, to reduce DPM and NO_X emissions from heavy-duty diesel vehicles. The rule requires nearly all diesel trucks and buses to be compliant with the 2010 model year engine requirement by January 1, 2023. CARB also adopted an ATCM to limit idling of diesel-fueled commercial vehicles on December 12, 2013. The rule requires diesel-fueled vehicles with gross vehicle weights greater than 10,000 pounds to idle no more than five minutes at any location (13 CCR 2485).

California Health and Safety Code Section 41700

Section 41700 of the Health and Safety Code states that a person must not discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or that endanger the comfort, repose, health, or safety of any of those persons or the public; or that cause, or have

[23] California Air Resources Board. *Air Quality and Land Use Handbook: A Community Health Perspective*. April 2005.
[24] *Ibid*.

a natural tendency to cause, injury or damage to business or property. Section 41700 also applies to sources of objectionable odors.

Heavy-Duty Vehicle Idling Emission Reduction Program

On October 20, 2005, CARB approved a regulatory measure to reduce emissions of toxics and criteria pollutants by limiting idling of new and in-use sleeper berth equipped diesel trucks.[25] The regulation established new engine and in-use truck requirements and emission performance requirements for technologies used as alternatives to idling the truck's main engine. For example, the regulation requires 2008 and newer model year heavy-duty diesel engines to be equipped with a non-programmable engine shutdown system that automatically shuts down the engine after five minutes of idling, or optionally meet a stringent NO_X emission standard. The regulation also requires operators of both in-state and out-of-state registered sleeper berth equipped trucks to manually shut down their engine when idling more than five minutes at any location within California. Emission producing alternative technologies such as diesel-fueled auxiliary power systems and fuel-fired heaters are also required to meet emission performance requirements that ensure emissions are not exceeding the emissions of a truck engine operating at idle.

In-Use Off-Road Diesel Vehicle Regulation

On July 26, 2007, CARB adopted a regulation to reduce DPM and NO_X emissions from in-use (existing), off-road, heavy-duty diesel vehicles in California.[26] Such vehicles are used in construction, mining, and industrial operations. The regulation is designed to reduce harmful emissions from vehicles by subjecting fleet owners to retrofit or accelerated replacement/repower requirements, imposing idling limitations on owners, operators, renters, or lessees of off-road diesel vehicles. The idling limits require operators of applicable off-road vehicles (self-propelled diesel-fueled vehicles 25 horsepower and up that were not designed to be driven on-road) to limit idling to less than five minutes. The idling requirements are specified in Title 13 of the CCR.

State Regulations Related to GHG Emissions

The statewide GHG emissions regulatory framework is summarized below. The following text describes EOs, legislation, regulations, and other plans and policies that would directly or indirectly reduce GHG emissions and/or address climate change issues. The following discussion does not include an exhaustive list of applicable regulations; rather, only the most prominent and applicable California legislation related to GHG emissions and climate change is included below.

State Climate Change Targets

California has taken a number of actions to address climate change, including EOs, legislation, and CARB plans and requirements, which are summarized below.

Executive Order S-3-05

EO S-3-05 (June 2005) established California's GHG emissions reduction targets and laid out responsibilities among the State agencies for implementing the EO and for reporting on progress toward the targets. The EO established the following targets:

[25] California Air Resources Board. *Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling*. October 24, 2013. Available at: https://ww2.arb.ca.gov/our-work/programs/atcm-to-limit-vehicle-idling. Accessed March 2024.

[26] California Air Resources Board. *In-Use Off-Road Diesel Vehicle Regulation*. December 10, 2014. Available at: http://www.arb.ca.gov/msprog/ordiesel/ordiesel.htm. Accessed March 2024.

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

EO S-3-05 also directed CalEPA to report biannually on progress made toward meeting the GHG targets and the impacts to California due to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. The Climate Action Team was formed, which subsequently issues yearly GHG reduction report cards to track the progress of emission reduction strategies. Each report card documents the effectiveness of measures to reduce GHG in California, presents GHG emissions from State agencies' operations, and shows reductions that have occurred in the two years prior to publication.

Assembly Bill 32

In furtherance of the goals established in EO S-3-05, the Legislature enacted AB 32 (Núñez and Pavley). The bill is referred to as the California Global Warming Solutions Act of 2006 (September 27, 2006). AB 32 provided initial direction on creating a comprehensive, multi-year program to limit California's GHG emissions at 1990 levels by 2020 and initiate the transformations required to achieve the State's long-range climate objectives. AB 32 also required that the CARB prepare a "scoping plan" for achieving the maximum technologically feasible and cost-effective GHG emission reductions by 2020. The CARB's Scoping Plan is described in further detail below.

Executive Order B-30-15

EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under EO S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing GHG emissions to 40 percent below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80 percent below 1990 levels by 2050 as set forth in EO S-3-05. To facilitate achieving this goal, EO B-30-15 called for an update to the CARB's Climate Change Scoping Plan: A Framework for Change (Scoping Plan) to express the 2030 target in terms of million metric tons (MMT) of CO_2e. The CARB's Scoping Plan is discussed in further detail below. The EO also called for State agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets.

Senate Bill 32 and Assembly Bill 197

Senate Bill (SB) 32 and AB 197 (enacted in 2016) are companion bills. SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40 percent below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, to provide ongoing oversight over implementation of the State's climate policies. AB 197 also added two members of the Legislature to the Board as non-voting members; requires CARB to make available and update (at least annually via the CARB's website) emissions data for GHGs, criteria air pollutants, and TACs from reporting facilities; and requires CARB to identify specific information for GHG emissions reduction measures when updating the Scoping Plan.

CARB's Climate Change Scoping Plan

One specific requirement of AB 32 is for CARB to prepare a scoping plan for achieving the maximum technologically feasible and cost-effective GHG emission reductions by 2020 (Health and Safety Code Section 38561[a]), and to update the Scoping Plan at least once every five years.

In 2008, CARB approved the first Scoping Plan. The Scoping Plan included a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the State's long-range climate objectives. The key elements of the Scoping Plan include the following:

1. Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
2. Achieving a statewide renewable energy mix of 33 percent;
3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85 percent of California's GHG emissions;
4. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets;
5. Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard (LCFS) (17 CCR, Section 95480 et seq.); and
6. Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State's long-term commitment to AB 32 implementation.

The Scoping Plan also identified local governments as essential partners in achieving California's goals to reduce GHG emissions because they have broad influence and, in some cases, exclusive authority over activities that contribute to significant direct and indirect GHG emissions through their planning and permitting processes, local ordinances, outreach and education efforts, and municipal operations. Specifically, the Scoping Plan encouraged local governments to adopt a reduction goal for municipal operations and for community emissions to reduce GHGs by approximately 15 percent from 2008 levels by 2020. Many local governments developed community-scale local GHG reduction plans based on this Scoping Plan recommendation.

In 2014, CARB approved the first update to the Scoping Plan. The First Update to the Climate Change Scoping Plan: Building on the Framework (First Update) defined the State's GHG emission reduction priorities for the next five years and laid the groundwork to start the transition to the post-2020 goals set forth in EO S-3-05 and EO B-16-2012. The First Update concluded that California is on track to meet the 2020 target but recommended a 2030 mid-term GHG reduction target be established to ensure a continuation of action to reduce emissions. The First Update recommended a mix of technologies in key economic sectors to reduce emissions through 2050, including energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies. As part of the First Update, CARB recalculated the State's 1990 emissions level using more recent GWPs identified by the IPCC, from 427 MMT CO_2e to 431 MMT CO_2e.

In 2015, as directed by EO B-30-15, CARB began working on an update to the Scoping Plan to incorporate the 2030 target of 40 percent below 1990 levels by 2030 to keep California on a trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80 percent below 1990 levels by 2050, as set forth in EO S-3-05. In summer 2016, the Legislature affirmed the importance of addressing climate change through passage of SB 32 (Pavley, Chapter 249, Statutes of 2016).

In December 2017, the Scoping Plan was once again updated. The 2017 Scoping Plan built upon the successful framework established in the initial Scoping Plan and First Update, while identifying new, technologically feasible and cost-effective strategies that would serve as the framework to achieve the 2030 GHG target as established by SB 32 and define the State's climate change priorities to 2030 and beyond. For local governments, the 2017 Scoping Plan replaced the initial Scoping Plan's 15 percent reduction goal with a recommendation to aim for a communitywide goal of no more than six $MTCO_2e$ per capita by 2030, and no more than two $MTCO_2e$ per capita by 2050, which are consistent with the State's long-term goals. The 2017 Scoping Plan recognized the benefits of local government GHG planning (e.g., through Climate Action Plans [CAPs]) and provided more information regarding tools to support those efforts. The 2017 Scoping Plan also recognized the CEQA streamlining provisions for project-level review where a legally adequate CAP exists.

When discussing project-level GHG emissions reduction actions and thresholds in the context of CEQA, the 2017 Scoping Plan stated that "achieving no net additional increase in GHG emissions, resulting in no contribution to GHG impacts, is an appropriate overall objective for new development" for project-level CEQA analysis, but also recognized that such a standard may not be appropriate or feasible for every development project. The 2017 Scoping Plan further provided that "the inability of a project to mitigate its GHG emissions to net zero does not imply the project results in a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA."

The most recent update to the Scoping Plan, the 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan Update) was adopted by the CARB in December 2022.[27] The 2022 Scoping Plan Update builds upon previous efforts to reduce GHG emissions and is designed to continue to shift the California economy away from dependence on fossil fuels. The 2022 Scoping Plan Update, the most comprehensive and far-reaching Scoping Plan developed to date, identifies a technologically feasible and cost-effective path to achieve carbon neutrality by 2045 while also assessing the progress California is making toward reducing its GHG emissions by at least 40 percent below 1990 levels by 2030, as called for in SB 32 and laid out in the 2017 Scoping Plan. The 2030 target is an interim but important stepping stone along the critical path to the broader goal of deep decarbonization by 2045. The relatively longer path assessed in the Scoping Plan incorporates, coordinates, and leverages many existing and ongoing efforts to reduce GHGs and air pollution, while identifying new clean technologies and energy. Given the focus on carbon neutrality, the Scoping Plan also includes discussion for the first time of the Natural and Working Lands (NWL) sectors as both sources of emissions and carbon sinks.

The 2022 Scoping Plan Update lays out a path to achieve targets for carbon neutrality and reduce GHG emissions by 85 percent below 1990 levels by 2045, as directed by AB 1279. The actions and outcomes in the plan will achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels, further reductions in short-lived climate pollutants, support for sustainable development, increased action on NWL to reduce emissions and sequester carbon, and the capture and storage of carbon.

CARB's Regulations for the Mandatory Reporting of GHG Emissions

CARB's Regulation for the Mandatory Reporting of GHG Emissions (17 CCR 95100–95157) incorporated by reference certain requirements that the USEPA promulgated in its Final Rule on

[27] California Air Resources Board. *2022 Scoping Plan for Achieving Carbon Neutrality*. November 16, 2022.

Mandatory Reporting of GHGs (40 Code of Federal Regulations [CFR] Part 98). In general, entities subject to the Mandatory Reporting Regulation that emit more than 10,000 $MTCO_2e$ per year are required to report annual GHGs through the California Electronic GHG Reporting Tool. Certain sectors, such as refineries and cement plants, are required to report regardless of emission levels. Entities that emit more than the 25,000 $MTCO_2e$ per year threshold are required to have their GHG emission report verified by a CARB-accredited third party.

Senate Bill 1383

SB 1383 establishes specific targets for the reduction of short-lived climate pollutants (SLCPs) (40 percent below 2013 levels by 2030 for CH_4 and HFCs, and 50 percent below 2013 levels by 2030 for anthropogenic black carbon), and provides direction for reductions from dairy and livestock operations and landfills. Accordingly, CARB adopted its SLCP Reduction Strategy in March 2017. The SLCP Reduction Strategy establishes a framework for the statewide reduction of emissions of black carbon, CH_4, and fluorinated gases.

Executive Order B-55-18/Assembly Bill 1279

EO B-55-18 (September 2018) establishes a statewide policy for California to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net-negative emissions thereafter. The goal is an addition to the existing statewide targets of reducing the State's GHG emissions. CARB intends to work with relevant State agencies to ensure that future scoping plan updates identify and recommend measures to achieve the carbon neutrality goal. On September 16, 2022, AB 1279, also known as the California Climate Crisis Act, codified the carbon neutrality goal established by EO B-55-18.

Mobile Sources

The following regulations relate to the control of GHG emissions from mobile sources. Mobile sources include both on-road vehicles and off-road equipment.

Assembly Bill 1493

AB 1493 (Pavley) (July 2002) was enacted in response to the transportation sector accounting for more than half of California's CO_2 emissions. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the State board to be vehicles that are primarily used for non-commercial personal transportation in the State. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. When fully phased in, the near-term (2009–2012) standards would result in a reduction of approximately 22 percent of GHG emissions compared to the emissions from the 2002 fleet, and the mid-term (2013–2016) standards would result in a reduction of approximately 30 percent.

Senate Bill 375

SB 375 (Steinberg) (September 2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 requires CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035, and to update those targets every eight years. SB 375 requires the State's 18 regional metropolitan planning organizations to prepare a sustainable communities strategy as part of their Regional Transportation Plans that will achieve the GHG reduction targets set by CARB. If a metropolitan planning organization is unable to devise a sustainable communities strategy to achieve the GHG reduction target, the metropolitan planning organization must prepare an alternative planning strategy demonstrating how the GHG reduction target would be achieved

through alternative development patterns, infrastructure, or additional transportation measures or policies.

Pursuant to California Government Code Section 65080(b)(2)(K), a sustainable communities strategy does not (1) regulate the use of land, (2) supersede the land use authority of cities and counties, or (3) require that a city's or county's land use policies and regulations, including those in a general plan, be consistent with the sustainable community strategy. Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the State-mandated housing element process.

Advanced Clean Cars Program and Zero-Emissions Vehicle Program

The Advanced Clean Cars program (January 2012) is an emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars. To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. By 2025, implementation of the rule is anticipated to reduce emissions of smog-forming pollution from cars by 75 percent compared to the average new car sold in 2015. To reduce GHG emissions, CARB, in conjunction with the USEPA and NHTSA, adopted GHG standards for model year 2017 to 2025 vehicles; the standards were estimated to reduce GHG emissions by 34 percent by 2025. The zero-emissions vehicle program acts as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of zero-emissions vehicles and plug-in hybrid electric vehicles in the 2018 to 2025 model years.

Executive Order B-16-12

EO B-16-12 (March 2012) required that State entities under the governor's direction and control support and facilitate the rapid commercialization of zero-emissions vehicles. The order directed CARB, California Energy Commission (CEC), California Public Utilities Commission (CPUC), and other relevant agencies to work with the Plug-In Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to help achieve goals by 2015, 2020, and 2025. On a statewide basis, EO B-16-12 established a target reduction of GHG emissions from the transportation sector equaling 80 percent less than 1990 levels by 2050. EO B-16-12 did not apply to vehicles that have special performance requirements necessary for the protection of the public safety and welfare.

Assembly Bill 1236

AB 1236 (October 2015) (Chiu) required a city, county, or city and county to approve an application for the installation of electric-vehicle charging stations, as defined, through the issuance of specified permits unless the city or county makes specified written findings based on substantial evidence in the record that the proposed installation would have a specific, adverse impact upon the public health or safety, and a feasible method to satisfactorily mitigate or avoid the specific, adverse impact does not exist. The bill provided for appeal of that decision to the planning commission, as specified. AB 1236 required electric-vehicle charging stations to meet specified standards. The bill required a city, county, or city and county with a population of 200,000 or more residents to adopt an ordinance, by September 30, 2016, that created an expedited and streamlined permitting process for electric-vehicle charging stations. The bill also required a city,

county, or city and county with a population of less than 200,000 residents to adopt the ordinance by September 30, 2017.

Water

The following regulations relate to the conservation of water, which reduces GHG emissions related to electricity demands from the treatment and transportation of water.

Executive Order B-29-15

In response to a drought in California, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25 percent relative to water use in 2013. The term of the EO extended through February 28, 2016, although many of the directives subsequently became permanent water-efficiency standards and requirements. The EO includes specific directives that set strict limits on water usage in the State. In response to EO B-29-15, the California DWR modified and adopted a revised version of the Model Water Efficient Landscape Ordinance (MWELO) that, among other changes, significantly increases the requirements for landscape water use efficiency, and broadens the applicability of the ordinance to include new development projects with smaller landscape areas.

Solid Waste

The following regulations relate to the generation of solid waste and means to reduce GHG emissions from solid waste produced within the State.

Assembly Bill 939 and Assembly Bill 341

In 1989, AB 939, known as the Integrated Waste Management Act (California Public Resources Code [PRC] Sections 40000 et seq.), was passed because of the observed increase in waste stream and the decrease in landfill capacity.

AB 341 (Chapter 476, Statutes of 2011 [Chesbro]) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that the policy goal of the State is that not less than 75 percent of solid waste generated be source-reduced, recycled, or composted by 2020, and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery to develop strategies to achieve the State's policy goal.

Other State Actions

The following State regulations are broadly related to GHG emissions.

Senate Bill 97

SB 97 (Dutton) (August 2007) directed the Governor's Office of Planning and Research (OPR) (currently known as the Office of Land Use and Climate Innovation [LCI]) to develop guidelines under CEQA for the mitigation of GHG emissions. In 2008, the Governor's OPR issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents. The advisory indicated that the lead agency should identify and estimate a project's GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities. The advisory further recommended that the lead agency determine the significance of the impacts and impose all mitigation measures necessary to reduce GHG emissions to a level that is less than significant. The California Natural Resource Agency (CNRA) adopted the CEQA Guidelines amendments in December 2009, and the amended CEQA Guidelines became effective in March 2010.

Under the amended CEQA Guidelines, a lead agency has the discretion to determine whether to use a quantitative or qualitative analysis, or apply performance standards to determine the significance of GHG emissions resulting from a particular project (14 CCR 15064.4[a]). The CEQA Guidelines require a lead agency to consider 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 (14 CCR 15064.4[b]). The CEQA Guidelines also allow a lead agency to consider feasible means of mitigating the significant effects of GHG emissions, including reductions in emissions through the implementation of project features or off-site measures. The adopted amendments do not establish a GHG emission threshold, instead allowing a lead agency to develop, adopt, and apply the lead agency's own thresholds of significance or those developed by other agencies or experts. CNRA acknowledges that a lead agency may consider compliance with regulations or requirements implementing AB 32 in determining the significance of a project's GHG emissions.

With respect to GHG emissions, the CEQA Guidelines state that lead agencies should "make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions (14 CCR 15064.4[a]). The CEQA Guidelines note that an agency may identify emissions by either selecting a "model or methodology" to quantify the emissions or by relying on "qualitative analysis or other performance based standards" (14 CCR 15064.4[a]). Section 15064.4(b) states that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment: (1) the extent to which a project may increase or reduce GHG emissions as compared to the existing environmental setting; (2) whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and (3) 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 (14 CCR 15064.4[b]).

Executive Order S-13-08

EO S-13-08 (November 2008) is intended to hasten California's response to the impacts of global climate change, particularly sea-level rise. Therefore, the EO directs State agencies to take specified actions to assess and plan for such impacts. The final 2009 California Climate Adaptation Strategy report was issued in December 2009, and an update, Safeguarding California: Reducing Climate Risk, followed in July 2014. To assess the State's vulnerability, the report summarizes key climate change impacts to the State for the following areas: agriculture, biodiversity and habitat, emergency management, energy, forestry, ocean and coastal ecosystems and resources, public health, transportation, and water. Issuance of the Safeguarding California: Implementation Action Plans followed in March 2016. In January 2018, the CNRA released the Safeguarding California Plan: 2018 Update, which communicates current and needed actions that the State government should take to build climate change resiliency.

State Regulations Related to Energy

The primary State regulatory agencies governing energy consumption are the CEC and the CPUC.

The CEC, created by the Legislature in 1974, has seven major responsibilities: forecasting future energy needs; promoting energy efficiency and conservation by setting the State's appliance and building energy efficiency standards; supporting energy research that advances energy science and technology through research, development, and demonstration projects; developing renewable energy resources; advancing alternative and renewable transportation fuels and

technologies; certifying thermal power plants 50-MW and larger; and planning for and directing State response to energy emergencies.[28]

The CPUC regulates privately owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies. The CPUC is responsible for ensuring that customers have safe, reliable utility service and infrastructure at reasonable rates, regulating utility services, stimulating innovation, and promoting competitive markets.[29]

The State has adopted various regulations aimed at reducing energy consumption, increasing energy efficiency, and mandating sourcing requirements for electricity production. The following regulations are applicable to the Proposed Project and BRPA.

Building Energy

The following regulations relate to energy efficiency and energy use reductions in the built environment.

Title 24, Part 6

Title 24 of the CCR, which is known as the California Building Standards Code (CBSC), was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically established Building Energy Efficiency Standards that are designed to ensure new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. These energy efficiency standards are reviewed periodically, and revised if necessary, by the Building Standards Commission and CEC (PRC Section 25402[b][1]). The regulations receive input from members of industry, as well as the public, with the goal of "reducing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy" (PRC Section 25402). The regulations are scrutinized and analyzed for technological and economic feasibility (PRC Section 25402[d]) and cost effectiveness (PRC Sections 25402[b][2] and [b][3]). As a result, the standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment.

The 2022 Title 24 standards are the currently applicable building energy efficiency standards and became effective on January 1, 2023. Compliance with the 2022 Title 24 Building Energy Efficiency Standards will reduce energy use and associated GHG emissions compared to structures built in compliance with the previous 2019 Title 24 standards.

Title 24, Part 11

In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as CALGreen, and establishes minimum mandatory standards and voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all

[28] California Energy Commission. *About the California Energy Commission*. Available at: http://www.energy.ca.gov/about. Accessed March 2024.
[29] California Public Utilities Commission. *California Public Utilities Commission*. Available at: https://www.cpuc.ca.gov/about-cpuc. Accessed March 2024.

ground-up, new construction of commercial, low-rise residential and State-owned buildings and schools and hospitals. The original CALGreen standards have been updated several times. The CALGreen 2022 standards, which are the current standards, improved upon the 2019 CALGreen standards, and went into effect on January 1, 2023. The 2022 CALGreen Code focuses on four key areas in newly constructed homes and businesses:[30]

- Encouraging electric heat pump technology for space and water heating, which consumes less energy and produces fewer emissions than gas-powered units.
- Establishing electric-ready requirements for single-family homes to position owners to use cleaner electric heating, cooking and electric vehicle (EV) charging options whenever they choose to adopt those technologies.
- Expanding solar PV system and battery storage standards to make clean energy available onsite and complement the state's progress toward a 100 percent clean electricity grid.
- Strengthening ventilation standards to improve indoor air quality.

The CALGreen standards also include voluntary efficiency measures that are provided at two tiers and implemented at the discretion of local agencies and applicants. According to Section A4.602 of Appendix A4 of the CALGreen Code, CALGreen's Tier 1 standards call for a 15 percent improvement in energy requirements, stricter water conservation, 65 percent diversion of construction and demolition waste, 10 percent recycled content in building materials, 20 percent permeable paving, 20 percent cement reduction, and cool/solar-reflective roofs. CALGreen's more rigorous Tier 2 standards call for a 30 percent improvement in energy requirements, stricter water conservation, 80 percent diversion of construction and demolition waste, 15 percent recycled content in building materials, 30 percent permeable paving, 25 percent cement reduction, and cool/solar-reflective roofs.

Title 20

Title 20 of the CCR requires manufacturers of appliances to meet State and federal standards for energy and water efficiency. The CEC certifies an appliance based on a manufacturer's demonstration that the appliance meets the standards. New appliances regulated under Title 20 include refrigerators, refrigerator-freezers, and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low-voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems. Title 20 presents protocols for testing each type of appliance covered under the regulations, and appliances must meet the standards for energy performance, energy design, water performance, and water design. Title 20 contains three types of standards for appliances: federal and State standards for federally regulated appliances, State standards for federally regulated appliances, and State standards for non-federally regulated appliances.

Senate Bill 1

SB 1 (Murray) (August 2006) established a $3 billion rebate program to support the goal of the State to install rooftop solar energy systems with a generation capacity of 3,000 MW through

[30] California Energy Commission. *Energy Commission Adopts Updated Building Standards to Improve Efficiency, Reduce Emissions From Homes and Businesses.* Available at: https://www.energy.ca.gov/news/2021-08/energy-commission-adopts-updated-building-standards-improve-efficiency-reduce-0. Accessed March 2024.

2016. SB 1 added sections to the PRC, including Chapter 8.8 (California Solar Initiative), that require building projects applying for ratepayer-funded incentives for PV systems to meet minimum energy efficiency levels and performance requirements. Section 25780 established that it is a goal of the State to establish a self-sufficient solar industry. The goals included establishing solar energy systems as a viable mainstream option for homes and businesses within 10 years of adoption, and placing solar energy systems on 50 percent of new homes within 13 years of adoption. SB 1, also termed "Go Solar California," was previously titled "Million Solar Roofs."

Assembly Bill 1109

Enacted in 2007, AB 1109 required the CEC to adopt minimum energy efficiency standards for general-purpose lighting to reduce electricity consumption by 50 percent for indoor residential lighting and by 25 percent for indoor commercial lighting.

Climate Change Scoping Plan

Expanding and strengthening existing energy efficiency programs as well as building and appliance standards is the key element of the Scoping Plan, as introduced above, related to building energy.

Transportation/Fuel Energy

The following regulations relate to fuel efficiency and energy use reductions in the transportation and motorized vehicle sector.

Assembly Bill 1493

In 2002 California adopted AB 1493, also known as the Pavley I standards, which required new passenger vehicles with model years 2009 to 2016 to meet more stringent fuel efficiency standards. Additional laws have extended these rules to cover vehicles from future model years.

Executive Order S-1-07

EO S-1-07, otherwise known as the LCFS, was adopted in 2009 and requires transportation fuels such as gasoline and diesel sold within the state to be less carbon intensive. These policies reduce emissions from on-road transportation and off-road equipment use in the City of Davis.

Executive Order B-16-12

EO B-16-12 (March 2012) required that State entities under the governor's direction and control support and facilitate the rapid commercialization of zero-emissions vehicles. The order directed CARB, CEC, CPUC, and other relevant agencies to work with the Plug-In Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to help achieve goals by 2015, 2020, and 2025. On a statewide basis, EO B-16-12 established a target reduction of GHG emissions from the transportation sector equaling 80 percent less than 1990 levels by 2050. EO B-16-12 did not apply to vehicles that have special performance requirements necessary for the protection of the public safety and welfare.

Assembly Bill 1346

AB 1346 (October 2021) prohibits non-electric small off-road engines. Small off-road engines, which are used primarily in lawn and garden equipment, emit high levels of air pollutants and, in 2020, California daily criteria pollutant emissions from small off-road engines were higher than emissions from light-duty passenger cars. Thus, by January 1, 2024, regulations shall prohibit the engine exhaust and evaporative emissions from the sale of new small off-road engines.

Senate Bill 500

SB 500 (September 2021) requires that, beginning January 1, 2030, to the extent allowed by federal law, any autonomous vehicle that is model year 2031 or later, has a gross vehicle weight rating of less than 8,501 pounds, and is equipped with Level 3, 4, or 5 automation (as defined by the International Society of Automotive Engineers) to be a zero-emission vehicle to be operated on California public roads.

Climate Change Scoping Plan

The key elements of the Scoping Plan, as introduced above, related to transportation energy include the following:

1. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets; and
2. Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the LCFS (17 CCR, Section 95480 et seq.).

Renewable Energy and Energy Procurement

The following regulation relates to the source of electricity provided to consumers within the State, as well as standards related to the generation of electricity within the State.

Renewable Portfolio Standard (RPS), Senate Bill 350, and Senate Bill 100

Established in 2002 under SB 1078, accelerated in 2006 under SB 107, and expanded in 2011 under SB 2, California's RPS is one of the most ambitious renewable energy standards in the country. The RPS program requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by 2020.

Since the inception of the RPS program, the program has been extended and enhanced multiple times. In 2015, SB 350 extended the State's RPS program by requiring that publicly owned utilities procure 50 percent of their electricity from renewable energy sources by 2030. The requirements of SB 350 were expanded and intensified in 2018 through the adoption of SB 100, which mandated that all electricity generated within the State by publicly owned utilities be generated through carbon-free sources by 2045. In addition, SB 100 increased the previous renewable energy requirement for the year 2030 by 10 percent; thus, requiring that 60 percent of electricity generated by publicly owned utilities originate from renewable sources by the year 2030.

Local Regulations

The most prominent local regulations related to air quality, GHG emissions, and energy are established by the YSAQMD and the City of Davis, as discussed in further detail below.

YSAQMD

Various local, regional, State and federal agencies share the responsibility for air quality management in Yolo County. The YSAQMD operates at the local level with primary responsibility for attaining and maintaining the federal and State AAQS in Yolo County. The YSAQMD is tasked with implementing programs and regulations required by the FCAA and the CCAA, including preparing plans to attain federal and State AAQS. The YSAQMD works jointly with the USEPA, CARB, SACOG, other air districts in the region, county and city transportation and planning

departments, and various non-governmental organizations to improve air quality through a variety of programs. Programs include the adoption of regulations, policies and guidance, extensive education and public outreach programs, as well as emissions reducing incentive programs.

YSAQMD CEQA Guidance

Nearly all development and mining projects in the region have the potential to generate air pollutants that may increase the difficulty of attaining federal and State AAQS. Therefore, for most projects, evaluation of air quality impacts is required to comply with CEQA. In order to help public agencies evaluate air quality impacts, the YSAQMD has developed the Handbook for Assessing and Mitigating Air Quality Impacts.[31] The YSAQMD's handbook includes screening methodology and recommended thresholds of significance, including mass emission thresholds for construction-related and operational criteria pollutants. Although the YSAQMD's handbook includes emissions thresholds and analysis methodology for criteria pollutants, the YSAQMD has not yet established or adopted methodology or thresholds for the assessment of impacts related to GHG emissions.

YSAQMD Rules and Regulations

All projects under the jurisdiction of the YSAQMD are required to comply with all applicable YSAQMD rules and regulations. In addition, YSAQMD permit requirements apply to most industrial processes (e.g., manufacturing facilities, food processing), many commercial activities (e.g., print shops, drycleaners, gasoline stations), and other miscellaneous activities (e.g., demolition of buildings containing asbestos and aeration of contaminated soils). The YSAQMD regulations and rules include, but are not limited to, the following:

Regulation II – Prohibition, Exceptions - Requirements

Regulation II is comprised of prohibitory rules that are written to achieve emission reductions from specific source categories. The rules are applicable to existing sources as well as new sources. Examples of prohibitory rules include Rule 2.1 (Control of Emissions), Rule 2.28 (Cutback and Emulsified Asphalts), Rule 2.5 (Nuisance), Rule 2.11 (Particulate Matter Concentration), Rule 2.14 (Architectural Coatings), and Rule 2.40 (Wood Burning Appliances). Considering the relevance of Rule 2.5 and Rule 2.11 to the proposed activities, both rules are discussed in further depth below.

Rule 2.5 – Nuisance

Rule 2.5 prohibits the discharge of sufficient quantities of air contaminants or other materials that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public. The rule further protects the public from being subject to air contaminants and other materials that could endanger the comfort, repose, health, or safety of any persons, or could damage business or property.

Rule 2.11 – Particulate Matter Concentration

Rule 2.11 is intended to protect the ambient air quality within the YSAQMD's jurisdiction by establishing a standard for PM emissions. Per the definitions of Rule 2.11, PM is defined as any material that is emitted as a liquid or solid particles, or gaseous materials that becomes liquid or solid particles when collected at standard conditions. PM meeting the foregoing definition, shall not be released from any single source operation, dust,

[31] Yolo-Solano Air Quality Management District. *Handbook for Assessing and Mitigating Air Quality Impacts*. July 11, 2007.

fumes, or other total suspended particulate matter emissions in excess of 0.1 grain per cubic foot of gas at dry standard conditions.

Regulations III – Permit System

Regulation III is intended to provide an orderly procedure for the review of new sources, and modification and operation of existing sources, of air pollution through the issuance of permits. Regulation III primarily deals with permitting major emission sources and includes, but is not limited to, rules such as General Permit Requirements (Rule 3.1), Exemptions (Rule 3.2), Portable Equipment (Rule 3.3), New Source Review (Rule 3.4), Emission Reduction Credits (Rule 3.5), Emission Statements (Rule 3.7), and Toxics New Source Review (Rule 3.13).

Air Quality Attainment Plans

As a part of the SVAB federal ozone nonattainment area, the YSAQMD works with the other local air districts within the Sacramento area to develop a regional air quality management plan under the FCAA requirement. The currently applicable regional air quality management plan is called the SIP which describes and demonstrates how the Sacramento nonattainment area (in which the project site is located) would attain the required NAAQS by the proposed attainment deadline. In accordance with the requirements of the FCAA, the YSAQMD, along with the other air districts in the region, prepared the *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (Ozone Attainment Plan) in December 2008. The CARB determined that the Ozone Attainment Plan met FCAA requirements and approved the Plan on March 26, 2009 as a revision to the SIP. An update to the plan, *2017 Revisions to the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (2017 Ozone Attainment Plan), was prepared and adopted by CARB on November 16, 2017. An additional update to the plan was prepared and adopted by CARB on October 15, 2018, and known as the *2018 Updates to the California State Implementation Plan.*

The Ozone Attainment Plan, and subsequent updates, demonstrate how existing and new control strategies would provide the necessary future emission reductions to meet the FCAA requirements, including the NAAQS. It should be noted that in addition to strengthening the 8-hour ozone NAAQS, the USEPA also strengthened the secondary 8-hour ozone NAAQS, making the secondary standard identical to the primary standard. The SVAB remains classified as a severe nonattainment area for ozone with an attainment deadline of 2027. On October 26, 2015, the USEPA released a final implementation rule for the revised NAAQS for ozone to address the requirements for reasonable further progress, modeling and attainment demonstrations, and reasonably available control measures (RACM) and reasonably available control technology (RACT). The USEPA published designations for areas in attainment/unclassifiable for the 2015 ozone standards. The USEPA identified the entire Yolo County as nonattainment for the 2015 ozone standards.[32]

City of Davis

In addition to the City's General Plan goals and policies, the City of Davis has various strategies for reducing the City's air quality and GHG emissions, and energy demand. In 1999, Davis joined a small group of cities calling for local action and a national policy on climate change. In 2006, the City joined the U.S. Conference of Mayors Climate Protection Agreement that called for local and national action to reduce GHG emissions. In a follow-up action in spring 2007, the Davis City

[32] U.S. Environmental Protection Agency. *California Final Area Designations for the 2015 Ozone National Ambient Air Quality Standards Technical Support Document.* June 3, 2018.

Council unanimously adopted a strategy to reduce the City's GHG emissions. Based on the City Council action, the City joined the *Cities for Climate Protection* (CCP) program along with hundreds of other communities across the globe to reduce GHG emissions at the local level. The program is designed to educate and empower local governments to take action on climate change. The CCP is a performance-oriented campaign that offers a framework for local governments to reduce GHG emissions and improve livability within their municipalities. As part of this effort, the City of Davis has undertaken various actions to reduce GHG emissions within the City of Davis, including the adoption of the City's CAAP, as well as adoption of local GHG reduction targets, carbon budgets, and carbon allowances for residential land uses.

On March 5, 2019, the Davis City Council adopted a resolution declaring a climate emergency, which proposed a regional mobilization effort to reduce the effects of climate change. As part of the regional mobilization effort, the resolution accelerated the City's previously stated goal of achieving carbon neutrality by the year 2050 to a new carbon neutrality target date of 2040.

The most prominent regulations related to air quality, GHG emissions, and energy established by the City of Davis are discussed in further detail below.

City of Davis General Plan

The City's General Plan includes the following applicable goals, performance objectives, and policies related to air quality, GHG emissions, and energy.

Air Quality Chapter

Goal AIR 1. Maintain and strive to improve air quality.

Policy AIR 1.1 Take appropriate measures to meet the AQMD's goal for improved air quality.

Transportation Element

Goal #2 The Davis transportation system will evolve to improve air quality, reduce carbon emissions, and improve public health by encouraging usage of clean, energy-efficient, active (i.e. human powered), and economically sustainable means of travel.

Performance Objective #2.1 Reduce carbon emissions from the transportation sector by 61 percent by 2035.

Performance Objective #2.2 Reduce vehicle miles traveled (VMT) 39 percent by 2035.

Policy TRANS 1.5 Strive for carbon-neutrality or better from the transportation component of new residential development.

Policy TRANS 1.6 Reduce carbon emissions from the transportation system in Davis by encouraging the use of non-motorized and low carbon transportation modes.

Policy TRANS 1.7	Promote the use of electric vehicles and other low-polluting vehicles, including Neighborhood Electric Vehicles (NEV).
Policy TRANS 1.8	Develop and maintain a work trip-reduction program designed to reduce carbon emissions, criteria pollutants, and local traffic congestion.
Policy TRANS 3.3	Require new development to be designed to maximize transit potential.
Policy TRANS 4.4	Provide pedestrian and bicycle amenities.
Policy TRANS 4.5	Establish and implement bicycle parking standards for new developments and significant redevelopment.

Energy Chapter

Goal ENERGY 1. Reduce per capita energy consumption in Davis.

Policy ENERGY 1.3	Promote the development and use of advanced energy technology and building materials in Davis.
Policy ENERGY 1.5	Encourage the development of energy-efficient subdivisions and buildings.

Davis Climate Action and Adaptation Plan

The City of Davis adopted the Davis 2020-2040 CAAP in April 2023.[33] The CAAP is designed to place the community on a path to achieve carbon neutrality by 2040.

The CAAP includes measurable GHG emissions reduction and climate change adaptation actions that align with the City's net neutrality goals. When implemented, the actions are anticipated to reduce GHG emissions by 37 percent below 2016 levels by 2030 and set the community on a trajectory toward the 2040 carbon neutrality goal. The CAAP actions are intended to prepare the community for climate change impacts, improve public safety, address environmental justice, and enhance the quality of life for residents. Each action achieves a plan goal, organized by sector, as follows: (1) Building Energy and Design; (2) Transportation and Land Use; (3) Water Conservation and Waste Reduction; (4) Climate Adaptation; and (5) Carbon Removal. The CAAP also aims to reduce energy demand by making buildings more efficient, and expanding local renewable energy development and storage.

The Davis CAAP serves as a Qualified GHG Reduction Strategy under Section 15183.5 of the CEQA Guidelines, simplifying development review for new projects that are consistent with the CAAP.

[33] City of Davis. *Climate Action and Adaptation Plan*. April 18, 2023.

City of Davis Municipal Code

The following City of Davis Municipal Code sections would be applicable to the Proposed Project/BRPA.

Section 8.01.060

Section 8.01.060 of the Davis Municipal Code includes updated requirements related to energy efficient water heating systems and undergrounding of all electrical and communication service laterals to any new building or structures.

Section 8.01.090

Section 8.01.090 of the Municipal Code requires mandatory compliance with Tier 1 standards of the CALGreen Code, which would otherwise be voluntary under the CBSC. According to Section A4.602 of Appendix A4 of the CALGreen Code, CALGreen's voluntary Tier 1 standards call for a 15 percent improvement in energy requirements, stricter water conservation, 65 percent diversion of construction and demolition waste, 10 percent recycled content in building materials, 20 percent permeable paving, 20 percent cement reduction, and cool/solar-reflective roofs.

Section 8.01.100

In addition to all requirements of the California Energy Code applicable to new single-family dwellings and new low-rise multi-family dwellings,[34] Section 8.01.100 of the City of Davis Municipal Code requires that all mixed-fuel dwellings[35] comply with the following:

a) **New single-family dwellings.** New mixed-fuel, single-family dwellings shall be required to meet a Total Energy Design Rating (EDR) margin of 9.5 as defined by the 2022 California Energy Code. In addition, the electrical system design shall provide capacity for a future retrofit to facilitate the installation of all electric appliances. This includes capacity and space at the electrical service panel, prewiring and installed circuit breakers for the following appliances:
    1) Heat-pump water heater;
    2) Induction stove top and oven;
    3) Electric clothes dryer; and
    4) Heat-pump for code-required comfort heating.

b) **New low-rise multi-family dwellings.** New mixed-fuel, low-rise multi-family dwellings shall be required to meet a Total Energy Design Rating (EDR) margin of 10 as defined by the 2022 California Energy Code. In addition, the electrical system design shall provide capacity for a future retrofit to facilitate the installation of all electric appliances. This includes capacity and space at the electrical service panel, pre-wiring and installed circuit breakers for the following appliances:
    1) Heat-pump water heater (if applicable);
    2) Induction stove top and oven;
    3) Electric clothes dryer (if applicable); and
    4) Heat-pump for code-required comfort heating.

[34] For the purposes of CALGreen, low-rise multi-family is defined as residential buildings that include three stories or less.

[35] A "mixed-fuel dwelling" is a dwelling that uses natural gas or propane as fuel for space heating, water heating (including pools and spas), cooking appliances, or clothes drying appliances or is plumbed for such equipment.

Section 8.01.110

In addition to all requirements of the CALGreen Code applicable to new non-residential and high-rise multi-family dwellings,[36] Section 8.01.110 of the City of Davis Municipal Code requires the following:

a) **New non-residential buildings.** New non-residential buildings shall comply with the Tier 1 (ten percent compliance margin) requirement for energy efficiency by employing energy efficiency measures. In addition, a PV system sized to offset a portion of the total building energy use based on TDV energy is required. The PV sizing shall be consistent with the methodology included in the cost effectiveness study provided by TRC. The PV sizing calculations were developed such that PV size would be the lessor of approximately eighty percent offset of the building's modeled annual electric load or fifteen DC watts per square feet of solar zone. The solar zone must have a total area of no less than fifteen percent of the total roof area in accordance with Section 9.3.1 of the 2016 Non-residential Compliance Manual.

b) **New high-rise multi-family dwellings.** New high-rise multi-family dwellings shall comply with the Tier 1 (ten percent compliance margin) requirement for energy efficiency by employing energy efficiency measures. In addition, a PV system sized to offset a portion of the total building energy use based on TDV energy is required. The PV sizing calculations were developed such that PV size would be the lessor of approximately eighty percent offset of the building's modeled annual electric load or fifteen DC watts per square feet of solar zone. The solar zone must have a total area of no less than fifteen percent of the total roof area in accordance with Section 9.3.1 of the 2016 Non-residential Compliance Manual.

c) New non-residential and high-rise multi-family buildings shall incorporate EV charging stations as determined by Tables 1 and 2 (see Table 4.3-6 and Table 4.3-7). Each EV charging station installed shall be credited toward the CALGreen Code requirement for charging spaces.

4.3.4 IMPACTS AND MITIGATION MEASURES

The standards of significance and methodology used to analyze and determine the potential impacts related to air quality, GHG emissions, and energy are described below. In addition, a discussion of the project's impacts, as well as mitigation measures where necessary, is also presented.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines, a significant impact related to air quality, GHG emissions, or energy would occur if the Proposed Project/BRPA would result in any of the following:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State AAQS;
- Expose sensitive receptors to substantial pollutant concentrations;
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people;

[36] For the purposes of CALGreen, high-rise multi-family is defined as residential buildings that include four stories or greater.

Table 4.3-6
Non-residential EV Charging Station Standards

Non-Residential Land Use Category	Required Parking Spaces	EV Chargers	Land Use (from City Parking Code; City Code Section 40.25.090)
Retail	0-10	0	1. Automobile or machinery sales and service garages. 2. Banks, post offices, business and professional offices. 3. Furniture and appliance stores, household equipment or furniture repair shop. 4. Launderettes. 5. Restaurants, beer parlors, nightclubs, and cardrooms. 6. Retail stores, shops, etc. 7. Rooming and lodging houses. 8. Shopping center, neighborhood. 9. Shopping center, community. 10. Land uses where up to 50% of spaces serving employees.
	11-51	1	
	52-102	2	
	Every Additional 50	+1	
Non-Retail	0-10	0	1. Group care homes. 2. Hospitals. 3. Hotels and motor hotels, motels. 4. Manufacturing plants, research or testing laboratories and bottling plants. 5. Medical or dental clinics. 6. Rest home, sanatorium, convalescent home or hospital. 7. Wholesale establishments, warehouses. 8. Land uses where more than 50% of spaces serving employees.
	11-26	1	
	27-42	2	
	Every Additional 15	+1	
Destination	0-10	0	1. Bowling alleys. 2. Churches, schools, day care centers and nursery schools. 3. Dance halls and assembly halls without fixed seats, exhibition halls except assembly rooms in conjunction with auditorium. 4. Funeral home, mortuaries. 5. Sports arenas auditoriums, theaters, assembly halls.
	11-36	1	
	37-62	2	
	Every Additional 25	+1	

Notes:

(1) All other non-modified Tier 1 standards for nonresidential EV charging apply.
(2) All required charging is Level 2 with the exception of non-retail (workplace) charging which can be satisfied by fifty percent Level 1 chargers with fifty percent payment-ready Level 2 chargers due to longer dwell times. Note: calculations for total number of chargers shall be rounded up and rounding shall favor Level 2 chargers.
(3) The first two chargers placed at non-retail (workplace) locations must be payment-ready Level 2 with subsequent chargers optionally Level 1.
(4) Fifty percent of required non-retail (workplace) chargers to be installed prior to issuance of certificate of occupancy if approved prior to January 1, 2020. Remaining required chargers do not have to be installed at time of construction but must be pre-wired and have adequate electrical panel capacity for each future charger. After January 1, 2020, all required chargers must be fully installed.
(5) Chargers should be placed to serve multiple parking spaces – see design recommendations in Section 5 of the City of Davis EV Charging Plan.
(6) EV charging parking spaces shall be included in the required number of parking spaces per Article 40.25 of the City of Davis Zoning Ordinance. If space is available in a parking lot, additional EV charging spaces may be installed beyond the minimum number required subject to review and approval by the department of community development and sustainability.

(Continues on next page)

Table 4.3-6
Non-residential EV Charging Station Standards

Non-Residential Land Use Category	Required Parking Spaces	EV Chargers	Land Use (from City Parking Code; City Code Section 40.25.090)

(7) Conversion of existing parking spaces for EV charging purposes shall be reviewed and approved by the director of community development to assure a balance between full-size parking spaces, compact parking spaces and parking spaces for persons with disabilities.

Table 4.3-7
Residential EV Charging Station Standards

Development Type	Tier 1 Modifications	Notes
Single-Family (1-3 units)	1. Single-family residential development required to pre-install 8 gauge wiring plus reserve room in electrical panel necessary to support Level 2 electric vehicle charging.	1. Addresses key barrier for adding Level 2 home EV charger.
Muti-Family (4 or more units)	1. Multi-family residential development projects are required to provide: (1) Level 1 charging at 5% of all required parking spaces with a minimum of 2 parking spaces served; (2) Level 2 charging at 1% of all required parking spaces where more than 20 parking spaces are required with a minimum of 1 parking space served; (3) conduit adequate for Level 2 charging to serve or reasonably be extended in the future to 25% of all parking spaces; and (4) room in panel(s) and capacity to serve 20% of all parking spaces with Level 1 charging and 5% of all parking spaces with Level 2 charging. Notes: (1) properly located, a single charger can serve multiple parking spaces; (2) reasonable future extension of conduit would not include the removal or trenching of hardscaped surfaces or areas where mature trees would be expected to establish (e.g., pavement, tree wells, etc.).	2. Addresses key barrier for EV use in residential rental settings.

Notes:

(1) All other non-modified Tier 1 standards for residential EV charging apply.
(2) Chargers in multi-family residential settings should be placed to serve multiple parking spaces – see design recommendations in Section 5 of the City of Davis EV Charging Plan.
(3) Level 1 in the context above is defined as a 20A 120V circuit and Level 2 is defined as a 40A 208V/240V circuit.
(4) Level 1 is defined as a 120V hardwired EVSE not a household outlet.
(5) Monitoring equipment to properly charge tenants is encouraged at multi-family locations.

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment;
- Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs;
- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources; or
- Conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

Pursuant to CEQA Guidelines Section 15064.4(b)(2), the lead agency is charged with determining a threshold of significance that is applicable to the project. For the analysis within this EIR, the

City has elected to use the YSAQMD's thresholds of significance, as well as the City of Davis adopted goal of net carbon neutrality by the year 2040, as set forth in the City's CAAP. The analysis in this EIR uses the thresholds for criteria pollutants, localized CO, TAC emissions, and GHG emissions, as discussed below.

Criteria Pollutant Emissions

The YSAQMD significance thresholds for emissions of ROG, NO_X, and PM_{10} are presented in Table 4.3-8 below and are expressed in maximum tons per year (tons/yr) for ROG and NO_X and maximum pounds per day (lbs/day) for PM_{10}. If the Proposed Project's emissions exceed the pollutant thresholds presented in Table 4.3-8, the project could have a significant effect on air quality, the attainment of federal and State AAQS, and could conflict with or obstruct implementation of the applicable air quality plan.

Table 4.3-8
YSAQMD Thresholds of Significance

Pollutant	Construction Threshold	Operational/Cumulative Threshold
ROG	10 tons/yr	10 tons/yr
NO_X	10 tons/yr	10 tons/yr
PM_{10}	80 lbs/day	80 lbs/day

Source: YSAQMD. Handbook for Assessing and Mitigating Air Quality Impacts. July 11, 2007.

With regard to cumulative emissions of criteria air pollutants, according to the YSAQMD Handbook for Assessing and Mitigating Air Quality Impacts, any project that would individually have a significant air quality impact (i.e., exceed the project level thresholds presented in Table 4.3-8) would also be considered to have a significant cumulative impact.[37] As a result, the cumulative-level emissions thresholds established by YSAQMD are assumed to be identical to the project-level emissions thresholds presented in Table 4.3-8, above.

Ascertaining cancer risk, or similar measurements of health effects from air pollutants, is very difficult for regional pollutants such as the ozone precursors ROG and NO_X. This challenge was addressed in Sierra Club v. County of Fresno (2018) 6 Cal.5th 502, 510, 517-522. In that case, the California Supreme Court held generally that an EIR should "make a reasonable effort to substantively connect a project's air quality impacts to likely health consequences." A possible example of such a connection would be to calculate a project's "impact on the days of nonattainment per year." But the court recognized that there might be scientific limitations on an agency's ability to make the connection between air pollutant emissions and public health consequences in a credible fashion, given limitations in technical methodologies. Thus, the court acknowledged that another option for an agency preparing an EIR might be "to explain why it was not feasible to provide an analysis that connected the air quality effects to human health consequences."

Here, the YSAQMD is the primary agency responsible for ensuring the health and welfare of sensitive individuals to elevated concentrations of emissions in Yolo County. At present, the YSAQMD has not provided any methodology to assist local governments in reasonably and accurately assessing the specific connection between mass emissions of ozone precursors (e.g.,

[37] Yolo-Solano Air Quality Management District. *Handbook for Assessing and Mitigating Air Quality Impacts*. July 11, 2007.

ROG and NO_X) and other pollutants of concern on a regional basis and any specific effects on public health or regional air quality concentrations that might result from such mass emissions.

Ozone concentrations, for instance, depend upon various complex factors, including the presence of sunlight and precursor pollutants, natural topography, nearby structures that cause building downwash, atmospheric stability, and wind patterns. Because of the complexities of predicting ground level ozone concentrations related to the NAAQS and CAAQS, it is not possible to link health risks to the magnitude of emissions exceeding the significance thresholds. To achieve the health-based standards established by the EPA, the air districts prepare air quality management plans that detail regional programs to attain the AAQS. However, if a project within the YSAQMD exceeds the regional significance thresholds, the project could contribute to an increase in health effects in the basin until the attainment standards are met in the SVAB.

Notably, during the litigation process that led to the California Supreme Court decision in Sierra Club v. County of Fresno, the San Joaquin Valley Air Pollution Control District (SJVAPCD) submitted an amicus curiae brief that provided scientific context and expert opinion regarding the feasibility of performing regional dispersion modeling for ozone. In the brief, SJVAPCD states that "CEQA does not require an EIR to correlate a project's air quality emissions to specific health impacts, because such an analysis is not reasonably feasible." As SJVAPCD explains:

> Attainment of a particular NAAQS occurs when the concentration of the relevant pollutant remains below a set threshold on a consistent basis throughout a particular region. For example, the San Joaquin Valley attained the 1-hour ozone NAAQS when ozone concentrations remained at or below 0.124 parts per million Valley-wide on 3 or fewer days over a 3-year period. Because the NAAQS are focused on achieving a particular concentration of pollution region-wide, the Air District's tools and plans for attaining the NAAQS are regional in nature.
>
> For instance, the computer models used to simulate and predict an attainment date for the ozone or particulate matter NAAQS in the San Joaquin Valley are based on regional inputs, such as regional inventories of precursor pollutants (NOx, SOx and VOCs) and the atmospheric chemistry and meteorology of the Valley. At a very basic level, the models simulate future ozone or PM levels based on predicted changes in precursor emissions Valley wide. Because the NAAQS are set levels necessary to protect human health, the closer a region is to attaining a particular NAAQS, the lower the human health impact is from that pollutant.
>
> The goal of these modeling exercises is not to determine whether the emissions generated by a particular factory or development project will affect the date that the Valley attains the NAAQS. Rather, the Air District's modeling and planning strategy is regional in nature and based on the extent to which all of the emission-generating sources in the Valley (current and future) must be controlled in order to reach attainment.
>
> Accordingly, the Air District has based its thresholds of significance for CEQA purposes on the levels that scientific and factual data demonstrate that the [SJVAB] can accommodate without affecting the attainment date for the NAAQS. The Air District has tied its CEQA significance thresholds to the level at which stationary pollution sources must "offset" their emissions…Thus, the CEQA air quality analysis for criteria air pollutants is not really a localized, project-level impact analysis but one of regional cumulative impacts.

The brief explains that these CEQA thresholds of significance are not intended to be applied such that any localized human health impact associated with a project's regional pollutant emissions could be identified. Rather, CEQA thresholds of significance are used to determine whether a

project's emissions would obstruct a region's capability of attaining the NAAQS and CAAQS according to the emissions inventory prepared in a SIP, which is then submitted and reviewed by CARB and EPA. This sentiment is corroborated in an additional brief submitted by the South Coast Air Quality Management District. Based on the expert analyses submitted by these leading air districts, the City has concluded that it is not scientifically feasible to predict in a meaningful manner how mass emissions of pollutants of regional concern (e.g., ozone precursors) from a project of the size of the Proposed Project/BRPA could lead to specific public health consequences, changes in pollutant concentrations, or changes in the number of days for which the SVAB will be in nonattainment for regional pollutants.

Localized CO Emissions

The YSAQMD recommends the use of screening thresholds to assess a project's potential to create an impact through the creation of CO hotspots. A violation of the CO standard could occur if either of the following criteria is true of any street or intersection affected by the mitigated project:[38]

- The project would reduce peak-hour level of service (LOS) on one or more streets or at one or more intersections to an unacceptable LOS (typically LOS E or F); or
- The project would increase a traffic delay by 10 or more seconds on one or more streets or at one or more intersections in the project vicinity where a peak hour LOS of F currently exists.

However, considering that the law has changed with respect to how transportation-related impacts may be addressed under CEQA such that unacceptable LOS is no longer considered a significant impact on the environment under CEQA, the analysis herein related to localized CO emissions uses guidance from the nearby Sacramento Metropolitan Air Quality Management District (SMAQMD) and Placer County Air Pollution Control District (PCAPCD). According to the SMAQMD's CEQA Guide,[39] emissions of CO are generally of less concern than other criteria pollutants, as operational activities are not likely to generate substantial quantities of CO, and the SVAB has been in attainment for CO for multiple years. Thus, SMAQMD no longer recommends an analysis of localized CO emissions. The PCAPCD, which has jurisdiction over a portion of the SVAB, has a screening level for localized CO impacts. According to the PCAPCD screening level, a project could result in a significant impact if the project would result in CO emissions from vehicle operations in excess of 550 lbs/day.[40]

TAC Emissions

For TAC emissions, if a project would introduce a new source of TAC or a new sensitive receptor near an existing source of TAC that would not meet the CARB's minimum recommended setback, a detailed health risk assessment may be required. As such, in addition to the thresholds of significance presented above for criteria air pollutants, YSAQMD has also developed thresholds for potential exposure of the public to TACs from new stationary sources. Exposure of the public to TACs from new stationary sources in excess of the following thresholds would be considered a significant impact:

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38 Yolo-Solano Air Quality Management District. *Handbook for Assessing and Mitigating Air Quality Impacts* [p. 21]. July 11, 2007.
39 Sacramento Metropolitan Air Quality Management District. *CEQA Guide*. April 2020.
40 Placer County Air Pollution Control District. *CEQA Air Quality Handbook*. November 21, 2017.

- Probability of contracting cancer for the Maximally Exposed Individual (MEI) equals 10 in one million or more; and
- Ground-level concentrations of non-carcinogenic TACs would result in a Hazard Index equal to 1.0 for the MEI or greater.

Although the YSAQMD has established thresholds for exposure to TACs from new stationary sources, a threshold for exposure of the public to mobile TAC emissions, such as emissions associated with DPM from heavy-duty diesel trucks or off-road construction equipment, does not currently exist. In the absence of a specified threshold for assessing impacts of mobile sources of TACs on a sensitive land use, the industry standard is to use the stationary source threshold of an increase in cancer risk of 10 in one million and a Hazard Index greater than one, which is the standard that has been used throughout the State for similar health risk analyses.

GHG Emissions

With respect to establishing significance thresholds for GHG emissions, CEQA Guidelines Section 15064.4 states:

> (a) The determination of the significance of GHG emissions calls for a careful judgment by the lead agency consistent with the provisions in Section 15064. 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.
> (b) A lead agency should consider the following factors, among others, when assessing the significance of impacts from GHG emissions on the environment:
> (1) The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting;
> (2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project;
> (3) 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. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of GHG emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

Thus, one threshold that is commonly used to analyze a project's GHG emissions is whether the project would conflict with or obstruct the goals, strategies, or governing regulation (Health & Safety Code, Section 38500-38599) of the California Global Warming Solutions Act of 2006 (AB 32) and the GHG reduction targets in SB 32.

The YSAQMD, in their Handbook for Assessing and Mitigating Air Quality Impacts, acknowledges that new emissions generated by development projects could potentially conflict with existing GHG emissions reductions targets, and, thus, a need for development of GHG emissions thresholds exists. However, the YSAQMD has not yet established or adopted any GHG emissions thresholds. The YSAQMD is currently recommending GHG analysis consistent with the SMAQMD adopted thresholds of significance. While SMAQMD recognizes that emissions from a single project cannot be determined to substantially impact overall GHG emissions levels in the atmosphere, an emissions threshold is useful to trigger further project review and assess mitigation. As such, SMAQMD has developed thresholds for project construction and operational

GHG emissions that allow for review of proposed projects to ensure consistency with the emissions-reduction goals of AB 32, SB 32, the Scoping Plan, and relevant executive orders. Although SMAQMD has developed thresholds for project CEQA review, SMAQMD further specified that where cities have adopted city-specific climate action plans or GHG reduction plans, proposed projects should be assessed in relation to those city-specific plans, rather than SMAQMD's thresholds. As discussed in further depth below, the City of Davis has adopted a CAAP, which is considered the relevant GHG reduction program for operational GHG emissions of existing and proposed developments within the City.

The 2020 Yolo County Regional GHG Emissions Inventory Update for the Cities of Davis, Winters and Woodland – Draft Technical Memorandum (2020 GHG Emissions Inventory), includes an estimation of citywide 2016 emissions levels, which were used as the basis for the City of Davis's citywide GHG reduction target thresholds.[41] The emissions reductions targets provide a desired rate of reduction, which are more ambitious than the State's most recent target set in EO B-55-18, and include achievement of citywide carbon neutrality by 2040.

The CAAP includes measurable GHG emissions reduction and climate change adaptation actions that align with the City's net neutrality goals. When implemented, the actions are anticipated to reduce GHG emissions within the City by 37 percent below 2016 levels by 2030 and set the community on a trajectory toward the 2040 carbon neutrality goal. As such, projects that were considered within the 2020 GHG Emissions Inventory can be addressed through the CAAP GHG emissions reduction and climate change adaptation actions.

The Proposed Project/BRPA would require a sphere of influence (SOI) amendment, annexation into the City of Davis, a General Plan amendment, and pre-zoning of the site. As such, the Proposed Project/BRPA was not considered within the 2020 GHG Emissions Inventory. In order to maintain the emissions reductions trajectory anticipated by the CAAP and mandated by the City's climate emergency declaration, the Proposed Project/BRPA would be required to demonstrate that operations would not exceed existing emissions levels associated with the project site/BRPA site. Should the Proposed Project/BRPA result in increased on-site emissions relative to existing levels, the project would be responsible for reducing post-project emissions to a level equal to the existing level of emissions. By ensuring that emissions from the Proposed Project/BRPA remain at or below existing levels, the project would provide a proportionate share of emissions reductions and would not inhibit attainment of citywide net carbon neutrality by the year 2040, nor would the project conflict with the City's CAAP.

A downward trajectory to carbon neutrality could be achieved through various means. For instance, design features could be incorporated into the project design to reduce operational emissions. Design features could include natural ventilation systems to reduce energy use or all electric appliances to reduce the consumption of natural gas on-site. The project applicant would be able to demonstrate the on-site emissions reductions achieved through design features, which would continue to reduce emissions throughout the lifespan of the project. Should project design features be insufficient to reduce emissions on-site, the project applicant would be required to show off-site reductions sufficient to meet reduction requirements for net carbon neutrality by 2040. Off-site measures could be implemented within the City of Davis, for instance through funding of tree-planting programs, or through the purchase of off-set credits through CARB or YSAQMD verified off-set programs. Furthermore, the project applicant could participate in any

[41] Yolo County Department of Community Services. *Yolo County Regional Greenhouse Gas Emissions Inventory Update for the Cities of Davis, Winters and Woodland – Draft Technical Memorandum*. April 30, 2020.

future off-set programs established by the City. Should project emissions be shown to achieve a downward trajectory from the anticipated emissions level to carbon neutrality (zero $MTCO_2e$/yr) by the year 2040, project operations would be considered in compliance with the City's adopted GHG emissions reduction goal and the City's CAAP.

Therefore, the Proposed Project/BRPA would be considered to conflict with the City's GHG reduction targets, if the project would result in net positive operational GHG emissions by the year 2040. Conformance with the City's goal of net carbon neutrality by 2040 would also demonstrate compliance with the City's CAAP and consistency with the statewide reduction targets of AB 32 and SB 32.

Although the City has adopted clear GHG reductions goals, which the City has elected to use as operational thresholds for the Proposed Project/BRPA in this EIR, the City has not specifically adopted goals or thresholds to analyze GHG emissions associated with construction of proposed projects. As discussed above, the YSAQMD is currently recommending GHG analysis consistent with the SMAQMD adopted thresholds of significance. For construction-related GHG emissions, the SMAQMD has adopted a threshold of significance of 1,100 $MTCO_2e$/yr. As such, if construction of the Proposed Project/BRPA would result in emissions that exceed 1,100 $MTCO_2e$/yr, then construction of the Proposed Project/BRPA could be considered to result in a potentially significant impact and mitigation measures would be required.

Energy

Quantitative thresholds for the analysis of potential impacts related to energy consumption have not been adopted by any local, regional, or statewide entities. Consequently, potential impacts of the project/BRPA related to energy will be determined based on whether the project/BRPA would result in wasteful, inefficient, or unnecessary use of energy. In addition, the potential for the project/BRPA to conflict with or obstruct a State or local plan for renewable energy generation or energy efficiency is considered. The analysis of energy consumption includes consideration of energy demand during both construction and operations of the Proposed Project/BRPA.

Method of Analysis

A comparison of project-related emissions (including emissions generated from the Proposed Project and the BRPA) to the thresholds discussed above shall determine the significance of the potential impacts to air quality and climate change resulting from the Proposed Project/BRPA. Emissions attributable to the Proposed Project/BRPA which exceed the significance thresholds could have a significant effect on regional air quality and the attainment of the federal and State AAQS, global climate change, and energy. Where potentially significant impacts are identified, mitigation measures are described that would reduce or eliminate the impact.

The analysis protocol and guidance provided by the YSAQMD's Handbook for Assessing and Mitigating Air Quality Impacts was used to analyze the Proposed Project's and the BRPA's air quality impacts, including screening criteria and pollutant thresholds of significance. Details regarding the methodology and assumptions used for the Proposed Project's and BRPA's air quality and GHG impact analysis are provided below.

Construction Emissions

The Proposed Project and the BRPA would both be built out over four phases across approximately seven years. As a result, modeling construction of the entire project area in one phase would not represent a realistic analysis. Thus, in order to provide a more realistic evaluation

of potential impacts, while also remaining conservative, the modeling conducted for construction of both the Proposed Project and the BRPA is for the most intensive construction phase, which would be Phase 1. The approximate boundaries of Phase 1 for the Proposed Project and the BRPA are shown in Figure 3-13 and Figure 3-23, included in Chapter 3, Project Description, of this EIR, respectively.

As discussed therein, Phase 1 of the Proposed Project is anticipated to include development of the following:

- West Park North (60 affordable, medium-density, multi-family residential units);
- West Park South (240 affordable, high-density, multi-family residential units);
- Central Village and Parkside Village East (470 medium-density homes consisting of starter single-family homes, townhomes, and cottages);
- East Village (220 market-rate low-density residential units);
- The Urban Agricultural Transition Area (UATA);
- Greenbelts along Pole Line Road, East Covell Boulevard, and the adjoining City-owned property to the north of the project site; and
- Internal greenbelts and trails.

Phase 1 of the BRPA is anticipated to include development of the following:

- West Park North and South (360 multi-family units, 270 of which would be affordable and 90 of which would be market-rate multi-family units);
- East Village (265 medium-density units consisting of single-family units and duplexes);
- Central Villages East and West (315 medium-density units consisting of single-family units and duplexes);
- Greenbelts along Pole Line Road, East Covell Boulevard, and the adjoining City-owned property to the north of the BRPA site;
- Internal greenbelts and trails; and
- The UATA.

It should also be noted that, as presented in the Public Services and Recreation chapter of this EIR, the City could condition the Proposed Project/BRPA to construct the proposed fire station during Phase 1 of the Proposed Project/BRPA. Therefore, to provide a conservative analysis, the Phase 1 construction modeling assumed construction of the proposed fire station.

In addition, Phase 1 of both the Proposed Project and the BRPA would include the installation of water, sewer, and storm drain infrastructure within existing and proposed roadways, as well as electrical and communication infrastructure. Phase 1 would also include the relocation and expansion of Channel A and the new detention basin.

Due to the size of the Phase 1 disturbance area, the backbone infrastructure proposed to be constructed as part of Phase 1, and certain level of development included in Phase 1, Phase 1 of the Proposed Project and the BRPA would represent the most emissions-intensive phase of construction. Notably, the entire project site/BRPA site would be mass graded as part of Phase 1, whereas all other phases of construction would result in a less intensive level of development as compared to Phase 1, as finished grading (i.e., setting building pads and street heights) would be done over smaller areas on top of the mass grading. Thus, the subsequent phases would be less emissions intensive as compared to Phase 1.

The Proposed Project's and BRPA's short-term construction emissions associated with buildout of Phase 1 were estimated using the CalEEMod version 2022.1.1.22 web-based software, which is a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify air quality emissions from land use projects. The model applies inherent default values for various land uses, including trip generation rates based on the Institute of Transportation Engineers (ITE) Manual, vehicle mix (i.e., the proportion of diesel, gasoline, electric, natural gas, and plug-in hybrid vehicle types), trip length, average speed, etc. However, where project-specific data was available, such data was input into the model.

Accordingly, the Phase 1 construction modeling for both the Proposed Project and the BRPA assumed the following:

- Construction would commence in April of 2026 and would occur over an approximately four-year period;
- Approximately 11,261.3 cubic yards (CY) of material would be exported off-site during grading;
- The site preparation, grading, paving, and building construction phase timing was adjusted based on project-specific information provided by Cunningham Engineering;
- Based on typical construction practices, the architectural coating phase of construction was assumed to begin two weeks after the commencement of the building construction phase and occur over a similar number of days; and
- The number of anticipated pieces of construction equipment was increased during the grading phase to account for the amount of on-site material movement from the UATA to the proposed development area, which, according to Cunningham Engineering, is estimated to be approximately 1,000,000 CY.

Operational Emissions

Operational emissions associated with the Proposed Project and the BRPA were estimated using CalEEMod. Based on the construction information provided by the project engineer, the Proposed Project and the BRPA are both anticipated to be fully operational by 2033. The project-specific trip generation and VMT data provided by Fehr & Peers for full buildout of the Proposed Project and full buildout of the BRPA was applied to the project modeling.[42] In addition, the project applicant has committed to the prohibition of natural gas on-site. As such, the modeling assumes that the Proposed Project and the BRPA would be built all-electric. Given the program-level entitlements being sought at this time, the project engineer has not yet identified the extent of on-site roof-top solar that would be provided. On-site solar energy generation would be required in compliance with Title 24, through the provision of roof-top solar, and will be calculated prior to issuance of building permits in compliance with Mitigation Measure 4.3-8. For conservative purposes, the modeling in this EIR performed for the current set of program-level entitlements does not account for the provision of on-site solar energy systems.

The results of emissions estimations were compared to the standards of significance discussed above in order to determine the associated level of impact. All CalEEMod modeling results are included in Appendix C to this EIR.

[42] Fehr & Peers. *Village Farms Davis Transportation Impact Study*. November 2024.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts is based on implementation of the Proposed Project/BRPA in comparison with the standards of significance identified above. GHG emissions are inherently cumulative; thus, the discussion of GHG impacts is included under the Cumulative Impacts and Mitigation Measures section below.

4.3-1 Conflict with or obstruct implementation of the applicable air quality plan during project construction. Based on the analysis below, the impact is *less than significant*.

During construction of the Proposed Project/BRPA, various types of equipment and vehicles would temporarily operate on the project/BRPA site. Construction-related emissions would be generated from demolition activity, construction equipment, vegetation clearing and earth movement activities, construction workers' commute, and construction material hauling for the entire construction period. The aforementioned activities would involve the use of diesel- and gasoline-powered equipment that would generate emissions of criteria pollutants. Project/BRPA construction activities also represent sources of fugitive dust, which includes PM emissions. As construction of the Proposed Project/BRPA would generate emissions of criteria air pollutants, including ROG, NO_X, and PM_{10}, intermittently within the site and in the vicinity of the site, until all construction has been completed, construction is a potential concern, as the Proposed Project/BRPA is located in a nonattainment area for ozone and PM.

The following discussions include an analysis of the potential for the Proposed Project, as well as the BRPA, to conflict with or obstruct implementation of the applicable air quality plan during project construction.

Proposed Project

The maximum unmitigated construction emissions associated with Phase 1 of construction, which represents the most emissions-intensive phase of construction, have been estimated using CalEEMod for the Proposed Project and are presented in Table 4.3-9. The construction modeling assumptions are described in the Method of Analysis section above.

Table 4.3-9
Maximum Unmitigated Construction-Related Emissions – Proposed Project Phase 1

	ROG	NO_X	PM_{10}
Project Emissions	2.58 tons/yr	3.61 tons/yr	21.6 lbs/day
YSAQMD Threshold of Significance	*10.00 tons/yr*	*10.00 tons/yr*	*80.00 lbs/day*
Exceeds Threshold?	**NO**	**NO**	**NO**

Source: CalEEMod, November 2024 (see Appendix C).

As shown in the table, the Proposed Project's maximum short-term construction-related emissions would be below the applicable YSAQMD thresholds of significance. Therefore, construction-related emissions resulting from implementation of the Proposed Project would not result in a contribution to the region's nonattainment status

of ozone or PM and would not violate an air quality standard or contribute substantially to an existing or projected air quality violation.

In addition, while all projects within the YSAQMD, including the Proposed Project, are required to comply with all YSAQMD rules and regulations for construction, including Rule 2.1 (Control of Emissions), Rule 2.28 (Cutback and Emulsified Asphalts), Rule 2.5 (Nuisance), Rule 2.14 (Architectural Coatings), and Rule 2.11 (Particulate Matter Concentration), the Proposed Project was modeled without the inclusion of such rules and regulations to provide a conservative, worst-case emissions scenario. Even under the conservative assumptions used for this analysis, emissions of PM_{10} would remain below the YSAQMD's thresholds of significance.

According to YSAQMD Guidance, even projects not exceeding the YSAQMD construction-related PM thresholds should implement best management practices to reduce dust emissions and avoid localized health impacts. The YSAQMD's best management practices for dust include, but are not necessarily limited to, the following:

- Watering of all active construction sites at least twice daily;
- Maintenance of at least two feet of freeboard in haul trucks;
- Covering of all trucks hauling dirt, sand, or loose materials;
- Application of non-toxic binders to exposed areas after cut and fill operations and hydroseeding of area, as applicable and/or necessary;
- Application of chemical soil stabilizers on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days), as applicable and/or necessary;
- Planting of vegetative ground cover in disturbed areas as soon as possible;
- Covering of inactive storage piles;
- Sweeping of streets if visible soil material is carried out from the construction site; and
- Treatment of accesses to distance of 100 feet from the paved road with a six- to 12-inch layer of wood chips, mulch, or gravel.

Compliance with the aforementioned rules and regulations related to construction, as well as implementation of best management practices for dust, would help to minimize emissions generated during construction activities.

Biological Resources Preservation Alternative

Similar to the Proposed Project, the maximum unmitigated construction emissions associated with Phase 1 of construction for the BRPA have been estimated using CalEEMod and are presented in Table 4.3-10. The construction modeling assumptions are described in the Method of Analysis section above.

Table 4.3-10
Maximum Unmitigated Construction-Related Emissions – BRPA Phase 1

	ROG	NO_X	PM_{10}
Project Emissions	2.67 tons/yr	3.61 tons/yr	21.6 lbs/day
YSAQMD Threshold of Significance	*10.00 tons/yr*	*10.00 tons/yr*	*80.00 lbs/day*
Exceeds Threshold?	**NO**	**NO**	**NO**

Source: CalEEMod, November 2024 (see Appendix C).

As shown in the table, the BRPA's maximum short-term construction-related emissions would be below the applicable YSAQMD thresholds of significance. Therefore, construction-related emissions resulting from implementation of the BRPA would not result in a contribution to the region's nonattainment status of ozone or PM and would not violate an air quality standard or contribute substantially to an existing or projected air quality violation.

Furthermore, as discussed above, all projects within the YSAQMD, are required to comply with all YSAQMD rules and regulations for construction. However, similar to the Proposed Project, the BRPA was modeled without the inclusion of such rules and regulations to provide a conservative, worst-case emissions scenario. Even under the conservative assumptions used for this analysis, emissions of PM_{10} would remain below the YSAQMD's thresholds of significance. In addition, as noted above, according to YSAQMD Guidance, even projects not exceeding the YSAQMD construction-related PM thresholds should implement best management practices to reduce dust emissions and avoid localized health impacts.

Similar to the Proposed Project, compliance with the aforementioned rules and regulations related to construction, as well as implementation of best management practices for dust, would help to minimize emissions generated during construction activities associated with the BRPA.

Conclusion

Because implementation of the Proposed Project and BRPA would result in construction-related emissions below the applicable thresholds of significance and would comply with applicable YSAQMD rules, regulations, and best management practices for dust, construction activities associated with development of the Proposed Project and BRPA would result in a ***less-than-significant*** impact.

Mitigation Measure(s)

None required.

4.3-2 Conflict with or obstruct implementation of the applicable air quality plan during project operation. Based on the analysis below, even with implementation of mitigation, the impact is *significant and unavoidable*.

Due to the nonattainment designations of the area, the YSAQMD has developed plans to attain the State and federal standards for ozone and PM. The currently applicable air quality plan is the Ozone Attainment Plan. Adopted YSAQMD rules and regulations, as well as the thresholds of significance, have been developed with the intent to ensure continued attainment of AAQS, or to work towards attainment of AAQS for which the area is currently designated nonattainment, consistent with the applicable air quality plan. Thus, if a project's operational emissions exceed the YSAQMD's mass emissions thresholds for operational emissions of ROG, NO_X, or PM_{10}, a project would be considered to conflict with or obstruct implementation of the YSAQMD's air quality planning efforts.

Emissions of ROG, NO_X, and PM_{10} would be generated during operations of the Proposed Project/BRPA from both mobile and stationary sources such as architectural coatings, landscape maintenance equipment exhaust, and consumer products (e.g., deodorants, detergents, hair spray, cleaning products, spray paint, insecticides, floor finishes, polishes, etc.). The most significant source of emissions related to the Proposed Project/BRPA would be from mobile sources. As discussed in the Method of Analysis section above, to capture the potential emissions related to mobile sources from the Proposed Project and BRPA, the project-specific trip generation rates and VMT estimates prepared by Fehr & Peers were applied to the project modeling.

The following discussions include an analysis of the potential for the Proposed Project, as well as the BRPA, to conflict with or obstruct implementation of the applicable air quality plan during project operation.

Proposed Project

The maximum unmitigated operational emissions for the Proposed Project have been estimated using CalEEMod and are presented in Table 4.3-11. The operational modeling assumptions are described in the Method of Analysis section above.

Table 4.3-11
Maximum Unmitigated Operational Emissions – Proposed Project

	ROG	NO_X	PM_{10}*
Project Emissions	22.6 tons/yr	8.6 tons/yr	88.4 lbs/day
YSAQMD Significance Threshold	*10.00 tons/yr*	*10.00 tons/yr*	*80.00 lbs/day*
Exceeds Threshold?	**YES**	**NO**	**YES**

* The CalEEMod modeling includes 88.396 lbs/day of mobile source PM_{10} emissions and 0.0528 lbs/day of area source emissions. Rounding within the CalEEMod report has resulted in slight differences in summation.

Source: CalEEMod, October 2024 (see Appendix C).

As shown in the table above, the Proposed Project's maximum unmitigated operational emissions of NO_X would be below the applicable YSAQMD threshold of significance. However, the Proposed Project's maximum unmitigated operational emissions of ROG and PM_{10} would exceed the applicable YSAQMD thresholds of significance. Accordingly, the Proposed Project could violate an air quality standard or contribute substantially to an existing or projected air quality violation.

Biological Resources Preservation Alternative

Similar to the Proposed Project, the maximum unmitigated operational emissions for the BRPA have been estimated using CalEEMod and are presented in Table 4.3-12. The operational modeling assumptions are described in the Method of Analysis section above.

As shown in the table above, the BRPA's maximum unmitigated operational emissions of NO_X would be below the applicable YSAQMD threshold of significance. However, the BRPA's maximum unmitigated operational emissions of ROG and PM_{10} would exceed the applicable YSAQMD thresholds of significance. Accordingly, the BRPA

could violate an air quality standard or contribute substantially to an existing or projected air quality violation.

Table 4.3-12
Maximum Unmitigated Operational Emissions – BRPA

	ROG	NO_X	PM_{10}*
Project Emissions	24.6 tons/yr	9.27 tons/yr	95.9 lbs/day
YSAQMD Significance Threshold	*10.00 tons/yr*	*10.00 tons/yr*	*80.00 lbs/day*
Exceeds Threshold?	**YES**	**NO**	**YES**

* The CalEEMod modeling includes 95.864 lbs/day of mobile source PM_{10} emissions and 0.0528 lbs/day of area source emissions. Rounding within the CalEEMod report has resulted in slight differences in summation.

Source: CalEEMod, October 2024 (see Appendix C).

Conclusion

Based on the above, operation of the Proposed Project and the BRPA could violate an air quality standard or contribute substantially to an existing or projected air quality violation. Therefore, the Proposed Project and BRPA would be considered to result in a ***significant*** impact related to air quality.

Mitigation Measure(s)

The majority of the operational ROG emissions are associated with area sources (11.9 tons/yr for the Proposed Project and 13.8 tons/yr for the BRPA), which are largely from consumer products (11.0 tons/yr for the Proposed Project and 13.0 tons/yr for the BRPA), and with the exception of 0.05 lbs/day associated with area sources, the entirety of operational PM_{10} emissions generated by the Proposed Project/BRPA are associated with mobile sources (88.4 lbs/day for the Proposed Project and 95.9 lbs/day for the BRPA).

Implementation of Mitigation Measure 4.3-2 would reduce the operational area source emissions associated with the Proposed Project and BRPA through the use of zero-VOC paints, finishes, adhesives, and cleaning supplies as shown in Table 4.3-13 and Table 4.3-14. However, as shown in the tables, even with implementation of Mitigation Measure 4.3-2, the Proposed Project's and BRPA's operational ROG emissions would continue to exceed the applicable thresholds of significance.

Table 4.3-13
Maximum Mitigated Operational Emissions – Proposed Project

	ROG	NO_X	PM_{10}
Project Emissions	20.5 tons/yr	8.6 tons/yr	88.4 lbs/day
YSAQMD Significance Threshold	*10.00 tons/yr*	*10.00 tons/yr*	*80.00 lbs/day*
Exceeds Threshold?	**YES**	**NO**	**YES**

Source: CalEEMod, October 2024 (see Appendix C).

Table 4.3-14
Maximum Mitigated Operational Emissions – BRPA

	ROG	NO_X	PM_{10}
Project Emissions	22.4 tons/yr	9.27 tons/yr	95.9 lbs/day
YSAQMD Significance Threshold	*10.00 tons/yr*	*10.00 tons/yr*	*80.00 lbs/day*
Exceeds Threshold?	**YES**	**NO**	**YES**

Source: CalEEMod, October 2024 (see Appendix C).

Possible additional mitigation measures for further reducing consumer product emissions could include limitations on consumer products at the site (e.g., amounts, types, etc.); however, such mitigation cannot be feasibly enforced or verified. The sale, manufacturing, substance control, and content limitation (such as VOC limits) of consumer products are regulated by federal, State, and/or local government agencies. The YSAQMD is charged with local enforcement of regulations regarding consumer products that are associated with effects on air quality. The YSAQMD is also charged with developing measures to offset potential effects on regional air quality through their planning efforts. For example, the regional Ozone Attainment Plan includes existing and new control strategies intended to provide the necessary future emission reductions to meet the ozone NAAQS. Because the Proposed Project or BRPA has not been anticipated by the City's General Plan, the associated emissions have not been anticipated in the regional air quality plans. As such, any future updates to the air quality plans would have to take into account the emissions associated with buildout of the Proposed Project or BRPA (if approved) and include additional strategies to offset the overall regional emissions of ozone, including ROG emissions, through local and/or regional programs.

Feasible mitigation measures to reduce area source PM_{10} emissions are not available, as PM_{10} emissions associated with the Proposed Project/BRPA are almost entirely from mobile sources. Even if area source PM_{10} emissions were reduced to zero lbs/day, PM_{10} emissions associated with the Proposed Project/BRPA would still exceed the applicable YSAQMD threshold of significance. Therefore, mitigation measures to reduce PM_{10} emissions should be focused on mobile source emissions, rather than area source emissions.

With regard to mobile source emissions, implementation of Mitigation Measure 4.13-4 as set forth in the Transportation chapter of this EIR, which requires implementation of Transportation Demand Management (TDM) strategies to reduce the number of vehicle trips that would be generated by the residential component of the Proposed Project/BRPA, would further reduce the Proposed Project's/BRPA's operational mobile source ROG and PM_{10} emissions. However, as discussed therein, existing evidence indicates that the effectiveness of the TDM strategies with regards to vehicle trip reduction can vary based on a variety of factors, including the context of the surrounding built environment (e.g., urban versus suburban) and the aggregate effect of multiple TDM strategies deployed together. Moreover, many TDM strategies are not just site specific, but also rely on implementation and/or adoption by private entities (e.g., elective use of carpool program by residents) and other agencies (e.g., transit service operators). Thus, the effectiveness of the TDM strategies set forth within Mitigation Measure 4.13-4 cannot be quantified at this time and subsequent vehicle trip reduction effects cannot be guaranteed.

Furthermore, the Proposed Project's/BRPA's inherent site and/or design features that would contribute to a reduction in vehicle trips and VMT, such as site enhancements and features that encourage alternative modes of transportation, which subsequently result in a reduction in mobile source emissions of criteria pollutants, including ROG and PM_{10}, have already been accounted for in the project-specific VMT applied in the modeling. Additional measures for the reduction of mobile source emissions (beyond the Proposed Project's/BRPA's inherent site and/or design features and the measures included in Mitigation Measure 4.13-4), sufficient to reduce emissions of ROG and PM_{10} to below the applicable thresholds of significance, are not available, nor feasible for the Proposed Project or BRPA at this time.

Therefore, even with the implementation of feasible mitigation measures, the Proposed Project's/BRPA's operational ROG and PM_{10} emissions would remain *significant and unavoidable*.

Proposed Project, Biological Resources Preservation Alternative

4.3-2 *The following requirement shall be included in the Covenants, Conditions, and Restrictions (CC&Rs) for the residential subdivisions and all commercial and residential leases: Only zero-VOC paints, finishes, adhesives, and cleaning supplies shall be used for all buildings on the project site. Prior to approval of improvement plans for each small lot tentative map, draft language shall be provided to the City of Davis Community Development Department for review and approval.*

4.3-3 Expose sensitive receptors to substantial pollutant concentrations. Based on the analysis below, the impact is *less than significant*.

The major pollutant concentrations of concern are localized CO emissions, TAC emissions, and criteria pollutant emissions, which are addressed below.

Localized CO Emissions

The following includes a discussion of impacts related to localized CO emissions associated with both the Proposed Project and the BRPA.

Proposed Project, Biological Resources Preservation Alternative

Localized concentrations of CO are related to the levels of traffic and congestion along streets and at intersections. Concentrations of CO approaching the AAQS are only expected where background levels are high, and traffic volumes and congestion levels are high. Implementation of the Proposed Project/BRPA would increase traffic volumes on streets near the project site/BRPA site; therefore, the Proposed Project/BRPA would be expected to increase local CO concentrations.

As discussed in the Method of Analysis section above, considering that the law has changed with respect to how transportation-related impacts may be addressed under CEQA such that unacceptable LOS is no longer considered a significant impact on the environment under CEQA, the analysis herein uses guidance from the nearby

SMAQMD and PCAPCD. According to the SMAQMD's CEQA Guidelines, emissions of CO are generally of less concern than other criteria pollutants, as operational activities are not likely to generate substantial quantities of CO, and the SVAB has been in attainment for CO for multiple years. Additionally, the PCAPCD, which has jurisdiction over a portion of the SVAB and is adjacent to the YSAQMD, has a screening level for localized CO impacts. According to the PCAPCD screening levels, a project could result in a significant impact if the project would result in CO emissions from vehicle operations in excess of 550 lbs/day.

According to the modeling performed for the Proposed Project and BRPA, operation of the Proposed Project would result in maximum unmitigated mobile source CO emissions of 425 lbs/day, and operation of the BRPA would result in maximum unmitigated mobile source CO emissions of 462 lbs/day (see Appendix C). Consequently, CO emissions related to mobile sources associated with operation of both the Proposed Project and BRPA would be below the 550 lbs/day screening threshold used by PCAPCD. Therefore, according to the PCAPCD's screening methodology for localized CO emissions, the Proposed Project/BRPA would not be expected to generate localized CO emissions that would contribute to an exceedance of AAQS, and the Proposed Project/BRPA would not expose sensitive receptors to substantial concentrations of localized CO.

TAC Emissions

The following includes a discussion of impacts related to TAC emissions associated with both the Proposed Project and the BRPA.

Proposed Project, Biological Resources Preservation Alternative

Another category of environmental concern is TACs. Health risks associated with TACs are a function of both the concentration of emissions and the duration of exposure, where the higher the concentration and/or the longer the period of time that a sensitive receptor is exposed to pollutant concentrations would correlate to a higher health risk. The CARB's Handbook provides recommended setback distances for sensitive land uses from major sources of TACs, including, but not limited to, freeways and high traffic roads, GDFs, chrome plating operations, distribution centers, and rail yards. The CARB has identified DPM from diesel-fueled engines as a TAC; thus, high volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic are identified as having the highest associated health risks from DPM.

Operational-related emissions of TACs are typically associated with stationary diesel engines or land uses that involve heavy truck traffic or idling. The proposed land uses would not involve long-term or frequent operations of any stationary diesel engines and would not involve heavy truck traffic or idling. Thus, neither the Proposed Project nor the BRPA would expose sensitive receptors to substantial concentrations of DPM during operations.

Construction-related activities have the potential to generate concentrations of TACs, specifically DPM, from on-road haul trucks and off-road equipment exhaust emissions. The construction period would be temporary and would occur over a relatively short duration in comparison to the operational lifetime of the Proposed Project/BRPA. While

methodologies for conducting health risk assessments are associated with long-term exposure periods (e.g., over a 30-year period or longer), construction activities associated with Phase 1 of the Proposed Project and BRPA were estimated to occur over an approximately four-year period, and each subsequent development phase would be anticipated to occur over an even shorter time period. In addition, only portions of the site would be disturbed at a time throughout the construction period, with operation of construction equipment occurring intermittently throughout the course of a day, rather than continuously at any one location on the project site/BRPA site.

All construction equipment and operation thereof would be regulated per the In-Use Off-Road Diesel Vehicle Regulation. The In-Use Off-Road Diesel Vehicle Regulation includes emissions reducing requirements such as limitations on vehicle idling, disclosure, reporting, and labeling requirements for existing vehicles, as well as standards relating to fleet average emissions and the use of Best Available Control Technologies (BACTs).

Considering the intermittent nature of construction equipment operating within an influential distance to the nearest sensitive receptors, the duration of construction activities in comparison to the operational lifetime of the project, the typical long-term exposure periods associated with conducting health risk assessments, and compliance with regulations, the likelihood that any one nearby sensitive receptor would be exposed to high concentrations of DPM for any extended period of time would be low.

Furthermore, as discussed above, both the Proposed Project's and the BRPA's construction-related emissions would be below the applicable mass emissions thresholds of significance for PM_{10}. According to CARB, more than 90 percent of DPM is less than one micrometer in diameter,[43] and, thus, DPM is a subset of $PM_{2.5}$, which comprises a portion of PM_{10}. As a California statewide average, DPM comprises about eight percent of $PM_{2.5}$ in outdoor air,[44] and would represent an even smaller percentage of PM_{10} emissions. Considering that the Proposed Project's/BRPA's construction-related PM_{10} emissions, which include emissions of DPM, would be below the YSAQMD's thresholds of significance, construction of the Proposed Project/BRPA would not be expected to generate substantial DPM emissions such that an increase in cancer risk levels of more than 10 in one million persons or a non-cancer hazard index greater than 1.0 would occur.

Based on the above, the Proposed Project/BRPA would not expose sensitive receptors to substantial concentrations of DPM during construction.

Criteria Pollutants

The following includes a discussion of impacts related to criteria pollutant emissions associated with both the Proposed Project and the BRPA.

[43] California Air Resources Board. *Inhalable Particulate Matter and Health ($PM_{2.5}$ and PM_{10}).* Available at: https://ww2.arb.ca.gov/resources/inhalable-particulate-matter-and-health. Accessed March 2024.

[44] California Air Resources Board. *Overview: Diesel Exhaust & Health.* Available at: https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health. Accessed March 2024.

Proposed Project, Biological Resources Preservation Alternative

As discussed in the Existing Environmental Setting section and summarized in Table 4.3-1, criteria pollutant emissions can cause negative health effects. With regard to the Proposed Project and BRPA, the principal criteria pollutants of concern are localized CO, ozone, and PM. The Proposed Project and BRPA are not anticipated to result in impacts related to localized exposure of sensitive receptors to substantial concentrations of CO. Unlike CO and many TACs, due to atmospheric chemistry and dynamics, ozone and atmospheric PM typically act to impact public health on a cumulative and regional level, rather than a localized level. Due to the cumulative and regional nature of effects from criteria pollutants, the analysis of potential health effects of criteria pollutants is further discussed in Impact 4.3-6.

Conclusion

Based on the above, the Proposed Project/BRPA would not result in the exposure of sensitive receptors to substantial levels of pollutant concentrations, and a ***less-than-significant*** impact would result.

Mitigation Measure(s)

None required.

4.3-4 Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. Based on the analysis below, the impact is *less than significant*.

Pollutants of principal concern include emissions leading to odors, emissions that have the potential to cause dust, or emissions considered to constitute air pollutants. Air pollutants have been discussed in Impacts 4.3-1 through 4.3-3 above. Therefore, the following discussion focuses on emissions of odors and dust.

Odors

The following includes a discussion of impacts related to odors associated with both the Proposed Project and the BRPA.

Proposed Project, Biological Resources Preservation Alternative

As discussed above, due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, quantitative analysis to determine the presence of a significant odor impact is difficult. According to the YSAQMD, common types of facilities that are known to produce odors include, but are not limited to, wastewater treatment facilities, chemical or fiberglass manufacturing, landfills, composting facilities, food processing facilities, refineries, dairies, and asphalt or rending plants.[45] The Proposed Project/BRPA would not introduce any such land uses and is not located in the vicinity of any such existing or planned land uses.

[45] Yolo-Solano Air Quality Management District. *Handbook for Assessing and Mitigating Air Quality Impacts [pg. 14].* July 11, 2007.

Construction activities often include diesel-fueled equipment and heavy-duty trucks, which could create odors associated with diesel fumes that may be considered objectionable. However, construction activities would be temporary and operation of construction equipment would be regulated in accordance with the In-Use Off-Road Diesel Vehicle Regulation, as discussed above. In addition, as required by Mitigation Measure 4.10-1 of this EIR, construction activities would be limited to normal daytime working hours (i.e., 7:00 AM to 7:00 PM Monday through Friday and 8:00 AM to 8:00 PM Saturday and Sunday). The Proposed Project/BRPA would also be required to comply with all applicable YSAQMD rules and regulations, including, but not limited to, Rule 2.1, Rule 2.28, and Rule 2.5, which would help to control construction-related odorous emissions. Considering the large development area and buildout over multiple phases, construction equipment would operate at various locations throughout the project site intermittently, and the distances from the nearest sensitive receptors would allow for dispersal of diesel odors. Accordingly, substantial objectionable odors would not be expected to occur during construction activities.

The YSAQMD also regulates objectionable odors through Rule 2.5 (Nuisance), which prohibits any person or source from emitting air contaminants or other material that result in any of the following: cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; endanger the comfort, repose, health, or safety of any such persons or the public; or have a natural tendency to cause injury or damage to business or property. Rule 2.5 is enforced based on complaints. If complaints are received, the YSAQMD is required to investigate the complaint, as well as determine and ensure a solution for the source of the complaint, which could include operational modifications. Thus, although not anticipated, if odor complaints are made after the Proposed Project or BRPA is developed, the YSAQMD would ensure that such odors are satisfactorily addressed.

Dust

The following includes a discussion of impacts related to dust associated with both the Proposed Project and the BRPA.

Proposed Project, Biological Resources Preservation Alternative

As noted previously, the Proposed Project and BRPA are required to comply with all applicable YSAQMD rules and regulations for construction, including, but not limited to, Rule 2.1 (Control of Emissions), Rule 2.5 (Nuisance), and Rule 2.11 (Particulate Matter Concentration). Furthermore, according to YSAQMD Guidance, even projects not exceeding the YSAQMD construction-related PM thresholds should implement best management practices to reduce dust emissions and avoid localized health impacts, as described in Impact 4.3-1, above. Compliance with YSAQMD rules and regulations and best management practices would help to ensure that dust is minimized during project construction. Following project construction, vehicles operating within the project site/BRPA site would be limited to paved areas of the site, which would not have the potential to create substantial dust emissions. Thus, Proposed Project/BRPA operations would not include sources of dust that could adversely affect a substantial number of people.

Conclusion

For the aforementioned reasons, construction and operations associated with the Proposed Project and BRPA would not result in substantial emissions, such as those leading to odors or dust, which could adversely affect a substantial number of people, and a ***less-than-significant*** impact would result.

Mitigation Measure(s)

None required.

4.3-5 Result in the inefficient or wasteful use of energy, or conflict with a State or local plan for renewable energy or energy efficiency. Based on the analysis below, the impact is *less than significant*.

Energy use associated with construction of the Proposed Project and BRPA, as well as building energy use and transportation energy use associated with operations of the Proposed Project and BRPA, are discussed separately below.

Construction Energy Use

The following includes a discussion of impacts related to construction energy use associated with both the Proposed Project and the BRPA.

Proposed Project, Biological Resources Preservation Alternative

Construction of the Proposed Project and BRPA would involve increased energy demand and consumption related to use of oil in the form of gasoline and diesel fuel for construction worker vehicle trips, hauling and materials delivery truck trips, and operation of off-road construction equipment. In addition, diesel-fueled portable generators may be necessary to provide additional electricity demands for temporary lighting, welding, and for supplying energy to areas of the site where energy supply cannot be met through a hookup to the existing electricity grid; however, grid power would be used as opposed to diesel generators, where feasible.

Typically, at construction sites, electricity from the existing grid is used to power portable and temporary lights or office trailers. Because grid electricity would be used primarily for steady sources such as lighting, not sudden, intermittent sources such as welding or other hand-held tools, the increase in electricity usage at the site during construction would not be expected to cause any substantial peaks in demand. Construction of the Proposed Project/BRPA, which would result in temporary increases in electricity demand, would not cause a permanent or substantial increase in demand that would exceed PG&E's demand projections or exceed the ability of PG&E's existing infrastructure to handle such an increase. Therefore, construction of the Proposed Project or BRPA would not result in any significant impacts on local or regional electricity supplies, the need for additional capacity, or on peak or base period electricity demands. In addition, standards or regulations specific to construction-related electricity usage do not currently exist.

Even during the most intense period of construction, due to the different types of construction activities (e.g., site preparation, grading, building construction), only

portions of the project site/BRPA site would be disturbed at a time, with operation of construction equipment occurring at different locations on the project site/BRPA site, rather than a single location. In addition, all construction equipment and operation thereof would be regulated pursuant to the CARB In-Use Off-Road Diesel Vehicle Regulation. The In-Use Off-Road Diesel Vehicle Regulation is intended to reduce emissions from in-use, off-road, heavy-duty diesel vehicles in California by imposing a five-minute limit on idling, requiring all vehicles to be reported to CARB, restricting the addition of older vehicles into fleets, and requiring fleets to reduce emissions by retiring, replacing, or repowering older engines, or installing exhaust retrofits. Furthermore, as a means of reducing emissions, construction vehicles are required to become cleaner through the use of renewable energy resources. Engine tiers are used to describe the emissions intensity and efficiency of an engine. Construction equipment with Tier 0 or Tier 1 engines are the least efficient, and Tier 4 is the most efficient. In November 2021, the CARB began developing standards for Tier 5 engines. All fleets are currently prohibited from adding Tier 0, Tier 1, or Tier 2 vehicles to the fleet. In addition, starting January 1, 2024, fleets with a total horsepower over 2,501, excluding non-profit training centers, may not add any Tier 3 or Tier 4 Interim vehicles.[46] The In-Use Off-Road Diesel Vehicle Regulation would, therefore, help to improve fuel efficiency for equipment used in construction of the Proposed Project/BRPA.

The CARB enforces off-road equipment regulations through their reporting system, Diesel Off-road Online Reporting System (DOORS). Each construction fleet is required to update their DOORS account within 30 days of buying or selling a vehicle, and DOORS automatically calculates the fleet average index for each fleet. The fleet average index is an indicator of a fleet's overall emission rate, and is based on each vehicle's engine horsepower and model year, and whether it is equipped with a Verified Diesel Emission Control Strategy (VDECS). If a fleet cannot, or does not want to, meet the fleet average target in a given year, the fleet may instead choose to comply with the BACT requirements. A fleet may meet the BACT requirements each year by turning over or installing VDECS on a certain percentage of its total fleet horsepower. 'Turnover' means retiring a vehicle, designating a vehicle as permanent low-use (a vehicle used less than 200 hours per year), repowering a vehicle with a higher tier engine, or rebuilding the engine to a more stringent emission standard. By each compliance date (annually on January 1st), the fleet must either show that its fleet average index was less than or equal to the calculated fleet average target rate, or that the fleet has met the BACT requirements.[47] The project would be required to comply with such regulations, which would ensure that construction equipment meets all State efficiency requirements.

Technological innovations and more stringent standards are being researched, such as multi-function equipment, hybrid equipment, or other design changes, which could help to further reduce demand on oil and limit emissions associated with construction. Over time, as technology progresses and more stringent emissions standards are put in place, construction equipment engines become increasingly efficient. Proposed

[46] California Air Resources Board. *Amendments to the In-Use Off-Road Diesel-Fueled Fleets Regulation*. August 29, 2023.

[47] California Air Resources Board. *Frequently Asked Questions, Regulation for In-Use Off-Road Diesel-Fueled Fleets (Off-Road Regulation)*. August 2014.

Project/BRPA construction would also be required to comply with all applicable YSAQMD rules and regulations, which are indirectly related to energy efficiency, which would help to further reduce energy use associated with the Proposed Project/BPRA.

Based on the above, the temporary increase in energy use occurring during construction of the Proposed Project/BPRA would not result in a significant increase in peak or base demands or require additional capacity from local or regional energy supplies. In addition, the Proposed Project/BRPA would be required to comply with all applicable regulations related to energy conservation and fuel efficiency, which would help to reduce the temporary increase in demand.

Building Energy Demand

The following includes a discussion of impacts related to building energy demand associated with both the Proposed Project and the BRPA.

Proposed Project, Biological Resources Preservation Alternative

The Proposed Project and BRPA would both include development of residential, neighborhood service, public, semi-public, and educational uses. Energy use associated with operation of the Proposed Project/BRPA would be typical of such uses, requiring electricity for interior and exterior building lighting, heating, ventilation, and air conditioning (HVAC) systems, electronic equipment, machinery, refrigeration, appliances, security systems, and more. Maintenance activities during operations, such as landscape maintenance, would involve the use of electric or gas-powered equipment.

The Proposed Project and BRPA are required to comply with all applicable standards and regulations regarding energy conservation and fuel efficiency, including the CBSC and CARB standards, which would ensure that the future uses would be designed to be energy efficient to the maximum extent practicable. Adherence to the most recent CALGreen Code and the Building Energy Efficiency Standards would ensure that the proposed development on-site would consume energy efficiently through the incorporation of such features as efficient water heating systems, high performance attics and walls, and high efficacy lighting. As required by Section 8.01.090 of the Municipal Code, the Proposed Project/BRPA would comply with Tier 1 standards of the CALGreen Code, which would otherwise be voluntary under the CBSC. The Proposed Project and BRPA would also both be subject to the requirements included in Sections 8.01.060, 8.01.100, and 8.01.110 of the Municipal Code, and all applicable CAAP measures related to energy demand, as discussed in the Regulatory Context section, above. In addition, the 2022 CBSC and the 2022 Building Energy Efficiency Standards also require that newly constructed residential and non-residential buildings, including grocery stores, offices, financial institutions, unleased tenant space, retail space, schools, warehouses, auditoriums, convention centers, hotel/motels, libraries, medical office building/clinics, and theaters, be developed to include a solar PV system. Therefore, a portion of the electricity demand associated with the Proposed Project/BRPA would be met by on-site renewable energy.

State regulations promote the generation of renewable energy and encourage energy efficiency through requirements placed on utility providers and strict development standards. For instance, the RPS require utilities, including the PG&E and VCE, to

procure an increasing proportion of electricity from renewable sources. Ultimately the RPS requirements mandate that all electricity produced within the State be renewably sourced by the year 2045.

Based on the air quality modeling prepared for the Proposed Project, the Proposed Project is anticipated to result in increased electricity consumption of approximately 14.02 GWh annually during operations. Compared to the electricity consumption for all of Yolo County, the Proposed Project's contribution would represent a 0.78 percent increase in annual electricity demand as compared to current conditions.

Similarly, based on the air quality modeling prepared for the BRPA, the BRPA is anticipated to result in increased electricity consumption of approximately 13.33 GWh annually during operations. Compared to the electricity consumption for all of Yolo County, the BRPA's contribution would represent a 0.74 percent increase in electricity demand as compared to current conditions.

Although the Proposed Project/BRPA would increase electricity demand in the project/BRPA area, the increased demand is not anticipated to conflict with the PG&E's or VCE's ability to meet the RPS requirements, or exceed PG&E's or VCE's capacity such that the energy demands associated with the Proposed Project/BRPA would not be met. Neither the Proposed Project nor the BRPA would include the use of natural gas.

Increased energy does not necessarily mean that a project would have an impact related to energy resources. Based on Appendix F of the CEQA Guidelines, a proposed project would result in an impact related to energy resources if a project would result in the inefficient use or waste of energy. As stated above, the Proposed Project/BRPA would be required to comply with the efficiency standards set forth in the CBSC, CALGreen Code, Building Energy Efficiency Standards, CARB, the City's Municipal Code, and the City's CAAP, and the Proposed Project/BRPA would not conflict with or obstruct any State or local plans related to renewable energy.

With regard to landscaping and maintenance equipment, AB 1346 requires all new small off-road engines sold after January 1, 2024 to be all-electric. By the time the Proposed Project/BRPA is operational, a reasonable assumption can be made that at least a portion of the landscaping and maintenance equipment that would be used on-site would be electric. Given that electricity from PG&E and VCE is partially generated from renewable sources, the use of electric landscaping and maintenance equipment would be considered more energy efficient than diesel- or gas-powered landscaping and maintenance equipment.

Transportation Energy Demand

The following includes a discussion of impacts related to transportation energy demand associated with both the Proposed Project and the BRPA.

Proposed Project, Biological Resources Preservation Alternative

In addition to on-site energy use, the Proposed Project and BRPA would both result in transportation energy use associated with vehicle trips generated by residents, visitors, and employees travelling to and from the project site/BRPA site.

The average fuel economy for the U.S. passenger vehicle fleet was 24.8 miles per gallon (mpg) in 2022, the most recent year such data is available.[48] In addition, petroleum refineries in the U.S. typically produce approximately 20 gallons of gasoline from one 42-gallon barrel of crude oil.

Using an average of 24.8 mpg and an annual VMT of approximately 44,900,000,[49] the Proposed Project would result in the consumption of approximately 90,524 barrels of crude oil per year. Similarly, using an average of 24.8 mpg and an annual VMT of approximately 47,900,000,[50] the BRPA would result in the consumption of approximately 96,573 barrels of crude oil per year.

California is estimated to consume approximately 605 million barrels of petroleum per year.[51] Based on the annual consumption within the State, vehicle trips generated by both the Proposed Project and the BRPA would result in an approximately 0.01 percent increase in the State's current consumption of gasoline.

The calculation above is likely an overestimate, as the estimate does not account for the increasing ownership of electric vehicles. California leads the nation in registered alternatively-fueled and hybrid vehicles. In fact, under SB 500, the State has required that, starting in the year 2030, all cars sold shall be zero-emission/electric vehicles. In addition, State-specific regulations encourage fuel efficiency and reduction of dependence on oil. Improvements in vehicle efficiency and fuel economy standards help to reduce consumption of gasoline and reduce the State's dependence on petroleum products. The 2022 CBSC also requires new developments to include the necessary electrical infrastructure for EV charging stations. Based on the above, the actual consumption of gasoline associated with the Proposed Project/BRPA is anticipated to be even lower than the 0.01 percent statewide contribution noted above.

The Proposed Project and BRPA would both be required to comply with all applicable regulations associated with vehicle efficiency and fuel economy. In addition, buildout of the Proposed Project/BRPA would involve the provision of sidewalks throughout the project site/BRPA site, as well as several bicycle and pedestrian infrastructure improvements, as described in Impact 4.13-2 included in the Transportation chapter of this EIR and required by Mitigation Measures 4.13-2(a) through 4.13-2(h). Such improvements would provide pedestrian and bicycle connectivity within the project site/BRPA site, thereby helping to discourage driving and reduce vehicle trips and associated transportation energy demand.

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48 U.S. Energy Information Administration. *Total Energy, Table 1.8 Motor Vehicle Mileage, Fuel Consumption, and Fuel Economy*. Available at: https://www.eia.gov/totalenergy/data/browser/?tbl=T01.08#/?f=A&start=200001. Accessed March 2024.

49 The annual VMT estimate presented herein is based on the Transportation Impact Study prepared for the Proposed Project by Fehr & Peers.

50 *Ibid.*

51 U.S. Energy Information Administration. *California: State Profile and Energy Estimates*. Available at: https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_use_pa.html&sid=US&sid=CA. Accessed March 2024.

Conclusion

Based on the above, the Proposed Project/BRPA would not be considered to result in a wasteful, inefficient, or unnecessary use of energy, and neither the Proposed Project, nor the BRPA, is anticipated to conflict with a State or local plan for renewable energy or energy efficiency. Thus, impacts would be considered ***less than significant***.

Mitigation Measure(s)

None required.

Cumulative Impacts and Mitigation Measures

As defined in Section 15355 of the CEQA Guidelines, "cumulative impacts" refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.

A project's emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development projects. The geographic context for the cumulative air quality analysis includes Yolo County and surrounding areas within the portion of the SVAB that is designated nonattainment for ozone and PM.

Climate change occurs on a global scale, and emissions of GHGs, even from a single project, contribute to the global impact. However, due to the existing regulations within the State, for the purposes of this analysis, the geographic context for the analysis of GHG emissions presented in this EIR is the State of California.

Finally, a project's impacts related to energy use may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development projects. The following discussion of energy impacts is based on the implementation of the Proposed Project/BRPA in combination with buildout of the adopted City's General Plan, as well as a list of approved or planned local projects within the project area. Additional detail regarding the cumulative project setting can be found in Chapter 6, Statutorily Required Sections, of this EIR.

4.3-6 Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors). Based on the analysis below, even with implementation of mitigation, the project's incremental contribution to this significant cumulative impact is *cumulatively considerable* and *significant and unavoidable.*

Buildout of the Proposed Project/BRPA would lead to the release of emissions that would contribute to the cumulative regional air quality setting. The following section includes a discussion of both the Proposed Project's and the BRPA's contribution to

the cumulative operational emissions, and the cumulative health effects of exposure to criteria pollutants. Because construction would occur over a relatively short time period as compared to the operational lifetime of the Proposed Project/BRPA, construction emissions are not considered to be cumulative in nature.

Cumulative Emissions

The following includes a discussion of impacts related to cumulative criteria pollutant emissions associated with both the Proposed Project and the BRPA.

Proposed Project, Biological Resources Preservation Alternative

The Proposed Project/BRPA is within an area currently designated as nonattainment for ozone and PM AAQS. By nature, air pollution is largely a cumulative impact. Thus, the Proposed Project/BRPA, in combination with other proposed and pending projects in the region, would significantly contribute to air quality effects within the SVAB, resulting in an overall significant cumulative impact. However, any single project is not sufficient enough in size to, alone, result in nonattainment of AAQS. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's incremental impact on air quality would be considered significant. In developing thresholds of significance for air pollutants, YSAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the significance thresholds, as identified by the YSAQMD and shown in Table 4.3-8 above, that project's emissions would be cumulatively considerable, resulting in a significant adverse air quality impact to the region's existing air quality conditions.[52]

Accordingly, if the Proposed Project/BRPA would result in an increase of ROG, NO_X, or PM_{10} in excess of the YSAQMD's operational phase cumulative-level emissions thresholds, which are equivalent to the YSAQMD's project-level operational emissions thresholds, the project could potentially result in a significant incremental contribution towards cumulative air quality impacts. The Proposed Project's and BRPA's unmitigated cumulative contribution to regional emissions are equivalent to the Proposed Project's and BRPA's unmitigated operational emissions, as presented in Table 4.3-11 and Table 4.3-12.

As shown in Table 4.3-11 and Table 4.3-12, unmitigated operational emissions of NO_X associated with both the Proposed Project and the BRPA would be below the YSAQMD's applicable thresholds of significance. However, the Proposed Project and BRPA would result in operational emissions of ROG and PM_{10} that would exceed the applicable YSAQMD thresholds of significance. Therefore, the Proposed Project and BRPA could result in a cumulatively considerable net increase of a criteria pollutant for which the project region is in non-attainment.

Cumulative Health Effects of Criteria Pollutants

The following includes a discussion of cumulative health impacts related to criteria pollutant emissions associated with both the Proposed Project and the BRPA.

[52] Yolo-Solano Air Quality Management District. *Handbook for Assessing and Mitigating Air Quality Impacts* [pg. 7]. July 11, 2007.

Proposed Project, Biological Resources Preservation Alternative

The AAQS presented in Table 4.3-2 are health-based standards designed to ensure safe levels of criteria pollutants that avoid specific adverse health effects. Because the YSAQMD is designated as nonattainment for ozone, PM_{10}, and $PM_{2.5}$, the YSAQMD, along with other air districts in the SVAB region, has adopted federal and State attainment plans to demonstrate progress towards attainment of the AAQS. Full implementation of the attainment plans would ensure that the AAQS are attained and sensitive receptors within the SVAB are not exposed to excess concentrations of criteria pollutants. The YSAQMD's thresholds of significance were established with consideration given to the health-based air quality standards established by the AAQS and are designed to aid the district in implementing the applicable attainment plans to achieve attainment of the AAQS. Thus, if a project's criteria pollutant emissions exceed the YSAQMD's mass emission thresholds of significance, a project would be considered to conflict with or obstruct implementation of the YSAQMD's air quality planning efforts, thereby delaying attainment of the AAQS. Because the AAQSs are representative of safe levels that avoid specific adverse health effects, a project's hinderance of attainment of the AAQS could be considered to contribute towards regional health effects associated with the existing nonattainment status of ozone and PM standards. However, as noted above, ascertaining cancer risk, or similar measurements of health effects from air pollutants, is very difficult for regional pollutants such as the ozone precursors ROG and NO_X, as there might be scientific limitations on an agency's ability to make the connection between air pollutant emissions and public health consequences in a credible fashion, given limitations in technical methodologies. For example, ozone concentrations depend upon various complex factors, including the presence of sunlight and precursor pollutants, natural topography, nearby structures that cause building downwash, atmospheric stability, and wind patterns. Because of the complexities of predicting ground level ozone concentrations related to the NAAQS and CAAQS, it is not possible to link health risks to the magnitude of emissions exceeding the significance thresholds.

Nonetheless, as discussed in Impact 4.3-2, operation of the Proposed Project and BRPA would result in emissions that exceed the YSAQMD's thresholds of significance. Consequently, implementation of the Proposed Project and BRPA could conflict with the YSAQMD's adopted attainment plans or inhibit attainment of regional AAQS. Therefore, implementation of the Proposed Project and BRPA could contribute towards regional health effects associated with the existing nonattainment status of ozone and PM standards.

Conclusion

Based on the above analysis, the Proposed Project's/BRPA's incremental contribution to the significant cumulative effect could be considered ***cumulatively considerable*** and, as a result, a ***significant*** impact could occur.

Mitigation Measure(s)

The following mitigation measure would reduce operational area-source ROG emissions. However, as discussed under Impact 4.3-2 above, with implementation of Mitigation Measure 4.3-2, operational area-source ROG emissions associated with the Proposed Project and BRPA would still not be reduced to below the applicable

thresholds of significance. In addition, possible additional mitigation measures for further reducing ROG emissions cannot be feasibly enforced or verified, and feasible mitigation measures to reduce area source PM_{10} emissions are not available, as PM_{10} emissions associated with the Proposed Project/BRPA are almost entirely from mobile sources.

With regard to mobile source emissions, implementation of Mitigation Measure 4.13-4 as set forth in the Transportation chapter of this EIR, which requires implementation of TDM strategies to reduce the number of vehicle trips that would be generated by the residential component of the Proposed Project/BRPA, would further reduce the Proposed Project's/BRPA's operational mobile source ROG and PM_{10} emissions. However, as detailed above, the effectiveness of the TDM strategies set forth within Mitigation Measure 4.13-4 cannot be quantified at this time and subsequent vehicle trip reduction effects cannot be guaranteed. Furthermore, additional measures for the reduction of mobile source emissions (beyond the Proposed Project's/BRPA's inherent site and/or design features and the measures included in Mitigation Measure 4.13-4), sufficient to reduce emissions of ROG and PM_{10} to below the applicable thresholds of significance, are not available, nor feasible for the Proposed Project or BRPA at this time.

Based on the above, even with implementation of the following mitigation measure, the Proposed Project's/BRPA's incremental contribution to the significant cumulative effect would remain *cumulatively considerable* and *significant and unavoidable*.

Proposed Project, Biological Resources Preservation Alternative

4.3-6 Implement Mitigation Measure 4.3-2.

4.3-7 Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs during construction. Based on the analysis below and with implementation of mitigation, the project's incremental contribution to this significant cumulative impact is *less than cumulatively considerable*.

Global climate change is inherently a cumulative effect that occurs over a long period of time and is quantified on a yearly basis. Therefore, operational GHG emissions are generally of greater concern as compared to construction-related GHG emissions, as construction-related GHG emissions are a one-time release that would occur over a relatively shorter time period and are not typically expected to generate a significant contribution to global climate change. Nonetheless, construction GHG emissions can marginally contribute to global climate change, and, thus, are discussed in further detail below.

As discussed above, the City has not specifically adopted goals or thresholds to analyze GHG emissions from construction of proposed projects. As such, the YSAQMD is currently recommending GHG analysis consistent with the SMAQMD's

adopted thresholds of significance. For construction-related GHG emissions, the SMAQMD has adopted a threshold of significance of 1,100 $MTCO_2e$/yr.

The following discussions include an analysis of the potential for the Proposed Project, as well as the BRPA to generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs during construction.

Proposed Project

Unmitigated construction-related GHG emissions have been estimated for development of Phase 1 of the Proposed Project, as presented in Table 4.3-15, below. As discussed in the Method of Analysis section above, due to the size of the Phase 1 disturbance area, the backbone infrastructure proposed to be constructed as part of Phase 1, and level of development included in Phase 1, Phase 1 of the Proposed Project would represent the most emissions-intensive phase of construction.

Table 4.3-15
Maximum Unmitigated Construction GHG Emissions ($MTCO_2e$/yr) – Proposed Project

Project GHG Emissions	Threshold of Significance	Exceeds Threshold?
1,274	1,100	**YES**

Source: CalEEMod, March 2024 (see Appendix C).

As shown in Table 4.3-15, the total unmitigated construction emissions associated with the Proposed Project would exceed the SMAQMD 1,100 $MTCO_2e$/yr threshold of significance. As a result, based on the applicable SMAQMD threshold of significance being applied for this analysis, as recommended by YSAQMD, implementation of the Proposed Project could generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG during construction.

Biological Resources Preservation Alternative

Similar to the Proposed Project, unmitigated construction-related GHG emissions have been estimated for development of Phase 1 of the BRPA, as presented in Table 4.3-16, below.

Table 4.3-16
Maximum Unmitigated Construction GHG Emissions ($MTCO_2e$/yr) – BRPA

Project GHG Emissions	Threshold of Significance	Exceeds Threshold?
1,424	1,100	**YES**

Source: CalEEMod, November 2024 (see Appendix C).

As shown in Table 4.3-16, the total unmitigated construction emissions associated with the BRPA would exceed the SMAQMD 1,100 $MTCO_2e$/yr threshold of significance. As a result, based on the applicable SMAQMD threshold of significance being applied for this analysis, as recommended by YSAQMD, implementation of the BRPA could generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG during construction.

Conclusion

Based on the above, implementation of both the Proposed Project and the BRPA could generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG during construction. Thus, construction of the Proposed Project and BRPA could result in a ***cumulatively considerable*** incremental contribution to this significant cumulative impact.

Mitigation Measure(s)

Implementation of Mitigation Measure 4.3-7(a), which requires the use of renewable diesel fuel in all off-road equipment greater than 25 horsepower, would reduce the project's construction-related GHG emissions. As shown in Table 4.3-17, construction-related GHG emissions associated with the Proposed Project would be reduced to below the applicable SMAQMD threshold of significance.

However, as presented in Table 4.3-18, construction-related GHG emissions associated with the BRPA would still exceed the applicable SMAQMD threshold of significance with implementation of Mitigation Measure 4.3-7(a). Consequently, Mitigation Measure 4.3-7(b) would be required for the BRPA only, to ensure construction-related GHG emissions would be below the applicable SMAQMD threshold of significance.

Table 4.3-17
Maximum Mitigated Construction GHG Emissions ($MTCO_2e$/yr) – Proposed Project

Project GHG Emissions	Threshold of Significance	Exceeds Threshold?
1,086.93	1,100.00	**NO**

Source: CalEEMod, November 2024 (see Appendix C).

Table 4.3-18
Maximum Mitigated Construction GHG Emissions ($MTCO_2e$/yr) – BRPA

Project GHG Emissions	Threshold of Significance	Exceeds Threshold?
1,236.93	1,100.00	**NO**

Source: CalEEMod, November 2024 (see Appendix C).

Overall, implementation of the following mitigation measures would reduce the Proposed Project's and BRPA's incremental contribution to the above significant cumulative impact to *less than cumulatively considerable*.

Proposed Project, Biological Resources Preservation Alternative

4.3-7(a) *Prior to approval of any Improvement Plans and/or Grading Plans, the project applicant shall provide proof of compliance with the following to the satisfaction of the City of Davis Community Development Department:*

The project applicant shall show on the plans via notation that the contractor shall ensure that all off-road vehicles 25 horsepower or more to be used in the construction of the Proposed Project, including owned, leased, and subcontractor vehicles, shall be fueled by renewable diesel.

In addition, all off-road equipment operating at the construction site must be maintained in proper working condition according to manufacturer's specifications. Idling shall be limited to five minutes or less in accordance with the In-Use Off-Road Diesel Vehicle Regulation as required by CARB. Clear signage regarding idling restrictions shall be placed at the entrances to the construction site.

Portable equipment over 50 horsepower must have either a valid YSAQMD Permit to Operate (PTO) or a valid statewide Portable Equipment Registration Program (PERP) placard and sticker issued by CARB.

Proof of conformance with the foregoing requirements shall be submitted by the project contractor to the City of Davis Community Development and Public Works Departments for review and approval.

Biological Resources Preservation Alternative

4.3-7(b) *Prior to the initiation of construction of Phase 1 the BRPA, the project applicant shall demonstrate that construction-related GHG emissions would be reduced to 1,100 $MTCO_2e$/yr and shall submit proof to the City of Davis Community Development Department.*

Construction-related GHG emissions can be reduced through several options, including, but not limited to, the following:

- *Modify the construction schedule to reduce the intensity of construction to lower emissions;*
- *Ensure that phases of development do not overlap;*
- *Improve fuel efficiency from construction equipment by:*
    - *Minimizing idling time either by shutting equipment off when not in use or reducing the time of idling to no more than three minutes (five-minute limit is*

required by the state airborne toxics control measure [Title 13, sections 2449(d)(3) and 2485 of the California Code of Regulations]). Provide clear signage that posts this requirement for workers at the entrances to the site; and

- *Using equipment with new technologies (repowered engines, electric drive trains).*

- *Perform on-site emission reductions such as implementing on-site material hauling with trucks equipped with on-road engines (if determined to be less emissive than the off-road engines) or real, quantifiable, permanent, verifiable, and enforceable on-site emission reductions;*
- *Use alternative fuels for generators at construction sites such as propane or solar, or use electrical power;*
- *Use a CARB-approved low carbon fuel for construction equipment; (NOX emissions from the use of low carbon fuel must be reviewed and increases mitigated.)*
- *Encourage and provide carpools, shuttle vans, transit passes and/or secure bicycle parking for construction worker commutes;*
- *Reduce electricity use in the construction office by using LED bulbs, powering off computers every day, and replacing heating and cooling units with more efficient ones;*
- *Recycle or salvage non-hazardous construction and demolition debris (goal of at least 75 percent by weight);*
- *Use locally sourced or recycled materials for construction materials (goal of at least 20 percent based on costs for building materials, and based on volume for roadway, parking lot, sidewalk and curb materials). Wood products utilized should be certified through a sustainable forestry program;*
- *Minimize the amount of concrete for paved surfaces or utilize a low carbon concrete option;*
- *Produce concrete on-site if determined to be less emissive than transporting ready mix;*
- *Use SmartWay certified trucks for deliveries and equipment transport; and*
- *Develop a plan to efficiently use water for adequate dust control.*

The project applicant may elect to implement any combination of the foregoing measures to reduce construction-related GHG emissions. All GHG emissions reductions must be quantified. Compliance with the aforementioned measures shall be ensured by the City of Davis Community Development and Public Works Department.

If the quantified reduction measures do not reduce construction-related GHG emissions associated with Phase 1 of the BRPA to

below 1,100 $MTCO_2e$/yr, offsite carbon credits may be purchased to make up the difference. The purchase of off-site mitigation credits shall be negotiated with the City and YSAQMD at the time that credits are sought. Off-site mitigation credits shall be real, quantifiable, permanent, verifiable, enforceable, and additional, consistent with the standards set forth in Health and Safety Code section 38562, subdivisions (d)(1) and (d)(2). The offsets shall be retired, and emissions must be offset through the year 2045. Such credits shall be based on CARB-approved protocols that are consistent with the criteria set forth in subdivision (a) of Section 95972 of Title 17 of the California Code of Regulations, and shall not allow the use of offset projects originating outside of California, except to the extent that the quality of the offsets, and their sufficiency under the standards set forth herein, can be verified by the City of Davis and/or the YSAQMD. Such credits must be purchased through one of the following: (i) a CARB-approved registry, such as the Climate Action Reserve, the American Carbon Registry, and the Verified Carbon Standard; (ii) any registry approved by CARB to act as a registry under the California Cap and Trade program; or (iii) any registry established by YSAQMD.

4.3-8 Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs during operation. Based on the analysis below and with implementation of mitigation, the project's incremental contribution to this significant cumulative impact is *cumulatively considerable* and *significant and unavoidable*.

An individual project's GHG emissions are at a micro-scale level relative to global emissions and effects to global climate change; however, an individual project could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. As such, impacts related to emissions of GHG are inherently considered cumulative impacts.

Implementation of both the Proposed Project and the BRPA would cumulatively contribute to increases of GHG emissions that are associated with global climate change. Estimated GHG emissions attributable to future development would be primarily associated with increases of CO_2 and, to a lesser extent, other GHG pollutants, such as CH_4 and N_2O. Sources of GHG emissions include area sources, mobile sources or vehicles, utilities (electricity and natural gas), water usage, wastewater generation, and the generation of solid waste.

As discussed above, the City of Davis has recently adopted a CAAP, as well as emissions reductions targets and emissions allowances for projects within the City. In March of 2019, the City adopted a resolution declaring a climate change emergency and accelerating the City's previously identified emissions reductions goal to a new

goal of carbon neutrality by the year 2040. In recognition of the City Council's actions and emissions reductions efforts and policies enacted by the City's CAAP, for the purposes of this EIR, the Proposed Project/BRPA would be considered to have a significant impact if emissions from Proposed Project/BRPA operations would result in net positive operational emissions in the year 2040. Should the Proposed Project/BRPA be shown to reach net neutrality by the year 2040 compared to existing emissions levels associated with the site, the Proposed Project/BRPA would be considered to provide a proportional share of emissions reductions and would not inhibit attainment of citywide net carbon neutrality by the year 2040, nor would the Proposed Project/BRPA conflict with the City's CAAP.

The following discussions include an analysis of the potential for the Proposed Project, as well as the BRPA to generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs during operation.

Proposed Project

The total unmitigated annual operational GHG emissions for the first full year of operation for full buildout of the Proposed Project (assumed to be 2033) were estimated as presented in Table 4.3-19, as emissions from the first full year of operation represent the most conservative assumptions.

Table 4.3-19
Unmitigated Operational GHG Emissions ($MTCO_2e$/yr) – Proposed Project

Source	Annual GHG Emissions
Mobile	16,262
Area	23.5
Energy	1,318
Water	139
Waste	413
Refrigerants	3.47
Total Annual Operational GHG Emissions	**18,160**

Note: Rounding may result in slight differences in summation.

Source: CalEEMod, March 2024 (see Appendix C).

As shown in the table, maximum annual emissions resulting from project operations would equal 18,160.00 $MTCO_2e$/yr. Between 2033 and 2040, existing State regulations, such as EV requirements, would act to reduce emissions from the levels shown in Table 4.3-19. In addition, while the Proposed Project cannot rely solely on compliance with the CAAP GHG emissions reduction and climate change adaptation actions, the project applicant has committed to several project design features that would ensure the Proposed Project is developed in accordance with the CAAP goals. For example, the project applicant has committed to the prohibition of natural gas on site; a portion of on-site units would be affordable housing units; the Proposed Project would include several bicycle and pedestrian infrastructure improvements; and the Proposed Project would implement TDM strategies to reduce VMT, as required by

Mitigation Measure 4.13-4 of this EIR. Such project design features were accounted for in the Proposed Project modeling, as applicable.

Nonetheless, project-specific features sufficient to reduce the anticipated emissions of 18,160.00 $MTCO_2e$/yr in the year 2033 to net carbon neutrality by the year 2040 are not currently included in the Proposed Project. Because project emissions could exceed net carbon neutrality in the year 2040, implementation of the Proposed Project would conflict with the City's recently adopted goal of carbon neutrality by the year 2040.

In addition, the Proposed Project would be required to implement all applicable GHG emissions reduction actions included in the City's CAAP. The Proposed Project's consistency with the reduction actions set forth in the CAAP is discussed in further detail below.

Biological Resources Preservation Alternative

Similar to the Proposed Project, the total unmitigated annual operational GHG emissions for the first full year of operation for full buildout of the BRPA (assumed to be 2033) were estimated as presented in Table 4.3-20, as emissions from the first full year of operation represent the most conservative assumptions.

Table 4.3-20
Unmitigated Operational GHG Emissions ($MTCO_2e$/yr) – BRPA

Source	Annual GHG Emissions
Mobile	17,389
Area	23.5
Energy	1,246
Water	138
Waste	406
Refrigerants	3.8
Total Annual Operational GHG Emissions	**19,206**

Note: Rounding may result in slight differences in summation.

Source: CalEEMod, March 2024 (see Appendix C).

As shown in the table, maximum annual emissions resulting from project operations would equal 19,206.00 $MTCO_2e$/yr. Between 2033 and 2040, existing State regulations would act to further reduce emissions from the levels shown in Table 4.3-20. In addition, similar to the Proposed Project, while the BRPA cannot rely solely on compliance with the CAAP GHG emissions reduction and climate change adaptation actions, the project applicant has committed to the same project design features for the BRPA as listed for the Proposed Project, above, which would ensure the BRPA is developed in accordance with the CAAP goals. Such project design features were accounted for in the BRPA modeling, as applicable.

Nonetheless, project-specific features sufficient to reduce the anticipated emissions of 19,206.00 $MTCO_2e$/yr in the year 2033 to net carbon neutrality by the year 2040 are not currently included in the BRPA. Because project emissions could exceed net

carbon neutrality in the year 2040, implementation of the BRPA would conflict with the City's recently adopted goal of carbon neutrality by the year 2040.

In addition, the BRPA would be required to implement all applicable GHG emissions reduction actions included in the City's CAAP. The BRPA's consistency with the reduction actions set forth in the CAAP is discussed in further detail below.

City of Davis Climate Action and Adaptation Plan

The primary goal of a CAAP is to provide a plan for reducing GHG emissions. The City of Davis CAAP identifies reduction actions intended to reduce future GHG emissions to 37 percent below 2016 levels by 2030 and set the community on a trajectory toward the 2040 carbon neutrality goal.

The following discussion includes an analysis of the Proposed Project's and the BRPA's consistency with the City of Davis CAAP.

Proposed Project, Biological Resources Preservation Alternative

The majority of the reduction actions included within the City's CAAP are targeted for implementation at the City-level, and are, therefore, not applicable to the Proposed Project or the BRPA. For example, under CAAP Action BE.6, the City would establish a carbon mitigation fund to collect voluntary and/or mandatory payments to mitigate local emissions activities, with collected funds used to support a range of local, climate-change-related projects. The Proposed Project/BRPA could be subject to the referenced program, should any such program be adopted by the City in the future. However, CAAP Action BE.6, and many of the other measures included in the CAAP, are not directly applicable to the Proposed Project or the BRPA.[53]

Both the Proposed Project and the BRPA would be generally consistent with the remaining CAAP actions that are applicable to the Proposed Project/BRPA. Specifically, Action TR.11 aims to "develop sustainable housing", which is further expanded on as "Increase housing opportunities to support the jobs/housing balance and decrease vehicle miles traveled. Develop incentive options to increase housing construction in the City, including high-density, mixed-use (especially office space and food service), transit oriented, and affordable options." Both the Proposed Project and the BRPA would consist of a mixed-use development community, including a total of 1,800 dwelling units, comprised of both affordable and market-rate single- and multi-family residences across various residential neighborhoods. In addition, the Proposed Project and the BRPA would include neighborhood services; public, semi-public, and educational uses; associated on-site roadway improvements; utility improvements;

[53] Additional CAAP actions not applicable to the Proposed Project/BRPA include voluntary Actions BE.1 and BE.2 related to existing buildings; actions related to implementation of future policies and programs that have not yet been developed within the City, such as Action BE.3, BE.8, TR.3, TR.4, TR.6, TR.7, TR.9, TR.10. WW.1, AD.1, AD.3, AD.5, CR.1, and CR.2; actions related to implementation of existing City programs not applicable to the Proposed Project/BRPA such as Action TR.1, which aims to implement specifically-located EV charging projects, as identified in the City's EV Charging Plan (none of which are located on or near the project site/BRPA site), and Action TR.8, which aims to implement parking improvements in the downtown area; and Actions, such as BE.7, TR.2, AD.4, and AD.6 related to requirements associated with City-owned facilities and transportation fleets or critical public infrastructure such as hospitals. Similar to the future program proposed by Action BE.6, should any program or policy be adopted by the City in the future related to the aforementioned actions, the Proposed Project/BRPA could be subject to such requirements, as applicable.

parks, open space, and greenbelts; and off-site improvements. Therefore, the Proposed Project and the BRPA are generally consistent with Action TR.11, as the Proposed Project/BRPA would increase housing opportunities, including high-density, mixed-use, transit oriented, and affordable options. While the Proposed Project and BRPA would have a significant VMT impact with respect to the VMT per capita standards used for the transportation analysis, Action TR.11 includes no explicit reference to new housing having to be at or below the City's VMT per capita thresholds. Instead, it correctly states that providing more local housing development will improve the City's jobs/housing balance, thereby resulting in fewer long-distance trips into the City from adjacent communities. The Action does reference the additive benefits of that housing having density, being situated in infill sites, and/or being a transit-oriented development. However, the policy does not conclude that this is the only type of housing that should be considered to achieve the Action. Therefore, the fact that the proposed project would result in increased per capita VMT does not in itself render the project inconsistent with Action TR.11.

As discussed above, neither the Proposed Project nor the BRPA would include the use of natural gas and, thus, the Proposed Project/BRPA would be consistent with Action BE.4 related to all-electric new construction. All on-site residents would also have the opportunity to opt into receiving energy from VCE, ensuring that the Proposed Project/BRPA would be consistent with Action BE.5, which is intended for the City to provide increased community solar energy by partnering with VCE to increase capacity in support of citywide building and transportation electrification, invest in community solar energy, and provide solar battery storage, as well as develop financing/incentive options to support building and transportation energy electrification and energy efficiency improvements. Action BE.5 also encourages all subscribers to enroll in the VCE UltraGreen option.

Several CAAP actions, such as Action TR.5, which is directly applicable to the Proposed Project and the BRPA, and Citywide actions such as Actions TR.3, TR.4, TR.6, and TR.7, are related to increasing the use of alternative transportation modes within the City. The Proposed Project and the BRPA would include several improvements to the bicycle and pedestrian network within the City, such as construction of new bicycle lanes, bicycle and pedestrian crossings, and incorporation of signage and traffic-calming measures to improve mode-share safety on internal roadways used by bicyclists. The aforementioned improvements would facilitate the use of alternative transportation modes within the City. Furthermore, several existing bus stops are located less than 0.25-mile from the project site/BRPA site along roadways in the project vicinity such as Pole Line Road, F Street, and East Covell Boulevard. The Proposed Project and the BRPA also both include the construction of a new bus stop on East Covell Boulevard at L Street. The project vicinity is served by Unitrans Routes E, F, L, P, Q, and T, which serve a variety of retail, employment, medical, institutional, and recreational destinations throughout the City and on the UC Davis campus, as well as Yolobus Route 43, which provides commute bus service for Davis residents who work in Downtown Sacramento. Therefore, the Proposed Project and BRPA would be generally consistent with Action TR.5, and, while not directly applicable to the Proposed Project or the BRPA, would generally be consistent with the goals Citywide Actions TR.3, TR.4, TR.6, and TR.7.

Finally, with regard to Action AD.2, which aims to expand urban forest in parks, greenbelts, and open space with climate-ready species that provide shade, the Proposed Project and the BRPA would include a total of approximately 186.0 acres and approximately 186.3 acres, respectively, of parks, open space, and greenbelts, including the Heritage Oak Park and Village Trails Park, and natural vegetation areas along Channel A (including the agricultural buffer). With the exception of the UATA, which is not anticipated to be planted with a significant number of trees, trees would be planted throughout such areas, in accordance with City requirements. In addition, an oak grove would be included in the 20.3-acre Heritage Oak Park as part of both the Proposed Project and the BRPA. Therefore, the Proposed Project would be generally consistent with Action AD.2.

It should also be noted that while, as discussed above, several actions included in the CAAP are related to implementation of future citywide policies and programs that have not yet been developed within the City, the Proposed Project and the BRPA would include several design features that would generally be consistent with the goals of such actions. For example, although the modeling does not assume any on-site solar, the Proposed Project and the BRPA would both be built in compliance with the requirements of the CalGreen Tier 1 standards, as required by Section 8.01.090 of the Municipal Code, and would include the provision of on-site renewable energy as well as EV charging infrastructure, generally consistent with the goals of Actions BE.3, TR.10, and AD.1. In addition, the Proposed Project and the BRPA would integrate Low Impact Development (LID) measures and volume-based best management practices such as bioretention, infiltration features, and pervious pavement, and flow-based best management practices, such as vegetated swales and stormwater planters throughout the site to provide stormwater quality treatment, consistent with the City of Davis Storm Water Quality Control Standards, generally consistent with the goals of Action AD.3. With regard to on-site landscaping improvements, the Proposed Project and the BRPA would be required to select a plant palette that includes a mix of native, drought-tolerant, climate-ready, and carbon-capturing qualities associated with the new trees, shrubs, and seasonal grasses, generally consistent with the goals of Action WW.1. Finally, as discussed in Chapter 4.6, Transportation, of this EIR, the Proposed Project and the BRPA would both implement a series of TDM strategies, as recommended by the California Air Pollution Control Officers Association (CAPCOA) Handbook for Assessing GHG Emission Reductions, Climate Vulnerabilities, and Health and Equity (December 2021), to reduce project-generated VMT to the maximum extent feasible, generally consistent with the goals of Action TR.11.

Therefore, implementation of the Proposed Project/BRPA would be consistent with the overarching goal of the CAAP, which is to reduce GHG emissions.

Conclusion

Based on the above, implementation of both the Proposed Project and the BRPA could generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG, and both the Proposed Project's and BRPA's incremental contribution to this significant cumulative impact would be ***cumulatively considerable***.

Mitigation Measure(s)

Implementation of Mitigation Measures 4.3-8 would achieve a downward trajectory of operational GHG emissions, assuming an equal-level reduction per year sufficient to reach zero $MTCO_2e$/yr by 2040. Mitigation Measure 4.3-8 would assure that implementation of the Proposed Project/BRPA would not result in long-term operational impacts related to GHG emissions or the creation of conflicts with an applicable regulation. However, due to uncertainties related to the potential efficacy and feasibility of the GHG reductions measures, as well as the availability of off-site carbon credit programs, the full GHG reductions associated with the Proposed Project or the BRPA cannot be guaranteed at this time. Therefore, the impact would remain *cumulatively considerable* and *significant and unavoidable*.

Proposed Project, Biological Resources Preservation Alternative

4.3-8 *The project proponent shall prepare and implement a GHG Reduction Plan, to the satisfaction of the City, to demonstrate a downward trajectory in GHG emissions, towards the goal of zero net GHG emissions by the year 2040. Prior to the approval of the entitlement for each phase of the Proposed Project or the BRPA, the project proponent shall indicate how to complete and implement the following steps:*

1. *Model net non-mobile operational GHG emissions using CalEEMod, or another method accepted for the purpose of modeling GHG emissions for the Proposed Project or the BRPA, taking into account applicable building standards and other regulatory requirements, as well as building design, use of renewable energy, etc. The updated modeling shall take into account any updated project design measures incorporated in compliance with this mitigation measure or as proposed in future project design details.*
2. *Based on the construction and operational schedules proposed at the time of building permitting, the modeled emissions shall be compared to the maximum permitted emissions for the first year of occupancy, based on the applicable Table below:*

Proposed Project		
Year	**Maximum Permitted Net Project Emissions ($MTCO_2e$)**	**Emissions Reductions Achieved ($MTCO_2e$)**
2033	18,160.00	0.00
2034	15,565.71	2,594.29
2035	12,971.43	5,188.57
2036	10,377.14	7,782.86
2037	7,782.86	10,377.14
2038	5,188.57	12,971.43
2039	2,594.29	15,565.71

2040	0.00	18,160.00
Total Emissions Reductions		*72,640.00*

BRPA		
Year	**Maximum Permitted Net Project Emissions ($MTCO_2e$)**	**Emissions Reductions Achieved ($MTCO_2e$)**
2033	19,206.00	0.00
2034	16,462.29	2,743.71
2035	13,718.57	5,487.43
2036	10,974.86	8,231.14
2037	8,231.14	10,974.86
2038	5,487.43	13,718.57
2039	2,743.71	16,462.29
2040	0.00	19,206.00
Total Emissions Reductions		*76,824.00*

3. *Should net operational emissions be shown to exceed the maximum emissions levels presented in the applicable table above, the project applicant shall identify feasible actions to achieve sufficient emissions reductions for the year or years being modeled. Reduction measures may include, but are not limited to:*
    - *Use of energy-star appliances in all or part of the project;*
    - *Installation of on-site photovoltaic systems in excess of the City's or State standards in place at the time of this environmental analysis;*
    - *Construct on-site or fund off-site carbon sequestration projects (such as tree plantings or reforestation projects);*
    - *Implement Transportation Demand Management strategies, such as CAPCOA Handbook Strategy T-16 and T-20-A, in accordance with Mitigation Measure 4.13-4 of this EIR;*
    - *Provide electric vehicle charging infrastructure in excess of existing Tier 1 CBSC requirements; and/or*
        - *Purchase carbon credits to offset project annual emissions. Carbon offset credits shall be verified and registered with The Climate Registry, the Climate Action Reserve, or another source approved by CARB, YSAQMD, or the City of Davis. Off-site mitigation credits shall be real, quantifiable, permanent, verifiable, enforceable, and additional, consistent with the standards set*

forth in Health and Safety Code Section 38562, subdivisions (d)(1) and (d)(2). The offsets shall be retired, and emissions must be offset through the year 2045. Such credits shall be based on CARB-approved protocols that are consistent with the criteria set forth in subdivision (a) of Section 95972 of Title 17 of the CCR, and shall not allow the use of offset projects originating outside of California, except to the extent that the quality of the offsets, and their sufficiency under the standards set forth herein, can be verified by the City of Davis and/or the YSAQMD. Such credits must be purchased through one of the following: (i) a CARB-approved registry, such as the Climate Action Reserve, the American Carbon Registry, and the Verified Carbon Standard; (ii) any registry approved by CARB to act as a registry under the California Cap and Trade program; or (iii) any registry established by YSAQMD.

4. *The emissions reductions resulting from implementation of the above measures shall be calculated, using methods acceptable to the City.*
5. *Proof of compliance with the maximum annual net emissions targets and the steps above shall be verified through the submittal of a Technical Memorandum of Compliance (TMC) to the City of Davis Department of Community Development. The TMC shall document the following minimum items: modeling (step 1); comparison of modeled emissions to maximum emissions levels identified in Mitigation Measure 4.3-8(a) (step 2); chosen feasible actions to achieve required reductions (step 3); and measurable GHG reduction value of each action (step 4). TMCs prepared in compliance with the foregoing steps may cover individual operational years or multiple operational years. Should a TMC be prepared for multiple operational years, the TMC shall demonstrate compliance with the maximum emissions levels for each year included in the TMC.*
6. *Implement the authorized actions and provide evidence of this to the City of Davis Department of Community Development. The City upon review and acceptance of implementation, shall issue the certificate of occupancy.*

4.3-9 Result in a cumulatively considerable inefficient or wasteful consumption of energy or conflict with a State or local plan for renewable energy or energy efficiency. Based on the analysis below, the cumulative impact is *less than significant*.

The following includes a discussion of cumulative impacts related to energy use associated with both the Proposed Project and the BRPA.

Proposed Project, Biological Resources Preservation Alternative

Impact 4.3-5 discusses the energy demand on a project-level associated with both the Proposed Project and the BRPA, within the context of existing State plans and regulations, as well as local plans. As discussed previously, the Proposed Project/BRPA would involve consumption of diesel, gasoline, and electricity throughout construction and operations. However, all proposed structures would be built in compliance with existing statewide mandatory energy efficiency standards, such as those contained in the California Building Energy Efficiency Standards and the CALGreen Code. In addition, similar to the Proposed Project/BRPA, as required by Section 8.01.090 of the Municipal Code, all future development within the City of Davis would be required to comply with Tier 1 standards of the CALGreen Code, which would otherwise be voluntary under the CBSC. Future development would also be subject to the requirements included in Sections 8.01.060, 8.01.100, and 8.01.110 of the Municipal Code, and all applicable CAAP measures related to energy demand, as discussed in the Regulatory Context section, above. Compliance with the energy efficiency standards would reduce the amount of electricity consumed by the proposed development. State regulations would also help to reduce the amount of energy consumed by on-road vehicles over time. For instance, State and federal emissions standards and fuel economy standards result in increased fuel efficiency for on-road vehicles. Overall, as concluded above, the Proposed Project/BRPA would result in a less-than-significant impact related to the inefficient or wasteful use of energy or conflicting with a State or local plan for renewable energy or energy efficiency.

Similar to the Proposed Project/BRPA, all future development within the City of Davis would be required to comply with applicable State and local regulations related to energy efficiency. Increased efficiency would be ensured in the future as cumulative development occurs due to compliance with the State's robust energy efficiency requirements. For example, the 2022 CBSC and the 2022 Building Energy Efficiency Standards require that newly constructed residential and non-residential buildings, including grocery stores, offices, financial institutions, unleased tenant space, retail space, schools, warehouses, auditoriums, convention centers, hotel/motels, libraries, medical office building/clinics, and theaters install a solar PV system. Furthermore, energy efficiency regulations have been getting progressively more stringent over time. Thus, as cumulative development occurs under the increasingly stringent regulations, the energy use associated with such cumulative development is anticipated to be increasingly energy efficient over time as well.

Based on the above, implementation of the Proposed Project/BRPA, in combination with other cumulative development, would not result in the wasteful or inefficient use of energy. Because the Proposed Project/BRPA would not conflict with a local plan to

increase energy efficiency and reduce energy consumption, a ***less-than-significant*** cumulative impact would occur.

Mitigation Measure(s)

None required.

4.4. Biological Resources

4.4 BIOLOGICAL RESOURCES

4.4.1 INTRODUCTION

The Biological Resources chapter of the EIR evaluates the biological resources known to occur or potentially occur within the project site/Biological Resources Preservation Alternative (BRPA) site and surrounding environs. The chapter describes the potential impacts associated with development of the Proposed Project and BRPA to biological resources and identifies measures to eliminate or substantially reduce impacts to a less-than-significant level. Existing plant communities, wetlands, wildlife habitats, and potential for special-status species and communities are discussed for the project region. The information contained in the analysis is primarily based on a Biological Resources Assessment (BRA) (see Appendix D of this EIR) prepared by Madrone Ecological Consulting (Madrone).[1] Further information was sourced from the City of Davis General Plan[2] and associated General Plan EIR,[3] and the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP).[4]

4.4.2 EXISTING ENVIRONMENTAL SETTING

The following sections describe the regional biological setting in which the project site/BRPA site is located, the biological setting of the site, and the special-status species known to occur within the site and surrounding environs.

Regional Setting

The project site/BRPA site consists of approximately 497.6 acres located north of East Covell Boulevard, east of F Street, and west of Pole Line Road in a currently unincorporated portion of Yolo County, California. The City of Davis experiences a Mediterranean-type climate with cool, wet winters, and hot, dry summers. Temperatures in the project region fluctuate from average highs in July of 93 degrees Fahrenheit, with average lows in December of 39 degrees Fahrenheit.[5] Nearly all precipitation occurs between October and April in the form of rainfall, with February typically the wettest month, averaging 4.1 inches.

The City of Davis is located within the Central Valley region of California, within southeastern Yolo County. The Central Valley is a north-south oriented valley that extends approximately 430 miles from southern Tehama County to south-central Kern County in southern California. Elevations in the Central Valley range from approximately zero to 400 feet above mean sea level (amsl). In general, the borders of the Central Valley are areas where alluvial soils grade into bedrock features. Biological communities in the Central Valley once supported vast areas of grassland, marshes, and riparian woodland. The landscape is currently dominated by woodland biological

1 Madrone Ecological Consulting. *Biological Resources Assessment, Village Farms Davis, Yolo County, California*. December 13, 2024.
2 City of Davis. *City of Davis General Plan*. Adopted May 2001, Amended January 2007.
3 City of Davis. *Final Program EIR for the City of Davis General Plan Update and Final Project EIR for Establishment of a New Junior High School*. Certified May 2001.
4 Yolo Habitat Conservancy. *Yolo Habitat Conservation Plan/Natural Community Conservation Plan*. April 2018.
5 Weather Spark. *Climate and Average Weather Year Round in Davis*. Available at: https://weatherspark.com/y/1120/Average-Weather-in-Davis-California-United-States-Year-Round. Accessed March 2024.

communities, typically referred to as the foothills, with land uses that are predominantly agricultural.

Project Setting

The approximately 515.9-acre study area evaluated in the BRA consists of the 497.6-acre project site/BRPA site, as well as two areas proposed for pedestrian/bicycle crossings and other off-site infrastructure, referred to as the Western and Eastern Program Study Areas (see Figure 4.4-1). The study area is very flat, almost entirely at an elevation of approximately 36 to 44 feet amsl, and largely comprised of active agricultural fields with interspersed farm roads. The drainage course Channel A, along with its associated non-native riparian corridor, cuts from east to west across the study area. All on-site agricultural fields are planted annually. For the 2024 growing season, the fields were planted with wheat, tomatoes, and corn.

One of the on-site fields south of Channel A contains a large alkali playa/alkali wetland complex. The foregoing field is not farmed, but vegetation in the field is periodically disked. Based on residual plant material found on dirt clods and California Natural Diversity Database (CNDDB) unprocessed data, the BRA mapped the field as Alkali Prairie land cover, as designated by the Yolo HCP/NCCP (discussed further below under the Yolo HCP/NCCP Land Cover Types heading). An additional strip running along much of the northeast boundary of the study area (adjacent to Davis Paintball) has also been mapped as Alkali Prairie land cover.

A portion of Channel A on the western side of the project site/BRPA site is wider than the east-to-west section of the channel and supports freshwater emergent marsh vegetation. Various areas around most of the edges of the study area are occupied by dense non-native forbs and have been mapped as Urban Ruderal land cover. The farm roads within the study area are well maintained and have been mapped as Semiagricultural land cover, as has a mostly demolished rural residence in the southern portion of the study area. A portion of the Western Program Study Area was recently restored with native grasses, constructed wetlands, and planted native shrubs and is mapped as California Annual Grassland Alliance land cover.

Yolo HCP/NCCP Land Cover Types

Madrone identified the following Yolo HCP/NCCP land covers within the study area: Alkali Prairie, Barren-Anthropogenic, California Annual Grassland Alliance, Freshwater Emergent Wetland, Grain and Hay Crops, Semiagricultural, Truck Crops, Urban, Urban Ruderal, Valley Foothill Riparian, and Vegetated Corridor, as shown in Figure 4.4-2 and summarized in Table 4.4-1. All portions of the study area have been assigned Yolo HCP/NCCP land cover types based on the Yolo HCP/NCCP definitions of land cover types, as well as Madrone's prior experience. The land cover types and acreages may be refined at the time of Yolo HCP/NCCP participation, a process which includes Yolo Habitat Conservancy verification of an applicant's land cover mapping. The study area's land cover types are discussed further below.

Alkali Prairie

Alkali Prairie land cover occurs around the large alkali playa south of Channel A and in an undisturbed strip along the northeast boundary of the study area. The community is dominated by salt grass (*Distichlis spicata*), but also supports a number of other halophytes, including Parry's rough tarplant (*Centromadia parryi* ssp. *rudis*) (a California Rare Plant Rank [CRPR] List 4 species), common tarweed (*Centromadia pungens* ssp. *pungens*) alkali heath (*Frankenia salina*), alkali weed (*Cressa truxillensis*), and alkali mallow (*Malvella leprosa*).

Figure 4.4-1
Biological Study Area

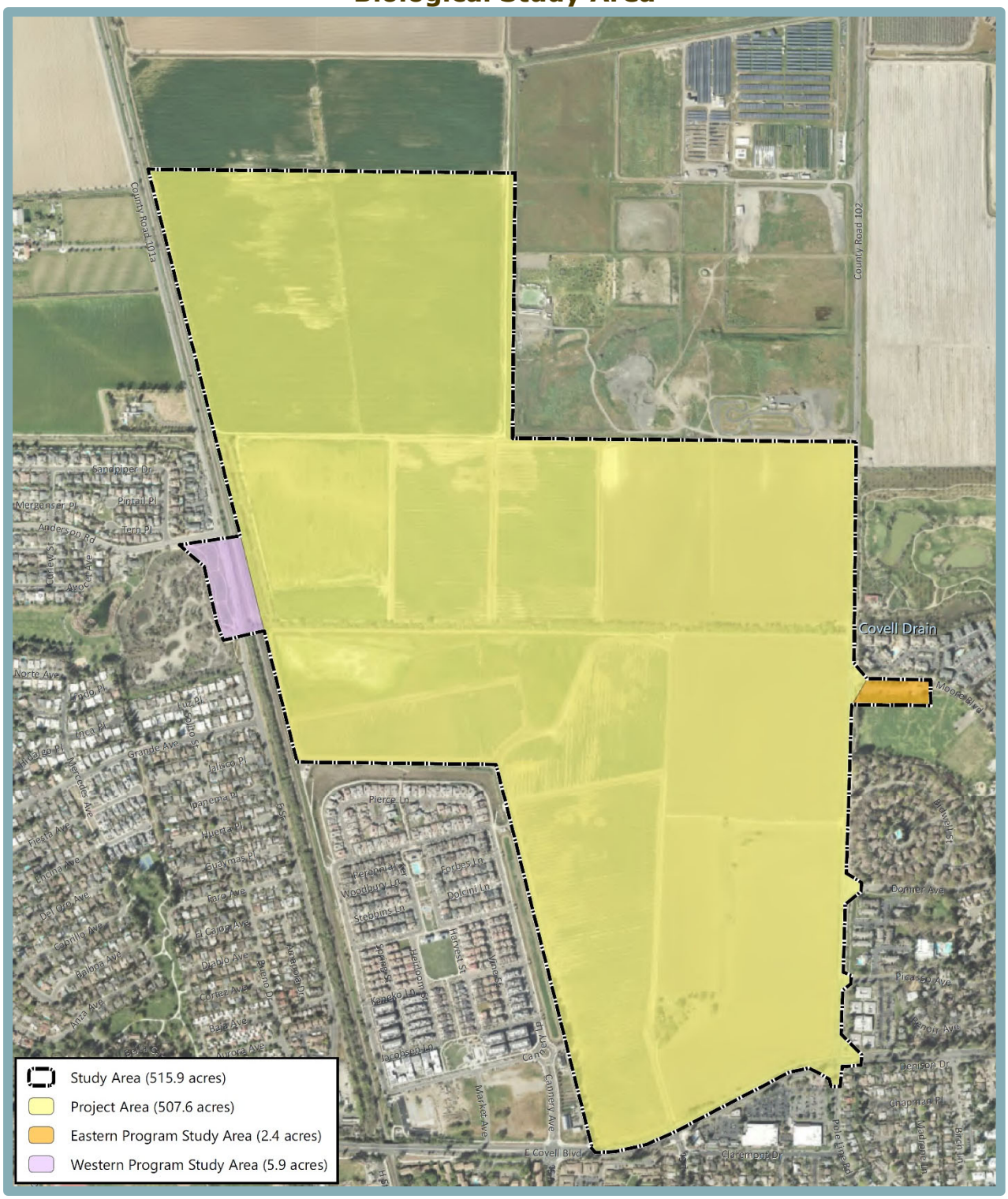
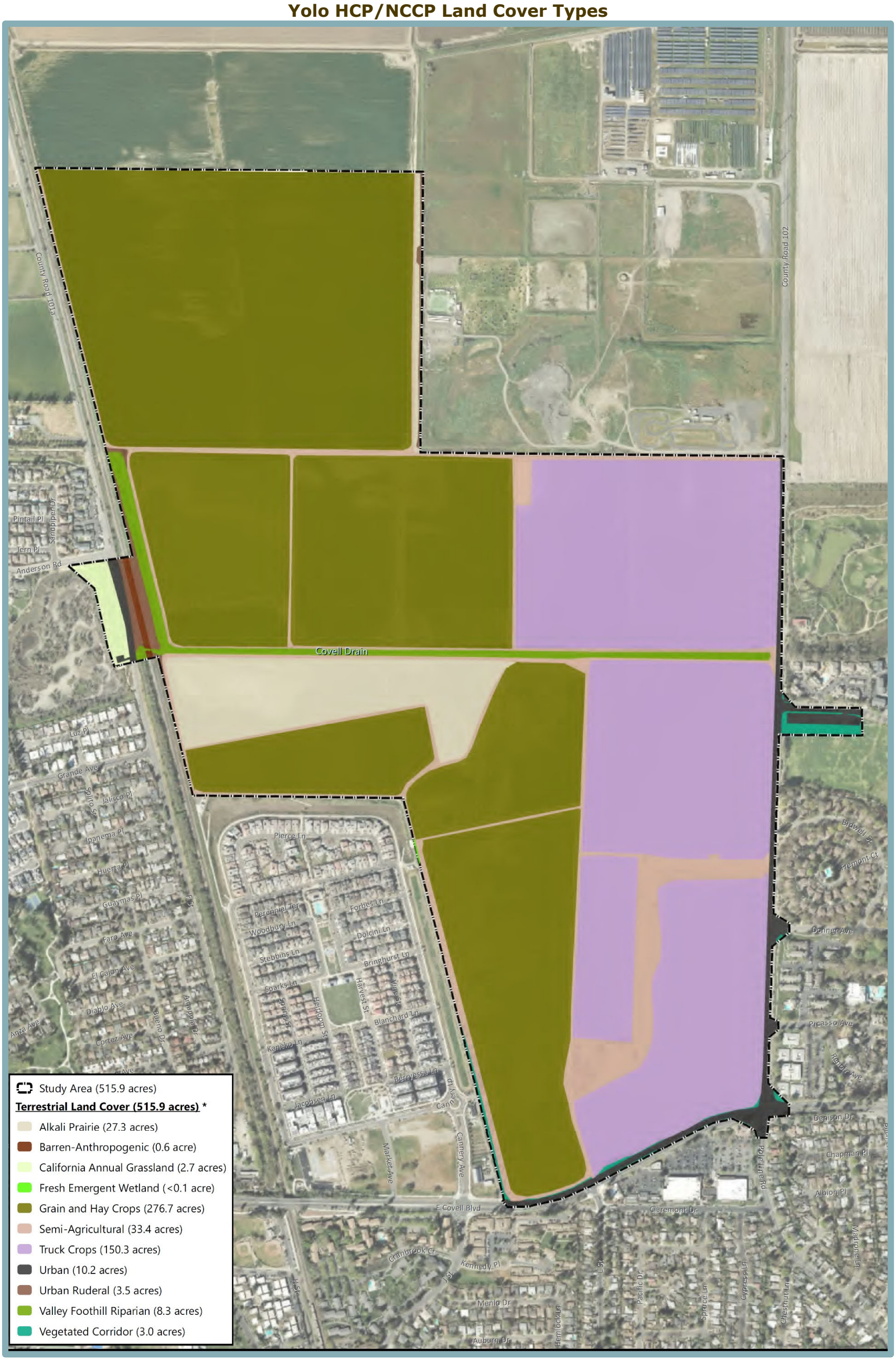


Figure 4.4-2
Yolo HCP/NCCP Land Cover Types



**** Small summation errors may occur due to rounding.***

Table 4.4-1
Yolo HCP/NCCP Land Cover Types Within the Study Area

Land Cover Type	Acres[1]		
	Project Site/ BRPA Site	Program Study Area	Study Area Total
Alkali Prairie	27.3	0.0	27.3
Barren-Anthropogenic	0.0	0.6	0.6
California Annual Grassland Alliance	0.0	2.7	2.7
Fresh Emergent Wetland	<0.1	0.0	<0.1
Grain and Hay Crops	276.7	0.0	276.7
Semiagricultural	33.4	0.0	33.4
Truck Crops	150.3	0.0	150.3
Urban	7.9	2.3	10.2
Urban Ruderal	2.2	1.3	3.5
Valley Foothill Riparian	8.1	0.2	8.3
Vegetated Corridor	3.0	0.0	3.0
Total	**507.6**	**8.3**	**515.9**

[1] Small summation errors may occur due to rounding.

Source: Madrone Ecological Consulting, 2024.

The community also supports several generalist non-native species, such as broad-leaved pepper weed (*Lepidium latifolium*), stinkwort (*Dittrichia graveolens*), Mediterranean barley (*Hordeum marinum*), and Mediterranean beard grass (*Polypogon maritimus*).

Barren-Anthropogenic

The Union Pacific Railroad (UPRR) alignment is classified as Barren-Anthropogenic land cover. The area consists of an unvegetated rock railbed prism topped by railroad tracks.

California Annual Grassland Alliance

An area west of F Street within a portion of the Western Program Study Area has recently been restored with native bunch grasses; small, constructed wetlands; large patches of milkweeds (*Asclepias* species); and a variety of native shrubs and sub-shrubs. The area was mapped as California Annual Grassland Alliance land cover as the best approximation of its current habitat value.

Fresh Emergent Wetland

A small freshwater marsh has become established along the western edge of the study area adjacent to the existing Cannery Subdivision. The marsh feature supports a variety of perennial hydrophytes, including cattail (*Typha* species), tall nutsedge (*Cyperus eragrostis*), smartweed (*Persicaria* species), and Mediterranean beard grass.

Grain and Hay Crops

The western agricultural fields were planted with wheat for the 2024 growing season, and as such, are classified as Grain and Hay Crops land cover. When not growing the crop, the fields remain fallow.

Semiagricultural

The margins of the agricultural fields, farm roads, and the remnants of the on-site rural residence are classified as Semiagricultural land cover. Such areas consist of vegetated areas along the

margins of the agricultural fields, along with ditches and dirt paths in association with the agricultural fields. Both native and non-native trees occur in association with the rural residence remnants.

Truck Crops

The eastern agricultural fields were planted with tomatoes and corn in 2024, and as such, are classified as Truck Crops land cover. When not growing the crop, the fields remain fallow.

Urban

Roadways and parking lots adjacent to the project site/BRPA site, as well as a pump facility in the Western Program Study Area are classified as Urban land cover. Such areas are dominated by pavement and buildings. Planted and manicured ornamental vegetation exist within the Urban land cover areas, but where aggregations of vegetation occur, the area was mapped as Vegetated Corridor land cover.

Urban Ruderal

Strips along the western and eastern edges of the study area are classified as Urban Ruderal land cover. Such areas all support dense, high-rank stands of non-native forbs, including milk thistle (*Silybum marianum*), broad-leaved pepperweed, black mustard (*Brassica nigra*), wild radish (*Raphanus sativus*), and stinkwort.

Valley Foothill Riparian

A strip of woody vegetation occurs along either side of the Channel A. While this land cover is almost entirely comprised of non-native trees, and, therefore, could be classified as a Vegetated Corridor, the community is riparian in nature, and therefore has been classified as Valley Foothill Riparian land cover for purposes of CEQA review. The community is heavily dominated by wingnut (*Pterocarya* species) and Arizona ash (*Fraxinus velutina*), but also supports cigar tree (*Catalpa bignonioides*), Siberian elm (*Ulmus pumila*), Chinese elm (*Ulmus parvifolia*), Chinese tallow (*Triadica sebifera*), Bradford pear (*Pyrus calleryana*), and cork oak (*Quercus suber*). Occasional native trees also occur in the community including Valley oak (*Quercus lobata*), Northern California black walnut (*Juglans hindsii*), boxelder (*Acer negundo*), red willow (*Salix laevigata*) and black willow (*S. gooddingii*). Very little herbaceous vegetation is present in the understory of the community due to the relatively closed canopy.

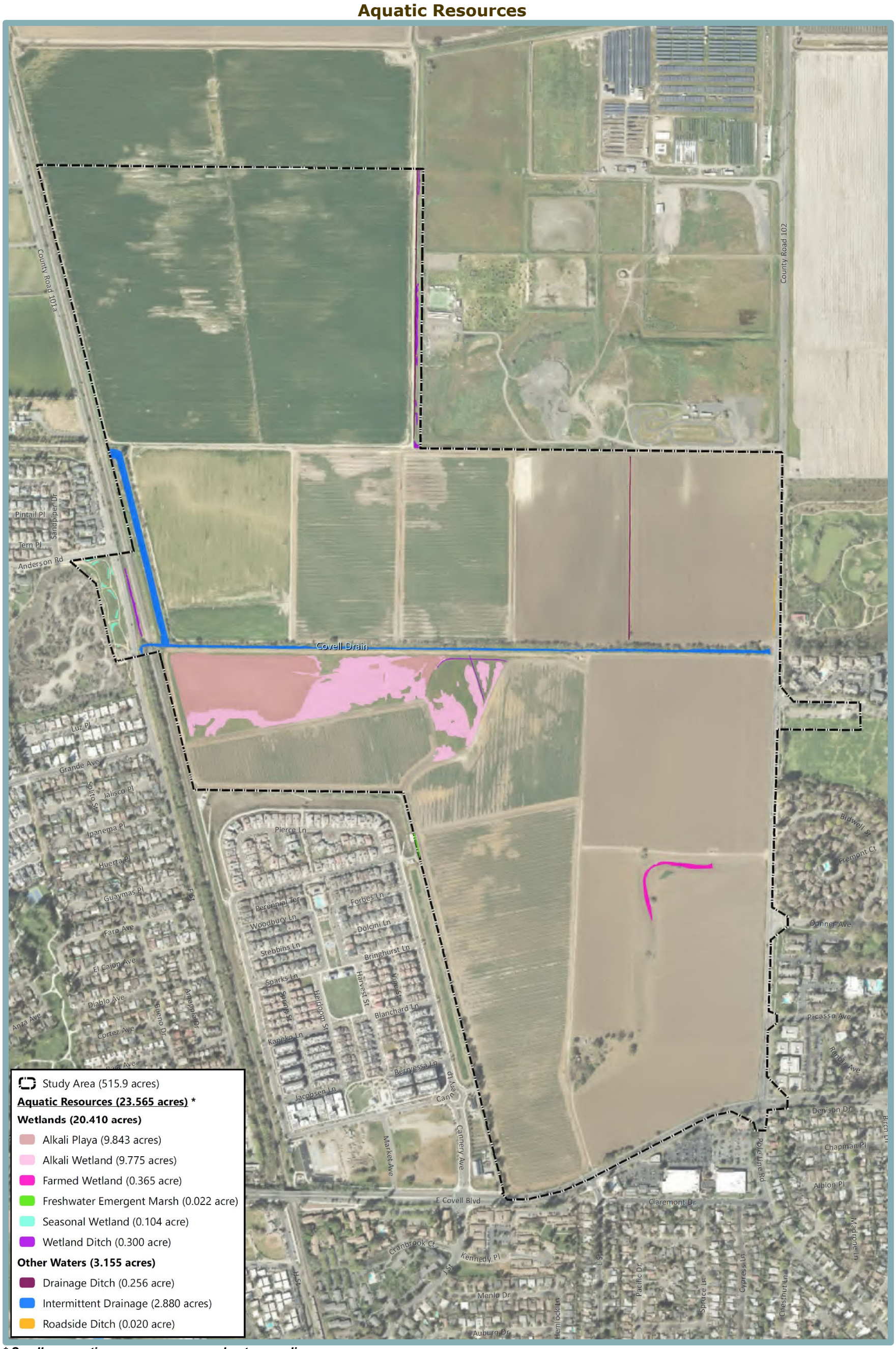
Vegetated Corridor

A strip of planted trees along East Covell Boulevard and along the southern-most western boundary of the project site/BRPA site are classified as Vegetated Corridor land cover. In addition, the Vegetated Corridor land cover mapped in the Eastern Program Study Area is comprised of a turf recreational field and trees around an associated parking area, which are surrounded by and associated with urban development, consisting of maintained non-native turf and landscaped ornamental trees and shrubs.

Aquatic Resources

As shown in Figure 4.4-3, a total of approximately 23.565 acres of aquatic resources were mapped within the study area as part of an Aquatic Resources Delineation (ARD) conducted throughout the study area in accordance with U.S. Army Corp of Engineers (USACE) protocol (discussed further in the Method of Analysis section below). Table 4.4-2 summarizes the acreages of the aquatic resources within the study area, which are discussed further below.

Figure 4.4-3
Aquatic Resources



**** Small summation errors may occur due to rounding.***

Table 4.4-2
Aquatic Resources Mapped Within the Study Area

Aquatic Resource	Acres[1]		
	Project Site/ BRPA Site	Program Study Areas	Study Area Total
Wetlands			
Alkali Playa	9.846	--	9.846
Alkali Wetland	9.775	--	9.775
Farmed Wetland	0.365	--	0.365
Freshwater Emergent Marsh	0.022	--	0.022
Seasonal Wetland	--	0.104	0.104
Wetland Ditch	0.209	0.091	0.300
Other Waters			
Drainage Ditch	0.256	--	0.256
Intermittent Drainage – Channel A	2.827	0.053	2.880
Roadside Ditch	0.020	--	0.020
Total	**23.317**	**0.248**	**23.565**

[1] Small summation errors may occur due to rounding.

Source: Madrone Ecological Consulting, 2024.

Alkali Playa and Alkali Wetland

A large alkali playa/alkali wetland complex is located within the Alkali Prairie land cover in the central-western portion of the study area. Areas mapped as alkali playa are the deeper areas that retained water for a longer period of time than surrounding wetland areas, and as a result, are largely unvegetated. The alkali wetlands are the surrounding wetlands and are densely vegetated with hydrophytes. The alkali playas support sparse alkali popcorn flower (*Plagiobothrys leptocladus*), alkali barley (*Hordeum depressum*), Parry's rough tarplant, common tarweed, and swamp grass (*Crypsis schoenoides*). The alkali wetlands are dominated by common tarweed, alkali barley, alkali popcorn flower, perennial ryegrass, bur clover (*Medicago polymorpha*), Boccone's sand spurry (*Spergularia bocconi*), and miniature lupine (*Lupinus bicolor*). Other species commonly observed in the alkali wetlands include slender popcorn flower (*Plagiobothrys stipitatus* ssp*. stipitatus*), blow wives (*Achyrachaena mollis*), alkali milk-vetch (*Astragalus tener* ssp. *tener*), dwarf sack clover (*Trifolium depauperatum* var. *depauperatum*), and toad rush (*Juncus bufonius*). The northern boundary of the alkali playa/alkali wetland complex is bound by a levee on the south side of Channel A.

The feature is readily visible on aerial photographs, but was disked and lacked vegetation in the summer of 2023. The following wetland species were observed on dirt clods within the playa area: swamp grass (*Crypsis schoenoides*), hyssop loosestrife (*Lythrum hyssopifolium*), selfing willowherb (*Epilobium cleistogamum*), and alkali popcorn flower. The northern boundary of the playa is bound by a levee to the south of Channel A. A low saddle within the playa allows flood water from the playa to drain into Channel A if water in the playa overflows. The playa is generally shallow and less than two feet in depth.

Farmed Wetland

One farmed wetland is located within a long, low, sinuous area that was previously a natural drainage. The drainage in the area was rerouted to the north and into Channel A when the properties to the west were developed. Therefore, the remnant wetland does not currently function as a drainage. The feature is regularly disced by normal farming operations, and supports largely

weedy facultative wetland species, including prickly cocklebur (*Xanthium strumarium*), perennial ryegrass, curly dock (*Rumex crispus*), and alkali mallow.

Freshwater Emergent Marsh

A freshwater emergent marsh is present on-site, along the southwestern edge of the study area. The marsh feature is wet far into the summer, and is dominated by obligate hydrophytes, including cattail (*Typha species*), tall nutsedge, Mediterranean beard grass, and smartweed (*Persicaria* species).

Seasonal Wetland

Several small man-made seasonal wetlands are located to the west of F Street in a small open space area in the Western Program Study Area associated with the City's Open Space Program. The wetland features support a mix of perennial and annual hydrophytes planted as part of the habitat restoration. Species observed in the wetland features include common sedge (*Carex praegracilis*), Baltic rush (*Juncus balticus*), Mediterranean beard grass, Great Valley gumweed (*Grindelia camporum*), Bermuda grass (*Cynodon dactylon*), curly dock, hyssop loosestrife, and common sunflower (*Helianthus annuus*).

Wetland Ditch

A ditch along the northern-most eastern perimeter of the study area serves to convey stormwater and irrigation flows, but is less regularly maintained. As such, the ditch has become well-vegetated with annual and perennial wetland plant species. Additionally, a few remnant ditches that support wetland vegetation are present in the field with the alkali playa/alkali wetland complex. Plant species commonly observed within the foregoing ditches include saltgrass, alkali barley, alkali heath, hyssop loosestrife, common tarplant, broad-leaved pepperweed, Mediterranean beard grass, and perennial ryegrass.

Drainage Ditch

A drainage ditch is present north of Channel A and proceeds between two of the agricultural fields. The drainage ditch feature is actively used to drain the adjacent fields into Channel A and as such, is regularly maintained and almost entirely unvegetated.

Channel A – Intermittent Drainage

Channel A is a historic seasonal drainage that flows generally from west to east into the Willow Slough Bypass to the north of the City, through the Yolo Bypass, and into the Sacramento River. Channel A historically flowed through the southeastern portion of the study area and a remnant, mostly upland channel is still present where the creek used to flow. Based on historic aerial photographs, between 1957 and 1968, Channel A was realigned to the north, presumably for flood protection and to serve agricultural needs, as Putah Creek was realigned south of the City of Davis for the same reasons. Channel A is currently engineered to be trapezoidal in nature, and the banks are bound by earthen levees that are higher in elevation than the surrounding farmland. The channel is approximately 20 to 30 feet in width and approximately 10 feet deep and contains an earthen and sandy substrate.

Water within Channel A enters the study area from the west and flows to the south for approximately 0.25-mile before turning east for 0.8-mile and exiting the study area. A small tributary (F Street Channel) enters Channel A along the western site boundary near the Julie Partansky Pond. The F Street Channel conveys runoff from the City and parallels F Street for

approximately 0.75-mile before flowing into Channel A. Julie Partansky Pond discharge pumps also connect at this confluence.

Hydrology within Channel A is driven by rain events and water appears to be present within the channel starting in late fall or early winter after several rain events. Water remains present, albeit very shallow, until late spring or early summer when the channel dries. In some years, depending on crop types, agricultural runoff from west of the City can generate larger amounts of water in Channel A during summer months.

Riparian vegetation along the banks of Channel A consists of dense strips of mostly non-native trees. The community is heavily dominated by wingnut and Arizona ash, but also supports golden rain tree, cigar tree, white mulberry, tree of heaven, Siberian elm, Chinese elm, Chinese tallow, Callery pear, and she-oak. Occasional native trees also occur in this community including Valley oak, Northern California black walnut, boxelder, Fremont's cottonwood (*Populus fremontii*), red willow and black willow. Very little herbaceous vegetation is present in the shaded understory of this community due to the dense closed canopy. The channel contains abundant woody debris and log jams.

The western portion of Channel A is wider and less shaded and, as a result, supports emergent wetland vegetation, including spotted lady's thumb (*Persicaria maculosa*), common knotweed (*Polygonum arenastrum*), curve pod yellow cress (*Rorippa curvisiliqua*), bearded sprangletop (*Leptochloa fascicularis*), tule (*Schoenoplectus acutus*), jungle rice (*Echinochloa colonum*), prickly cocklebur, canarygrass (*Phalaris canariensis*), and big saltbush (*Atriplex lentiformis*).

Roadside Ditch

A roadside ditch was mapped along the western edge of Pole Line Road. The ditch feature conveys stormwater flows away from the road. The ditch is almost entirely unvegetated and is ephemeral in nature (flows only immediately following storm events).

Special-Status Species

Special-status species are species that have been listed as threatened or endangered under the federal Endangered Species Act (FESA), California Endangered Species Act (CESA), or are of special concern to federal resource agencies, the State, or private conservation organizations. A species may be considered to have special status due to declining populations, vulnerability to habitat change, or restricted distributions. A general description of the criteria and laws pertaining to special-status classifications is described below. Special-status plant and wildlife species may meet one or more of the following criteria:

1. Listed as threatened or endangered, or proposed or candidates for listing by the U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS);
2. Listed as threatened or endangered and candidates for listing by the California Department of Fish and Wildlife (CDFW);
3. Identified as Fully Protected species or Species of Special Concern by CDFW;
4. Identified as Medium or High priority species by the Western Bat Working Group (WBWG); and
5. Plant species considered to be rare, threatened, or endangered in California by the California Native Plant Society (CNPS) and CDFW (CRPR 1, 2, and 3):
    a. CRPR 1A: Plants presumed extinct.
    b. CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere.

c. CRPR 2A: Plants extirpated in California, but common elsewhere.
d. CRPR 2B: Plants rare, threatened, or endangered in California, but more common elsewhere.
e. CRPR 3: Plants about which the CNPS needs more information – a review list.
f. Identified as a Covered Species in the Yolo HCP/NCCP.

Listed and Special-Status Plant Species

According to the records of the CNDDB maintained by the CDFW, 23 special-status plant species have the potential to occur within five miles of the study area (see Figure 4.4-4). Based on field observations and literature review (detailed further in this chapter in the Method of Analysis section), 18 of the 23 special-status plant species have potential to occur within the study area (see Figure 4.4-5 and Figure 4.4-6). As part of determining the potential for special-status plant and wildlife species to occur within the study area, the following set of criteria was used:

- Present: Species was recently observed on the project site/BRPA site during field surveys conducted as part of the BRA;
- High: The project site/BRPA site is within the known range of the species and suitable habitat exists. The species may also be documented on-site in CNDDB records;
- Moderate: The project site/BRPA site is within the known range of the species and very limited suitable habitat exists;
- Low: The project site/BRPA site is within the known range of the species and marginally suitable habitat exists;
- Absent: The species was not observed during protocol-level surveys conducted on-site; or
- Habitat Not Present: The project site/BRPA site does not contain suitable habitat for the species, and/or the site is outside the known range of the species.

As shown below in Table 4.4-3, based on literature review (detailed further in this chapter in the Method of Analysis section), 18 of the 23 special-status plant species were determined to have potential to occur within the study area. Based on protocol-level surveys, the species that are considered to be *present* in the study area are alkali milk-vetch and San Joaquin spearscale. Figure 4.4-5 details where special-status species have been documented within or adjacent to the study area in the CNDDB. The locations of special-status plant and wildlife species observed within or adjacent to the study area during protocol-level surveys are shown in Figure 4.4-6. The following discussions provide further details of the 18 special-status plant species with potential to occur within the study area.

Ferris' Milk-Vetch

Ferris' milk-vetch (*Astragalus tener* var. *ferrisiae*) is not federally or State-listed, but is classified as a CRPR List 1B.2 plant. The annual herb is found in subalkaline flats of valley and foothill grasslands and vernally mesic meadows and seeps. The plant occurs at elevations between five and 245 feet amsl and has a short blooming period from April to May.

The alkali playa and alkali wetlands within the study area represent suitable habitat for the species. Two records of Ferris' milk-vetch are within five miles of the study area (see Figure 4.4-4). The closest record (CNDDB Occurrence #18) is located in the approximate area of the project site/BRPA site. The record was mapped by CNDDB in the general vicinity of Davis. The exact location is unknown.

Figure 4.4-4
California Natural Diversity Database Occurrences of Special-Status Plant Species

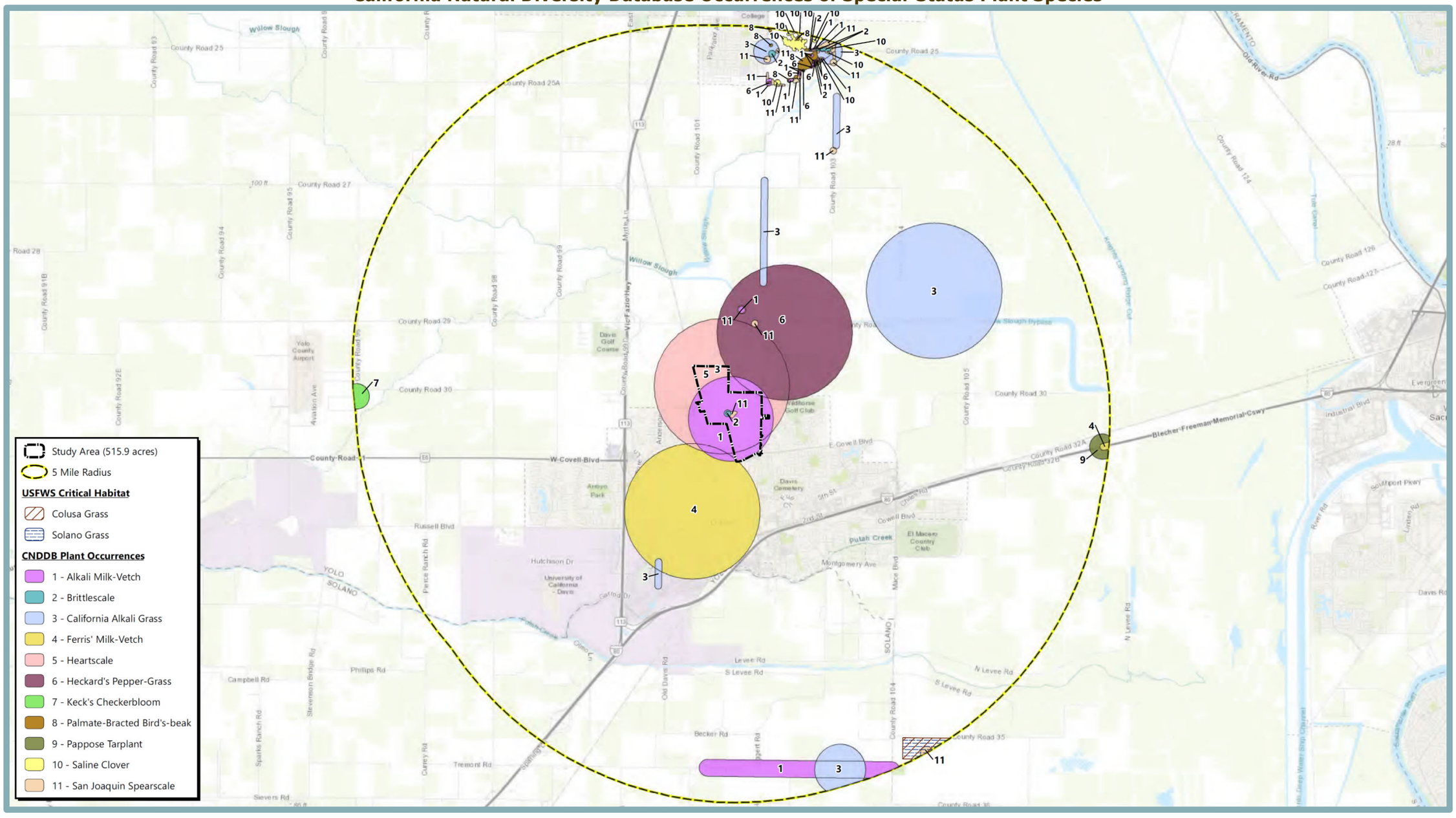


Figure 4.4-5
California Natural Diversity Database Records Within or Overlapping the Study Area

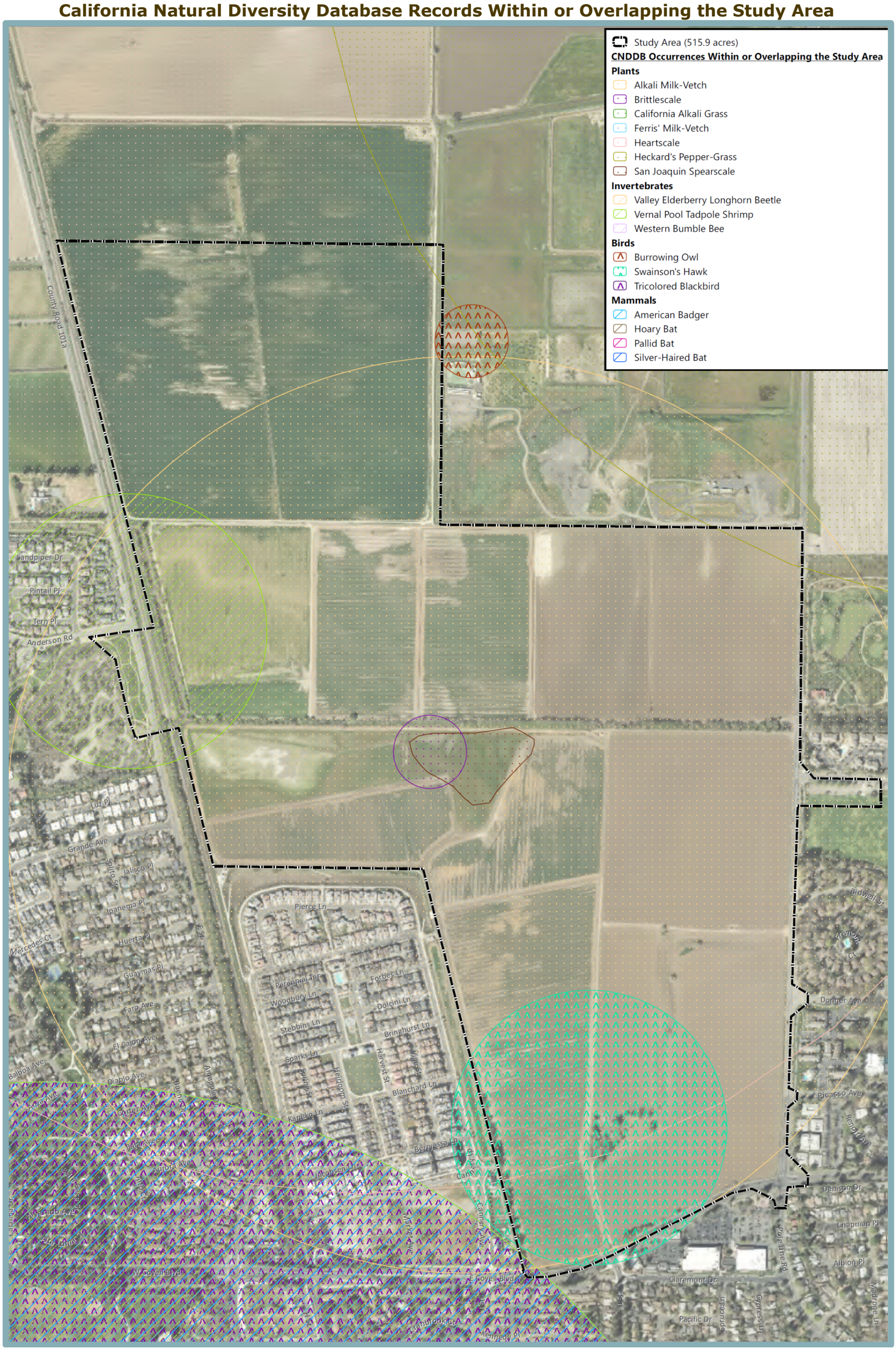


Figure 4.4-6
Special-Status Species Within or Adjacent to Study Area Documented During Site Surveys

Table 4.4-3
Special-Status Species with Potential to Occur Within the Study Area

Scientific Name (Common Name)	Yolo HCP/NCCP Covered Species?	Federal Status	State Status	Habitat Requirements	Potential for Occurrence
Plants					
Astragalus tener var. *ferrisiae* Ferris' milk-vetch	No	--	CRPR 1B.1	Occurs in meadows and foothill and valley grasslands. Usually found in dry adobe soils (elevation five to 245 feet amsl).	**Absent.** Suitable habitat is present in the alkali playa and alkali wetlands within the study area. CNDDB Occurrence #18 is near the study area. The record was documented in 1926, and the exact location is extremely vague. However, the habitat within the study area is suitable for the species. The species was not detected during the April 2024 protocol-level survey of the study area.
Astragalus tener var. *tener* Alkali milk-vetch	No	--	CRPR 1B.2	Occurs in playas, valley and foothill grassland (adobe clay), and vernal pools (elevation five to 195 feet amsl).	**Present.** Suitable habitat is present in the alkali playa and alkali wetlands within the study area. CNDDB Occurrence #36 (most recently documented in 1951) is within the study area, and five unprocessed records from 2023 documented this species within the alkali playa area. Thousands of individuals of the species were documented by Madrone within the alkali wetlands in the study area.

(Continues on next page)

Table 4.4-3
Special-Status Species with Potential to Occur Within the Study Area

Scientific Name (Common Name)	Yolo HCP/NCCP Covered Species?	Federal Status	State Status	Habitat Requirements	Potential for Occurrence
Atriplex cordulata var. *Cordulata* Heartscale	No	--	CRPR 1B.2	Grows in grasslands with sandy alkaline or saline soils (elevation zero to 1,835 feet amsl).	**Absent.** Suitable habitat is present in the Alkali Prairie land cover within the study area. CNDDB Occurrence #4 is within the study area. The record was documented in 1952, the exact location is somewhat vague, and sandy soils do not occur within the study area. Therefore, the species has a moderate potential to occur within the study area. The species was not detected during the June and July 2024 protocol-level surveys of the study area.
Atriplex depressa Brittlescale	No	--	CRPR 1B. 2	Prefers meadows or grasslands, chenopod scrub, vernal pools, in alkaline or saline clay soils (elevation 5 to 1,050 feet amsl).	**Absent.** Suitable habitat is present in the Alkali Prairie land cover within the study area. The species has been documented within the study area as recently as 1996 (CNDDB Occurrence #57), and as part of the Covell Village Project EIR. The species was not detected during the June and July 2024 protocol-level surveys of the study area.
Carex comosa Bristly sedge	No	--	CRPR 2B.1	Occurs in coastal prairie, margins of marshes and swamps, and valley and foothill grasslands (elevation zero to 2,050 feet amsl).	**Absent.** Suitable habitat for the species occurs within the freshwater emergent marsh and the western-most portion of Channel A, but the species was not detected during the August 2023 or June and July 2024 protocol-level surveys of the study area.

(Continues on next page)

Table 4.4-3
Special-Status Species with Potential to Occur Within the Study Area

Scientific Name (Common Name)	Yolo HCP/NCCP Covered Species?	Federal Status	State Status	Habitat Requirements	Potential for Occurrence
Centromadia parryi ssp. *parryi* Pappose tarplant	No	--	CRPR 1B.2	Found on alkaline soils in coastal prairie, meadows, seeps, coastal salt marshes, and valley/foothill grasslands (elevation zero to 1,380 feet amsl).	**Absent.** Suitable habitat for the species is present in the Alkali Prairie land cover within the study area. The species was not detected during the June and July 2024 protocol-level surveys of the study area.
Chloropyron palmatum Palmate-bracted bird's beak	Yes	FE	CE, CRPR 1B.1	Found on alkaline soils in chenopod scrub and valley and foothill grasslands, primarily on side slopes adjacent to ditches and other waterways where the hydrology is appropriate (elevation 15 to 510 feet amsl). Most common host plant for the species is saltgrass (*Distichlis spicata*).	**Absent.** The species requires very specific habitat and minimal disturbance, and as such, the Alkali Prairie land cover within the study area represents marginally suitable habitat. The species was not detected during the June and July 2024 protocol-level surveys of the study area.
Eryngium jepsonii Jepson's coyote-thistle	No	--	CRPR 1B.2	Occurs in vernal pools and valley and foothill grasslands on clay soils (elevation 10 to 985 feet amsl).	**Absent.** Suitable habitat for the species is present in seasonal wetlands and the alkali playa/alkali wetlands on clay soils throughout the study area. The species was not detected during the June and July 2024 protocol-level surveys of the study area.
Extriplex joaquinana San Joaquin spearscale	No	--	CRPR 1B.2	Found in seasonal alkali wetlands or alkali sink scrub (elevation five to 2,740 feet amsl).	**Present.** Suitable habitat is present in and surrounding the seasonal wetlands throughout the study area, especially around the alkali playa/alkali wetlands. The species has been documented within the study area (CNDDB Occurrence #40). Thousands of individuals were documented by Madrone during the 2024 protocol-level survey.

(Continues on next page)

Table 4.4-3
Special-Status Species with Potential to Occur Within the Study Area

Scientific Name (Common Name)	Yolo HCP/NCCP Covered Species?	Federal Status	State Status	Habitat Requirements	Potential for Occurrence
Fritillaria pluriflora Adobe-lily	No	--	CRPR 1B.2	Grows in chaparral, cismontane woodland, or foothill grasslands with clay or serpentine soils. (elevation 195 to 2,315 feet amsl).	**No Habitat Present.** The study area is outside the elevational range of the species.
Hibiscus lasiocarpos var. *occidentalis* Woolly rose-mallow	No	--	CRPR 1B.2	Occurs in freshwater wetlands/marshes, including edges. Often in riprap on sides of levees (elevation zero to 395 feet amsl).	**Absent.** Suitable habitat for the species occurs within the western-most portion of Channel A. The species was not detected during the August 2023 or June and July 2024 protocol-level surveys of the study area.
Lepidium latipes var. *heckardii* Heckard's pepper-grass	No	--	CRPR 1B.2	Prefers alkaline flats within valley and foothill grasslands (elevation five to 655 feet amsl).	**Absent.** Suitable habitat for the species is present in the alkali playa/alkali wetlands and other seasonal wetlands within the study area. The species was not detected during the April 2024 protocol-level survey of the study area.
Lessingia hololeuca Woolly-headed lessingia	No	--	CRPR 3	Broad-leaved upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grasslands on serpentine clay soils (elevation 50 to 1,000 feet amsl).	**No Habitat Present.** Serpentine soils do not occur within the study area.
Lilaeopsis masonii Mason's lilaeopsis	No	--	Rare, CRPR 1B.1	Prefers brackish or freshwater swamps, intertidal marshes, and riparian scrub (elevation zero to 35 feet amsl).	**No Habitat Present.** The study area is not tidally influenced.

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Table 4.4-3
Special-Status Species with Potential to Occur Within the Study Area

Scientific Name (Common Name)	Yolo HCP/NCCP Covered Species?	Federal Status	State Status	Habitat Requirements	Potential for Occurrence
Myosurus minimus spp. *apus* Little mousetail	No	--	CRPR 3.1	Found in valley and foothill grasslands and alkaline vernal pools (elevation 65 to 2,100 feet amsl).	**Absent.** Suitable habitat for the species is present in the alkali playa/alkali wetlands and other seasonal wetlands within the study area. The species was not detected during the April 2024 protocol-level survey of the study area.
Navarretia leucocephala ssp. *bakeri* Baker's navarretia	No	--	CRPR 1B.1	Favors vernal pools, cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grasslands (elevation 15 to 5,710 feet amsl)	**Absent.** Suitable habitat for the species is present in the alkali playa/alkali wetlands and other seasonal wetlands within the study area. The species was not detected during the April 2024 protocol-level survey of the study area.
Neostapfia colusana Colusa grass	No	FT	CE, CRPR 1B.1	Large vernal pools with clay soils (elevation 16 to 656 feet amsl).	**Absent.** Suitable habitat is present within the alkali playa/alkali wetlands within the study area. The species was not detected during the June and July 2024 protocol-level surveys of the study area.
Plagiobothrys hystriculus Bearded popcornflower	No	--	CRPR 1B.1	Often in mesic areas of valley and foothill grasslands and vernal pool margins (elevation zero to 900 feet amsl).	**Absent.** Suitable habitat for the species is present in the alkali playa/alkali wetlands and other seasonal wetlands within the study area. The species was not detected during the April 2024 protocol-level survey of the study area.

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Table 4.4-3
Special-Status Species with Potential to Occur Within the Study Area

Scientific Name (Common Name)	Yolo HCP/NCCP Covered Species?	Federal Status	State Status	Habitat Requirements	Potential for Occurrence
Puccinellia simplex California alkali grass	No	--	CRPR 1B.2	Alkaline, vernally mesic areas in sinks, flats and lake margins in chenopod scrub, meadows and seeps, valley and foothill grasslands, and vernal pools (elevation seven to 3,051 feet amsl).	**Absent.** Suitable habitat for the species is present in the Alkali Prairie land cover within the study area. CNDDB Occurrence #52 is within the study area. The record was documented by several botanists between 1947 and 1963, the exact location is extremely vague, and the occurrence is considered "possibly extirpated." However, the habitat within the study area is suitable for the species. The species was not detected during the April 2024 protocol-level survey of the study area.
Sidalcea keckii Keck's checkerbloom	No	FE	CRPR 1B.1	Serpentinite clay soils in cismontane woodland and valley and foothill grasslands (elevation 245 to 2,135 feet amsl).	**No Habitat Present.** Serpentine soils do not occur within the study area, and the project site/BRPA site is outside of the elevational range of the species.
Symphyotrichum lentum Suisun Marsh aster	No	--	CRPR 1B.2	Occurs in fresh and salt-water marshes, often associated with blackberries, cattails, and bulrush (elevation zero to 10 feet amsl).	**No Habitat Present.** The study area is outside of the distributional range of the species.
Trifolium hydrophilum Saline clover	No	--	CRPR 1B.2	Grows in marshes, swamps, and vernal pools with alkaline soils (elevation zero to 985 feet amsl).	**Absent.** Suitable habitat is present in the alkali playa/alkali wetlands and other seasonal wetlands within the study area. The species was not detected during the April 2024 protocol-level survey of the study area.

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Table 4.4-3
Special-Status Species with Potential to Occur Within the Study Area

Scientific Name (Common Name)	Yolo HCP/NCCP Covered Species?	Federal Status	State Status	Habitat Requirements	Potential for Occurrence
Tuctoria mucronata Crampton's tuctoria	No	FE	CE, CRPR 1B.1	Vernal pools and mesic areas in valley and foothill grasslands (elevation 15 to 35 feet amsl).	**Absent.** Suitable habitat is present in the alkali playa/alkali wetlands and other seasonal wetlands within the study area. The species was not detected during the June and July 2024 protocol-level surveys of the study area.
Invertebrates					
Bombus crotchii Crotch's bumble bee	No	--	CC	Occurs in open grasslands and scrub habitats, primarily in California including the Mediterranean region, Pacific Coast, Western Desert, Great Valley, and adjacent foothills through most of southwestern California. The species was historically common in the Central Valley of California, but now appears to be absent from most of the valley, especially in the center of the historic range.	**Moderate.** Much of the study area is disturbed and in active agriculture. However, the Alkali Prairie land cover and California Annual Grassland Alliance land cover may provide low-quality seasonal habitat.
Bombus occidentalis Western bumble bee	No	--	CC	Meadows and grasslands with blended floral resources are appropriate habitat. Historically known throughout the mountains and northern coast of California, and now largely confined to high-elevation sites and a small handful of records on the Northern California coast.	**No Habitat Present.** The study area is outside of the current range of the species. The species was documented somewhere near Davis in the 1950s and 1960s (CNDDB Occurrence #176). However, recent data and range maps indicate that the study area is outside of the current range.

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Table 4.4-3
Special-Status Species with Potential to Occur Within the Study Area

Scientific Name (Common Name)	Yolo HCP/NCCP Covered Species?	Federal Status	State Status	Habitat Requirements	Potential for Occurrence
Branchinecta conservatio Conservancy fairy shrimp	No	FE	--	Occurs in very large, turbid vernal pools.	**Absent.** The alkali playas within the study area have the potential to support the species. Protocol wet- and dry-season surveys conducted in 2023 through 2024 did not detect the species.
Branchinecta lynchi Vernal pool fairy shrimp	No	FT	--	Occurs in vernal pools.	**Absent.** The alkali playa, seasonal wetlands, farmed wetland, and wetland ditches within the study area have the potential to support the species. Protocol wet- and dry-season surveys conducted in 2023 through 2024 did not detect the species.
Danaus plexippus Monarch butterfly	No	FPT	--	Migratory species that is most prevalent in the Central Valley in summer and early fall. Dependent upon milkweed (*Asclepias* species) plants as exclusive larval host.	**High.** Several patches of milkweed plants are present that could support the species.
Desmocerus californicus dimorphus Valley elderberry longhorn beetle	Yes	FT	--	Dependent upon elderberry (*Sambucus* species) plant as primary host species.	**High.** A total of 26 elderberry shrubs are present within or adjacent to the study area that could represent habitat for the species. The species was documented in the vicinity of the study area in 1934 (CNDDB Occurrence #256).

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Table 4.4-3
Special-Status Species with Potential to Occur Within the Study Area

Scientific Name (Common Name)	Yolo HCP/NCCP Covered Species?	Federal Status	State Status	Habitat Requirements	Potential for Occurrence
				Occurs in vernal pools.	**Present.** Suitable habitat for the species is present in the alkali playas, wetland ditches, and seasonal wetlands within the study area. Two overlapping records (CNDDB Occurrence #217 and #222) occur in a portion of the study area. The occurrences include collections in 1941, 1942, 1952, and 1979, and all of the collections were from features west of CR 101A, which is west of the project site/BRPA site, but cuts through a portion of the Western Program Study Area. The species was documented in the on-site features within the study area: two alkali playas, and one wetland ditch (see Figure 4.4-6).
Lepidurus packardi Vernal pool tadpole shrimp	No	FE	--		
Fish					
Acipenser medirostris Green sturgeon – Southern Distinct Population Segment (DPS)	No	FC	CT	Prefers moderately saline water and may be found in major bays and estuaries from San Francisco Bay northward. Inhabits bay waters throughout the summer, moving into the lower reaches of the rivers that flow into the bays in the fall to spawn.	**No Habitat Present.** The study area is outside of the geographic range of the species and suitable aquatic habitat is not present.

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Table 4.4-3
Special-Status Species with Potential to Occur Within the Study Area

Scientific Name (Common Name)	Yolo HCP/NCCP Covered Species?	Federal Status	State Status	Habitat Requirements	Potential for Occurrence
Amphibians					
Ambystoma californiense California tiger salamander	Yes	FT	CT	Breeds in ponds or other deeply ponded wetlands and uses gopher holes and ground squirrel (*Otospermophilus beecheyi*) burrows in adjacent grasslands for upland refugia/foraging.	**No Habitat Present.** The study area does not contain and is not adjacent to large grassland habitat that is necessary for the species to persist. The intensive agricultural practices such as plowing, disking, and irrigation of the fields preclude the species from being present.
Spea hammondii Western spadefoot	No	FPT	CSC	Breeds in vernal pools, seasonal wetlands and associated swales. Forages and hibernates in adjacent grasslands.	**Low.** Low-quality habitat is present in the alkali playa, seasonal wetlands, and wetland ditches within the study area. Due to ongoing intensive agricultural activities, a low potential exists for the species to occur within the study area. The larvae of the species were not detected during the 2023 through 2024 biweekly wet season surveys of all suitable aquatic habitat in the study area.
Actinemys marmorata Northwestern pond turtle	Yes	FPT	CSC	Occurs in ponds, rivers, streams, wetlands, and irrigation ditches with associated marsh habitat.	**Low.** Channel A within the study area is shallow, ephemeral, and contains very little open water. Suitable nesting habitat occurs in the Western Program Study Area. The species could use the channel to disperse from pond habitats at the North Davis Farms and Julie Partansky Pond downstream through the study area toward the Willow Slough Bypass.

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Table 4.4-3
Special-Status Species with Potential to Occur Within the Study Area

Scientific Name (Common Name)	Yolo HCP/NCCP Covered Species?	Federal Status	State Status	Habitat Requirements	Potential for Occurrence
Thamnophis gigas Giant garter snake	Yes	FT	CT	Occurs in rivers, canals, irrigation ditches, rice fields, and other aquatic habitats with slow-moving water and heavy emergent vegetation.	**No Habitat Present.** Channel A and the uplands within the study area do not represent suitable habitat for the species. The lack of perennial or semi-perennial water needed to support a prey base, the lack of suitable basking habitat due to the dense riparian canopy, and the highly disturbed and farmed nature of the uplands surrounding Channel A make the study area unsuitable. Additionally, the lack of adjacent wetlands or rice farming to the Channel A also contributes to the unsuitability of the study area. Please see the giant garter snake habitat assessment for additional information on this species (Attachment J of the BRA, which is included as Appendix D to this EIR).
Birds					
Agelaius tricolor Tricolored blackbird	Yes	--	CE, CSC	Colonial nester in cattails (*Typha* species), bulrush (*Schoenoplectus* species), or blackberry (*Rubus* species) associated with marsh habitats.	**Low.** A very small freshwater emergent marsh and isolated patches of cattail, bulrush, and blackberry within Channel A are present on-site; however, the areas are generally too small to support colonial nesting habitat. The agricultural fields throughout the study area represent potential foraging habitat. The species was not observed during any of the surveys in 2023 and 2024, including the protocol-level Swainson's hawk and burrowing owl surveys.

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Table 4.4-3
Special-Status Species with Potential to Occur Within the Study Area

Scientific Name (Common Name)	Yolo HCP/NCCP Covered Species?	Federal Status	State Status	Habitat Requirements	Potential for Occurrence
Athene cunicularia Burrowing owl	Yes	--	CC, CSC	Nests in abandoned ground squirrel burrows associated with open grassland habitats.	**High.** Extensive complexes of ground squirrel burrows occur throughout the study area, particularly along the western edge of the project site/BRPA site and along Channel A. The burrows represent suitable habitat. However, burrowing owls were not observed during protocol-level breeding- and non-breeding-season surveys of the study area conducted in 2023 and 2024. However, the species is highly mobile and could move into the study area at any time.
Buteo swainsoni Swainson's hawk	Yes	--	CT	Nests in large trees, preferably in riparian areas. Forages in fields, cropland, irrigated pasture, and grassland near large riparian corridors.	**Present.** Large trees throughout the study area represent suitable nesting habitat, and the agricultural fields on-site represent suitable foraging habitat. The Alkali Prairie, Grain and Hay Crops, and Semi-Agricultural land covers on-site represent suitable foraging habitat. The species was previously observed nesting within the southern portion of the study area in 1982 through 1991 (CNDDB Occurrence #450). During the 2024 protocol-level surveys for the species, one active nest was observed on-site along Channel A, and a second nest was observed just to the north of the study area (see Figure 4.4-6). The species regularly forages throughout the study area.
Charadrius alexandrinus nivosus Western snowy plover	No	FT	CSC	Occurs in barren to sparsely vegetated open areas near water.	**No Habitat Present.** Outside of the known range of the species and suitable habitat is not present.

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Table 4.4-3
Special-Status Species with Potential to Occur Within the Study Area

Scientific Name (Common Name)	Yolo HCP/NCCP Covered Species?	Federal Status	State Status	Habitat Requirements	Potential for Occurrence
Circus hudsonius Northern harrier	No	--	CSC	Nests in emergent wetland/marsh, open grasslands, or savannah habitats. Forages in open areas such as marshes, agricultural fields, and grasslands.	**Present.** Suitable nesting habitat occurs immediately adjacent to the study area in the City's former wastewater treatment plant (WWTP) site and in the Western Program Study Area. The species was observed foraging on-site during several surveys in 2023 and 2024.
Coccyzus americanus occidentalis Western yellow-billed cuckoo	Yes	FT	CE	Inhabits extensive deciduous riparian thickets or forests with dense, low-level or understory foliage, adjacent to slow-moving waterways, backwaters, or seeps.	**No Habitat Present.** Appropriate extensive riparian woodland habitat does not occur on-site.
Elanus leucurus White-tailed kite	Yes	--	CFP	Open grasslands, fields, and meadows are used for foraging. Isolated trees in close proximity to foraging habitat are used for perching and nesting.	**Present.** Trees throughout the study area represent suitable nesting habitat, and the Alkali Prairie, Grain and Hay Crops, and Semi-Agricultural land covers on-site represent suitable foraging habitat. The species was observed foraging within the study area during surveys in 2023 and 2024.
Riparia riparia Bank swallow	Yes	--	CT	Colonial nester preferring vertical cliffs and banks with fine-textured/sandy soils associated with riparian zones along streams, rivers, and lakes.	**No Habitat Present.** Vertical cliffs and fine-textured/sandy soils are not present on-site.
Vireo bellii pusillus Least Bell's vireo	Yes	FE	CE	Strongly associated with riparian corridors. Generally restricted to southern California along lowland willow-dominated riparian areas. In the Sacramento Valley, the species occurs as a vagrant during the breeding season.	**No Habitat Present.** The study area does not support riparian habitats with the dense shrubby willow thickets the species requires.

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Table 4.4-3
Special-Status Species with Potential to Occur Within the Study Area

Scientific Name (Common Name)	Yolo HCP/NCCP Covered Species?	Federal Status	State Status	Habitat Requirements	Potential for Occurrence
Mammals					
Antrozous pallidus Pallid bat	No	--	CSC, WBWG H	Day and night roosts include crevices in rocky outcrops and cliffs, caves, mines, trees (e.g., basal hollows of coast redwoods [*Sequoia sempervirens*] and giant sequoia [*Sequoiadendron giganteum*], bole cavities of oaks [*Quercus* species], exfoliating Ponderosa pine [*Pinus ponderosa*] and Valley oak bark, deciduous trees in riparian areas, and fruit trees in orchards), and various human structures such as bridges (especially wooden and concrete girder designs), barns, porches, bat boxes, and human-occupied, as well as vacant, buildings.	**High.** Suitable roosting habitat is present in tree hollows and under exfoliating bark on trees scattered throughout the study area.
Lasionycteris noctivagans Silver-haired bat	No	--	WBWG M	Roosts in abandoned woodpecker holes, under bark, and occasionally in rock crevices. The species forages in open wooded areas near water features.	**High.** Suitable roosting habitat for the species is present in tree hollows and under exfoliating bark on trees scattered throughout the study area.
Lasiurus cinereus Hoary bat	No	--	WBWG M	Roosts primarily in foliage of both coniferous and deciduous trees at the edges of clearings.	**High.** Trees scattered throughout the study area are suitable roosting habitat for this species.

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Table 4.4-3
Special-Status Species with Potential to Occur Within the Study Area

Scientific Name (Common Name)	Yolo HCP/NCCP Covered Species?	Federal Status	State Status	Habitat Requirements	Potential for Occurrence
Taxidea taxus American badger	No	--	CSC	The species prefers dry open fields, grasslands, and pastures.	**Low.** The small area of grassland within the study area is surrounded by development and has regular pedestrian traffic and is not suitable habitat for American badger. American badger may use Channel A as a migratory corridor, dispersing to and from suitable habitat.

CC: CDFW Candidate for Listing
CE: CDFW Endangered
CFP: CDFW Fully Protected
CRPR: California Rare Plant Rank
CR: California Rare
CT: CDFW Threatened
FC: Federal Candidate for Listing
FPT: Federally Proposed Threatened
FD: Federally Delisted
CSC: CDFW Species of Special Concern
FT: Federally Threatened
WBWG M: Western Bat Working Group Medium Threat Rank
WBWG H: Western Bat Working Group High Threat Rank
FE: Federally Endangered

Source: Madrone Ecological Consulting, 2024.

The species was not detected during the April 2024 protocol-level survey of the study area when the species would have been identifiable. Thus, Ferris' milk-vetch is considered ***absent*** from the study area.

Alkali Milk-Vetch

Alkali milk-vetch (*Astragalus tener* var. *tener*) is not federally or State-listed, but is classified as a CRPR List 1B.2 plant. The annual herb is found in adobe clay in valley and foothill grasslands, vernal pools, and playas. The plant occurs at elevations between five and 195 feet amsl and blooms from March to June.

The alkali playa and alkali wetlands within the study area represent suitable habitat for the species. Four occurrences of alkali milk-vetch have been recorded within five miles of the study area (see Figure 4.4-4). The closest record (CNDDB Occurrence #36) overlaps the study area, and five additional unprocessed CNDDB records from 2023 within the alkali playa are within the study area. Thousands of individuals of the species were documented by Madrone within the alkali wetlands within the study area (see Figure 4.4-6) during targeted surveys in 2024. The plants were observed both in relatively typical habitat (interspersed with hydrophytic species typical of the alkali wetland), as well as in some mesic upland areas. Plants were widely scattered in some areas, particularly to the west, and were denser in eastern areas. A total of approximately 19,300 alkali milk vetch plants were documented within 3.17 acres of occupied habitat. The population estimate is based on a combination of direct counts for relatively small populations, and extrapolated population estimates for the very large populations.[6] Thus, alkali milk-vetch is ***present*** in the study area.

Heartscale

Heartscale (*Atriplex cordulata* var. *cordulata*) is not federally or State-listed but is classified as a CRPR List 1B.2 plant. The species is an herbaceous annual that sometimes occurs in alkaline soils within chenopod scrub, sandy valley and foothill grasslands, and meadows and seeps. Heartscale blooms from April through October and is known to occur at elevations ranging from approximately sea level to 1,835 feet amsl.

The Alkali Prairie land cover within the study area represents suitable habitat for heartscale. One record of heartscale occurs within five miles of the study area (see Figure 4.4-4). The record (CNDDB Occurrence #4) overlaps the study area, and is based on a 1952 collection. The species was not detected during the June and July 2024 protocol-level surveys of the study area when the species would have been identifiable. Thus, heartscale is considered ***absent*** from the study area.

Brittlescale

Brittlescale (*Atriplex depressa*) is not federally or State-listed but is classified as a CRPR List 1B.2 plant. The species is an herbaceous annual that occurs in valley and foothill grasslands, meadows and seeps, chenopod scrub, playas, and vernal pools with alkaline and clay soils. Brittlescale blooms from April through October and is known to occur at elevations ranging from approximately five to 1,050 feet amsl.

[6] See page 36 of the BRA (Appendix D of this EIR) for an explanation of extrapolated population estimates of alkali milk-vetch.

The Alkali Prairie land cover within the study area represents suitable habitat for brittlescale. Three records of brittlescale occur within five miles of the study area (see Figure 4.4-4). The closest record (CNDDB Occurrence #57) is on-site, within the alkali playa. The occurrence was last documented in 1996, as 70 plants were identified within the on-site alkali playa. The species was not detected during the June and July 2024 protocol-level surveys of the study area when the species would have been identifiable. Thus, brittlescale is considered *absent* from the study area.

Bristly Sedge

Bristly sedge (*Carex comosa*) is not a federally or State-listed species but is classified as a CRPR List 1B.2 plant. Bristly sedge is found in marshes and swamps in valley and foothill grasslands and coastal prairies. The species is a rhizomatous perennial, and blooms from March through September at elevations from sea level to 2,050 feet amsl.

The freshwater emergent marsh and the western portion of Channel A within the study area provide suitable habitat for the species. Documented occurrences of the species in the CNDDB do not occur within five miles of the study area. The species was not detected during the August 2023 or June and July 2024 protocol-level surveys of the study area when the species would have been identifiable. Thus, bristly sedge is considered *absent* from the study area.

Pappose Tarplant

Pappose tarplant (*Centromadia parryi* ssp. *parryi*) is not federally or State-listed, but is classified as a CRPR List 1B.2 species. The annual herb is primarily associated with mesic, often alkaline areas in chaparral, coastal prairie, and valley and foothill grasslands, as well as meadows and seeps and coastal salt marshes. Pappose tarplant occurs at elevations between sea level and 1,380 feet amsl, and blooms from May through November.

The Alkali Prairie land cover throughout the study area represents suitable habitat for the species. One record of pappose tarplant occurs within five miles of the study area (see Figure 4.4-4). The record (CNDDB Occurrence #37) is located approximately 4.7 miles east of the project site/BRPA site along Interstate 80 (I-80), between Chiles Road and Levee Road, on the west edge of the Yolo Bypass Wildlife Area. The occurrence was last observed in 2011. The species was not detected during the June and July 2024 protocol-level surveys of the study area when the species would have been identifiable. Thus, pappose tarplant is considered *absent* from the study area.

Palmate-Bracted Bird's Beak

Palmate-bracted bird's beak (*Chloropyron palmatum*) is listed as a federally and State endangered species and is classified as a CRPR List 1B.1 plant. The species is also a Yolo HCP/NCCP Covered Species. The hemi-parasitic annual herb is found in chenopod scrub and valley and foothill grasslands with alkaline soils. The species occurs at elevations between 15 and 510 feet amsl and blooms from May through October.

The Alkali Prairie land cover within the study area represents suitable habitat for the species. Two records of palmate-bracted bird's beak occur within five miles of the study area (see Figure 4.4-4). The closest record (CNDDB Occurrence #1) is located approximately 4.1 miles north of the project site/BRPA site near the junction of CRs 103 and 25, between Woodland and Davis. The population is located on City of Woodland property and has been monitored regularly since the 1980s, with 517 plants observed in 2021. The species was not detected during the June and July

2024 protocol-level surveys of the study area when the species would have been identifiable. Thus, palmate-bracted bird's beak is considered *absent* from the study area.

Jepson's Coyote Thistle

Jepson's coyote thistle (*Eryngium jepsonii*) is not a federally or State-listed species but is classified as a CRPR List 1B.2 plant. The species is a perennial herb that is found in vernal pools and valley and foothill grasslands on clay soils and occurs at elevations from 10 to 985 feet amsl and blooms from April through August.

The alkali playa, alkali wetlands, and seasonal wetlands within the study area provide suitable habitat for the species. Documented occurrences of the species do not occur within five miles of the study area. The species was not detected during the June and July 2024 protocol-level surveys of the study area when the species would have been identifiable. Thus, Jepson's coyote thistle is considered *absent* from the study area.

San Joaquin Spearscale

San Joaquin spearscale (*Extriplex joaquinana*) is not federally or State-listed, but is classified as a CRPR List 1B.2 plant. The annual herb is found on alkaline soils in meadows, seeps, and playas, in chenopod scrub and valley and foothill grasslands. San Joaquin spearscale is found between approximately five feet and 2,740 feet amsl and blooms from April through October.

The Alkali Prairie land cover represents suitable habitat for the species. Six occurrences of San Joaquin spearscale have been recorded within five miles of the study area (see Figure 4.4-4). The closest record (CNDDB Occurrence #40) is located within the study area. Thousands of individuals of the species were documented by Madrone within the alkali wetlands and surrounding Alkali Prairie land cover within the study area (see Figure 4.4-6) during targeted surveys in 2024. The plants were widely scattered in some areas, and quite dense in others. A total of approximately 20,900 San Joaquin spearscale plants were documented within 3.78 acres of occupied habitat. The population estimate is based on a combination of direct counts for relatively small populations, and extrapolated population estimates for the very large populations.[7] Thus, San Joaquin spearscale is *present* in the study area.

Woolly Rose-Mallow

Woolly rose-mallow (*Hibiscus lasiocarpos* var. *occidentalis*) is not federally or State-listed, but is classified as a CRPR List 1B.2 plant. The perennial rhizomatous herb typically occurs in shallow freshwater marshes and swamp habitats and is strongly associated with the Sacramento-San Joaquin River Delta watershed. Woolly rose-mallow often occurs in riprap on sides of levees. The species is found at elevations from sea level to approximately 395 feet amsl and blooms from June to September.

The western portion of Channel A that contains emergent vegetation represents marginal habitat for the species. Documented occurrences of the species in the CNDDB do not occur within five miles of the study area. The species was not detected during the August 2023 or June and July 2024 protocol-level surveys of the study area when the species would have been identifiable. Thus, woolly rose-mallow is considered *absent* from the study area.

[7] See page 39 of the BRA (Appendix D of this EIR) for an explanation of extrapolated population estimates of San Joaquin spearscale.

Heckard's Pepper-Grass

Heckard's pepper-grass (*Lepidium latipes* var. *heckardii*) is not federally or State-listed but is classified as a CRPR List 1B.2 plant. The herbaceous annual is found in valley and foothill grasslands with alkaline flats. Heckard's pepper-grass blooms from March through May and is known to occur at elevations ranging from approximately five to 655 feet amsl.

The alkali playa, alkali wetlands, and seasonal wetlands within the study area represent suitable habitat for Heckard's pepper-grass. Three occurrences of Heckard's pepper-grass have been recorded within five miles of the study area (see Figure 4.4-4). The closest record (CNDDB Occurrence #2) overlaps a small portion of the study area (see Figure 4.4-5). The herbarium label is the only source of information for this occurrence from 1957 and the exact location is unknown. The species was not detected during the April 2024 protocol-level survey of the study area when the species would have been identifiable. Thus, Heckard's pepper-grass is considered *absent* from the study area.

Little Mousetail

Little mousetail (*Myosurus minimus* ssp. *apus*) is not a federally or State-listed species, but is classified as a CRPR List 3.1 plant. The annual herb favors valley and foothill grassland and alkaline vernal pool. Little mousetail is found between 65 and 2,100 feet amsl and blooms from March to June.

The alkali playa, alkali wetlands, and seasonal wetlands within the study area provide suitable habitat for the species. Records of the species within five miles of the study area do not occur within the CNDDB. The species was not detected during the April 2024 protocol-level survey of the study area when the species would have been identifiable. Both *Myosurus minimus* and *Myosurus sessilis* were observed within the alkali wetlands within the study area, and CNPS staff were consulted to determine taxonomy for *Myosurus minimus* ssp*. apus*, as the species is not recognized in the Jepson eFlora. *Myosurus* plants that fit the characteristics of *Myosurus minimus* ssp. *apus* were not found within the study area. Thus, little mousetail is considered *absent* from the study area.

Baker's Navarretia

Baker's navarretia (*Navarretia leucocephala* ssp. *bakeri*) is not federally or State-listed but is classified as a CRPR List 1B.1 plant. The herbaceous annual is associated with mesic soils and is found in cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland, and vernal pools. Baker's navarretia occurs at elevations ranging from approximately 15 to 5,710 feet amsl and blooms from April through July.

The alkali playa, alkali wetlands, and seasonal wetlands within the study area represent suitable habitat for Baker's navarretia. Records of the species do not occur within five miles of the study area. The species was not detected during the April 2024 protocol-level survey of the study area when the species would have been identifiable. Thus, Baker's navarretia is considered *absent* from the study area.

Colusa Grass

Colusa grass (*Neostapfia colusana*) is listed as threatened under the FESA, endangered under the CESA, and is classified as a CRPR List 1B.1 plant. The species is an annual herb that occurs in large vernal pools with clay soils at elevations between 16 feet and 656 feet. In the vicinity of the study area, the species has been documented growing in vernal pools on Bear Creek,

Corning, Greenfield, Keyes, Landlow, Lewis, Meikle, Pentz, Peters, Raynor, Redding, and Whitney soil series. Colusa grass blooms from May through August.

The alkali playa and alkali wetlands within the study area provide suitable habitat for the species. Records of the species do not occur within five miles of the study area within the CNDDB. The species was not detected during the June and July 2024 protocol-level surveys of the study area when the species would have been identifiable. Thus, Colusa grass is considered *absent* from the study area.

Bearded Popcornflower

Bearded popcornflower (*Plagiobothrys hystriculus*) is not a federally or State-listed species but is classified as a CRPR List 1B.1 plant. The herbaceous annual is often found along margins of vernal pools, as well as mesic valley and foothill grasslands. Bearded popcornflower occurs at elevations ranging from sea level to 900 feet amsl and blooms from April through May.

The alkali playa, alkali wetlands, and seasonal wetlands within the study area provide suitable habitat for the species. Records of the species do not occur within five miles of the study area within the CNDDB. The species was not detected during the April 2024 protocol-level survey of the study area when the species would have been identifiable. Thus, bearded popcornflower is considered *absent* from the study area.

California Alkali Grass

California alkali grass (*Puccinellia simplex*) is not listed under the FESA or CESA, but is classified as a CRPR List 1B.2 plant. The annual herb favors chenopod scrub, meadows and seeps, valley and foothill grasslands, and mesic vernal pools. California alkali grass is found in elevations ranging from about 5 to 3,050 feet amsl and blooms from March to May.

The Alkali Prairie land cover within the study area represents suitable habitat for the species. Eight occurrences of California alkali grass have been recorded within five miles of the study area (see Figure 4.4-4). The closest record (CNDDB Occurrence #52) overlaps the study area (see Figure 4.4-5). The occurrence is from 1952 through 1961, but the CNDDB considers the population potentially extirpated. The species was not detected during the April 2024 protocol-level survey of the study area when the species would have been identifiable. Thus, California alkali grass is considered *absent* from the study area.

Saline Clover

Saline clover (*Trifolium hydrophilum*) is not federally or State-listed, but is classified as a CRPR List 1B.2 plant. The herbaceous annual favors marshes, swamps, vernal pools, as well as mesic alkaline areas in valley and foothill grassland habitat. Saline clover is found from sea level to approximately 985 feet amsl and blooms from April through June.

The alkali playa, alkali wetlands, and seasonal wetlands within the study area represent suitable habitat for the species. Four records of saline clover occur within five miles of the study area (see Figure 4.4-4. The closest record (CNDDB Occurrence #43) is located approximately four miles northwest of the project site/BRPA site at Woodland Regional Park, about 0.5-mile southeast of intersection of CRs 102 and 25. The species was not detected during the April 2024 protocol-level survey of the study area when the species would have been identifiable. Thus, saline clover is considered *absent* from the study area.

Crampton's Tuctoria

Crampton's tuctoria (also known as Solano grass; *Tuctoria mucronata*) is listed as a federally and California endangered species and is classified as a CRPR List 1B.1 plant. The annual herb favors mesic valley and foothill grasslands and is associated with vernal pools. Solano grass occurs at elevations ranging from approximately 15 to 35 feet amsl and blooms from April through August.

The alkali playa and alkali wetlands within the study area represent suitable habitat for the species. Documented records of the species do not occur within five miles of the study area. The species was not detected during the August 2023 or June and July 2024 protocol-level surveys of the study area when the species would have been identifiable. Thus, Crampton's tuctoria is considered *absent* from the study area.

Listed and Special-Status Wildlife Species

According to the records search conducted as part of the BRA, 25 special-status wildlife species have the potential to occur on-site or within five miles of the study area (see Figure 4.4-7). Based on literature review (detailed further in this chapter under the Method of Analysis subsection), 17 of the 25 special-status wildlife species were determined to have potential to occur within the study area. Species that are considered to be *present* include vernal pool tadpole shrimp, Swainson's hawk, northern harrier, and white-tailed kite.

The following discussions provide further details of the 17 special-status wildlife species with the potential to occur within the study area.

Crotch's Bumble Bee

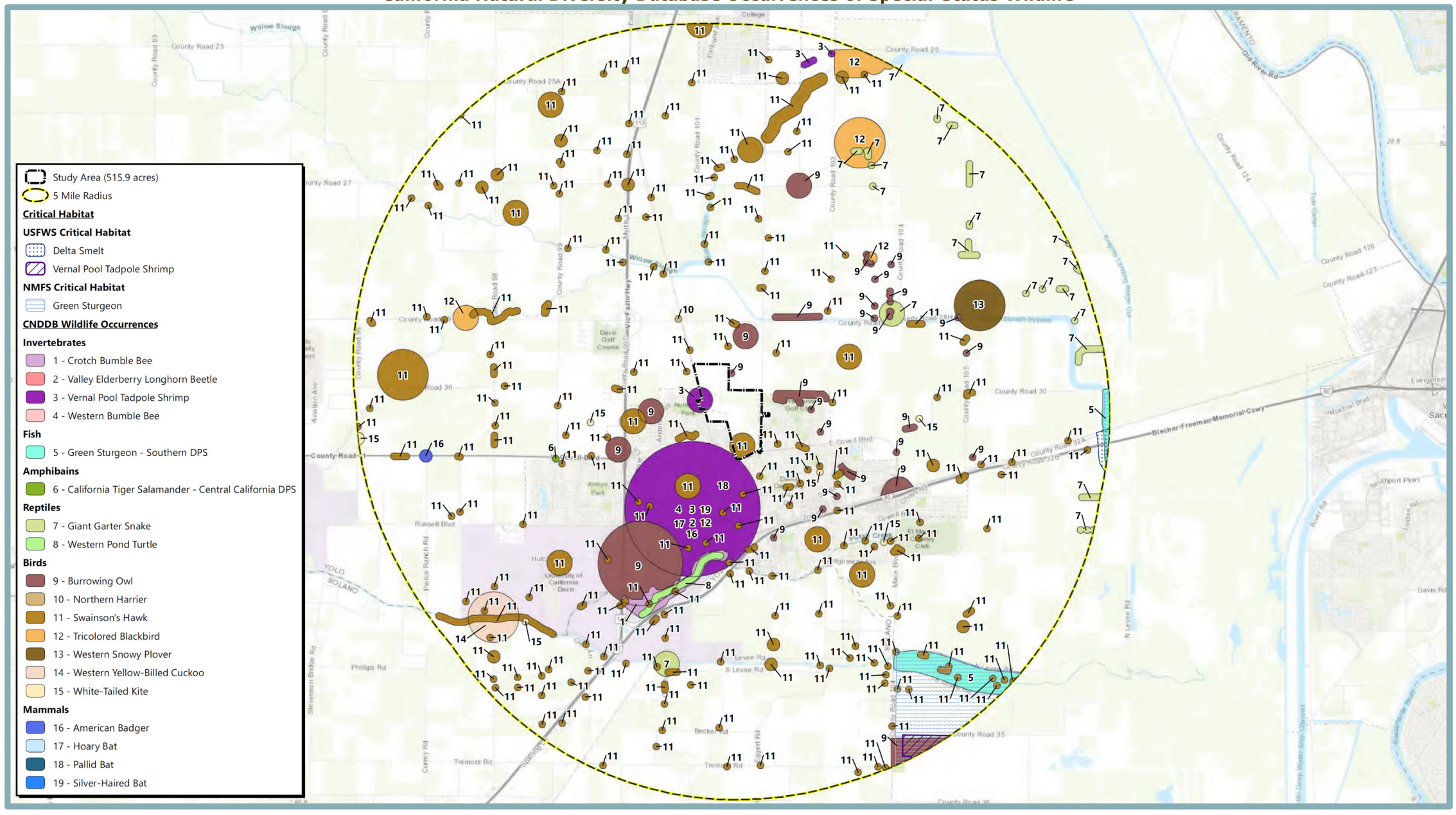
Crotch's bumble bee (*Bombus crotchii*) is a candidate species for listing under CESA. Crotch's bumble bee has a limited distribution in southwestern North America. The species occurs primarily in California, including the Mediterranean region, Pacific Coast, West Desert, Great Valley, and adjacent foothills through most of southwestern California, as well as in Mexico (Baja California and Baja California Sur), and has been documented in southwest Nevada, near the California border.

The species was historically common in the Central Valley, but now appears to be absent from most of the valley, especially in the center of the historic range. In California, Crotch's bumble bee inhabits open grasslands and scrub habitats.

All bumble bees have three basic requirements: suitable nesting sites for the colonies, availability of nectar and pollen from floral resources throughout the duration of the entirety of the colony period (spring, summer, and fall), and suitable overwintering sites for the queens. Nests are often located underground in abandoned holes made by ground squirrels, mice, and rats or occasionally abandoned bird nests. Some species nest on the surface of the ground (in tufts of grass) or in empty cavities. Bumble bees that nest aboveground may require undisturbed areas with nesting resources such as grass and hay to protect nests. Furthermore, areas with woody cover, or other sheltered areas provide bumble bees sites to build their nests (e.g., downed wood, rock walls, brush piles, etc.).

Bumble bees depend on the availability of habitats with a rich supply of floral resources that bloom continuously during the entirety of the colony's life. The queen collects nectar and pollen from flowers to support the production of her eggs, which are fertilized by sperm she has stored from mating the previous fall.

Figure 4.4-7
California Natural Diversity Database Occurrences of Special-Status Wildlife



As generalist foragers, bumble bees do not depend on any one flower type, but generally prefer flowers that are purple, blue, or yellow; bumble bees are essentially blind to the color red. The plant families most commonly associated with Crotch's bumble bee observations in California include Apocynaceae, Asteraceae, Boraginaceae, Fabaceae, and Lamiaceae. Very little is known about hibernacula, or overwintering sites used by most bumble bees. Generally, bumble bees overwinter in soft, disturbed soil, under leaf litter or other debris, in abandoned holes made by fossorial mammals or occasionally in abandoned bird nests. Some species nest on the surface of the ground (in grassy tussocks) or in empty cavities (hollow logs, dead trees, under rocks, etc.). Queens most likely overwinter in small cavities just below or on the ground surface.

The California Annual Grassland Alliance and Alkali Prairie land covers within the study area represent suitable habitat for Crotch's bumble bee. One documented record of the species occurs within 1.3 miles of the study area (CNDDB Occurrence #11). Collections from Davis and Putah Creek were attributed to the occurrence location from 1949 through 1998. Thus, the potential for Crotch's bumble bee to occur in the study area is *moderate*.

It should be noted that as a candidate for listing, Crotch's bumble bee is temporarily afforded the same protections as a State-listed endangered or threatened species. After CDFW's status report on Crotch's bumble bee is complete, the California Fish and Game Commission must decide at a public meeting whether the petitioned action (listing of the species) is warranted. If the California Fish and Game Commission finds that the petitioned action is not warranted, the process would end and the species would be removed from the list of candidate species. If the California Fish and Game Commission finds that the petitioned action is warranted, the species would be added to the list of threatened or endangered species under CESA.

Conservancy Fairy Shrimp

The conservancy fairy shrimp (*Branchinecta conservatio*) is listed as endangered pursuant to the FESA. The species is endemic to California and found in vernal pools in grasslands in the northern two thirds of the Central Valley. The historic distribution of conservancy fairy shrimp is not known, but likely occurred throughout a large portion of the Central Valley and Southern Coastal regions of California. Until recently, the species has only been known from a few disjunct populations in California. In April of 2007, the USFWS reported that a single conservancy fairy shrimp was documented in one vernal pool within the Mariner Conservation Bank in Placer County.

Conservancy fairy shrimp is the largest of the endemic Central Valley fairy shrimp and can reach lengths of slightly over one inch. The species has a relatively long maturation (36 days) and reproductive (46 days) period, and is typically found with other large branchiopod species with long maturation and reproductive periods, such as vernal pool tadpole shrimp (*Lepidurus packardi*) and California fairy shrimp (*Linderiella occidentalis*). The species sometimes co-occurs with endemic vernal pool grasses such as Colusa grass and Orcutt grasses (*Orcuttia* spp.), which likewise tend to inhabit deep wetlands with long inundation periods. Similar to the endemic vernal pool grasses, conservancy fairy shrimp occur in wetlands that are primarily unvegetated in the deepest portion of the pool. Conservancy fairy shrimp has been documented in vernal pools and vernal lakes ranging from 0.076-acre in size to 88.03 acres.

The alkali playa within the study area has potential to support conservancy fairy shrimp. The species has not been documented in the CNDDB within five miles of the study area, but the species has been documented approximately nine miles southeast of the study area. Protocol-level wet- and dry-season surveys for the species were conducted in all suitable habitat within the

study area. The surveys were negative. Thus, conservancy fairy shrimp is considered ***absent*** from the study area.

Vernal Pool Fairy Shrimp

The vernal pool fairy shrimp (***Branchinecta lynchi***) is listed as threatened, pursuant to the FESA. Historically, the range of vernal pool fairy shrimp extended throughout the Central Valley. Vernal pool fairy shrimp populations have been found in several locations throughout California, with habitat extending from Stillwater Plain in Shasta County, through the Central Valley, to Pixley in Tulare County, and along the Central Coast range from northern Solano County to Pinnacles National Monument in San Benito County. Additional populations occur in San Luis Obispo, Santa Barbara, and Riverside counties. The historic and current ranges of vernal pool fairy shrimp are very similar in extent; however, the remaining populations are more fragmented and isolated than during historical times. The life cycle of vernal pool fairy shrimp is adapted to seasonally inundated features such as vernal pools, seasonal wetlands, and seasonal wetland swales. Fairy shrimp embryos survive the dry season in cyst form. Cysts "hatch" soon after pools become inundated during the wet season. Fairy shrimp complete their life cycle quickly and feed on small particles of detritus, algae, and bacteria.

The alkali playa, seasonal wetlands, farmed wetland, and wetland ditches within the study area represent suitable habitat for the species. The species has not been documented in the CNDDB within five miles of the study area. Protocol-level wet- and dry-season surveys for the species were conducted in all suitable habitat within the study area. The surveys were negative. Thus, vernal pool fairy shrimp is considered ***absent*** from the study area.

Vernal Pool Tadpole Shrimp

The vernal pool tadpole shrimp (***Lepidurus packardi***) is listed as endangered, pursuant to the FESA. The historic range of the vernal pool tadpole shrimp likely extended throughout the Central Valley and has been documented from east of Redding in Shasta County, south to Fresno County, and to the San Francisco Bay Wildlife Refuge in Alameda County. The historic and current ranges of vernal pool tadpole shrimp are very similar in extent; however, the remaining populations are more fragmented and isolated than during historical times.

The species is associated with low-alkalinity seasonal pools in grasslands throughout the northern and eastern portions of the Central Valley. Suitable vernal pools and seasonal swales are generally underlain by hardpan or sandstone. Vernal pool tadpole shrimp are adapted to seasonally inundated features such as vernal pools, seasonal wetlands, and seasonal wetland swales. Tadpole shrimp embryos survive the dry season in cyst form. Cysts "hatch" soon after pools become inundated during the wet season. Sexually mature adults may persist three to four weeks after habitat inundation.

The largest threats to vernal pool tadpole shrimp are loss of habitat through urbanization. Other threats include encroachment of nonnative annual grasses, agricultural conversion, and parasitism by flukes of an undetermined species. Some populations are also threatened by pesticide drift from adjacent farmlands.

The alkali playas, seasonal wetlands, and wetland ditches within the study area provide suitable habitat for the species. Three occurrences are documented within five miles of the study area, and the closest occurrence (CNDDB Occurrence #222) overlaps the study area (see Figure 4.4-6 and Figure 4.4-7). The occurrence was documented just west of CR 101A/F Street in 1979.

Protocol-level wet- and dry-season surveys for the species were conducted in all suitable habitat within the study area, and vernal pool tadpole shrimp were documented in three features, including two alkali playas, and one wetland ditch basin (see Figure 4.4-6). Thus, vernal pool tadpole shrimp are *present* in the study area.

Monarch Butterfly

Monarch butterfly (*Danus plexippus*) is proposed for federal listing as threatened. The species can occur in fields, roadside areas, open areas, wet areas, or urban gardens and requires flowering plants as a food source and healthy and abundant milkweed (generally *Asclepius* sp.) for laying eggs on as larval host plants. The monarch life cycle varies by geographic location, and in many regions where monarchs are present, monarchs breed year-round.

While the species was not observed on-site during the field surveys, several substantial patches of narrowleaf milkweed (*Asclepius fascicularis*), a larval host plant for monarch butterfly, were documented within the study area. The largest population of narrowleaf milkweed is located along the western edge of the study area, south of Channel A. Additionally, flowering plants within the study area may provide nectar for foraging adults. A query of the Western Monarch Milkweed Database yielded occurrences that were recorded in 2020 of monarch adults approximately 0.3-mile east of the study area and monarch breeding approximately 3.2 miles southeast of the site. Thus, the potential for monarch butterfly to occur in the study area is *high*.

Valley Elderberry Longhorn Beetle

The valley elderberry longhorn beetle (VELB) (*Desmocerus californicus dimorphus*) is federally threatened and is a Yolo HCP/NCCP Covered Species. The species is a medium-sized, red and dark green insect and is approximately 0.5- to 0.8-inch long. Females are larger than males and resemble males, except that the first pair of wings do not fully cover the abdomen when viewed from above. Males have longer, thicker antennae than females, as well as red-orange wing covers with four spots.

The VELB is completely dependent on its host plant, elderberry (*Sambucus* spp.), which occurs in riparian and other woodland communities in California's Central Valley and the associated foothills. Female beetles lay their eggs in crevices on the stems or on the leaves of living elderberry plants. When the eggs hatch, larvae bore into the stems. The larval stages last for one to two years. The fifth instar larvae create emergence holes in the stems and then plug the holes and remain in the stems through pupation. Adults emerge through the emergence holes from late March through June. The short-lived adult beetles forage on leaves and flowers of elderberry shrubs.

The historic range of the VELB is limited to moist Valley oak woodlands along margins of rivers and streams in the lower Sacramento and lower San Joaquin valleys. At the time of listing, the VELB was known from less than 10 localities in Merced, Sacramento, and Yolo counties. The current distribution is patchy throughout California's Central Valley and associated foothills. VELB most commonly occur in areas within, or near, some type of riparian corridor containing elderberries, as well as other woody plant species, such as willow, cottonwood, wild grape (*Vitis californica),* and box elder. Population densities of the VELB are probably naturally low, and the VELB, based on spatial distribution of occupied shrubs, has been suggested to have limited dispersal capabilities. Low density and limited dispersal capability may cause the VELB to be vulnerable to the adverse effects of the isolation of small subpopulations, due to habitat fragmentation.

One known occurrence of VELB from 1934 overlaps a small portion of the study area. The occurrence (CNDDB Occurrence #256) has been mapped as a "best guess," based on the vague location description of "Davis". The exact location of the historic observation is unknown. A total of 26 elderberry shrubs have been identified within or adjacent to the study area (see Figure 4.4-6) that represent potential habitat for VELB, with 21 of the shrubs described as small shrubs planted just outside the western boundary of the study area. Thus, the potential for VELB to occur in the study area is *high*.

Western Spadefoot

The western spadefoot (*Spea hammondii*) is proposed for federal listing as threatened and is a CDFW Species of Special Concern. The amphibian is a nocturnal animal that forages in grassland, open chaparral, and pine-oak woodlands for a variety of invertebrates, such as insects and worms. Western spadefoot breeds from January through May in a variety of temporary wetlands, including creeks, pools in intermittent drainages, vernal pools, and seasonal wetlands, and other fish-free water features. The tadpoles develop over three to 11 weeks and must complete their metamorphosis before the temporary pools dry. Post-metamorphic juveniles feed and then immediately seek underground refugia. Following metamorphosis, adults are largely terrestrial in nature and will burrow into sandy or gravelly soils using the "spades" on their hind feet. The majority of an adult's life is spent in underground burrows. Western spadefoots are known to breed in relatively deep man-made features, such as ponded areas adjacent to railroad tracks, and in intermittent drainage plunge pools or similar pools that hold water through late spring.

The alkali playas, seasonal wetlands, and wetland ditches within the study area provide suitable breeding habitat for western spadefoot. However, the uplands surrounding the features are heavily disturbed by ongoing farming practices, which greatly reduces the potential for western spadefoot to be present within the study area. The species has not been documented in the CNDDB within five miles of the study area. The larvae of the species were not detected during the biweekly wet season surveys of all suitable aquatic habitat conducted between 2023 and 2024 within the survey area. Thus, the potential for western spadefoot to occur in the study area is *low*.

Northwestern Pond Turtle

The northwestern pond turtle (*Actinemys marmorata*) is proposed for federal listing as threatened and is a CDFW Species of Special Concern and a Yolo HCP/NCCP Covered Species. Northwestern pond turtle's favored habitats include streams, large rivers, and canals with slow-moving water, aquatic vegetation, and open basking sites. Although the turtles must live near water, the species can tolerate drought by burrowing into the muddy beds of dried drainages. The species feeds mainly on invertebrates, such as insects and worms, but will also consume small fish, frogs, mammals, and some plants. Northwestern pond turtle predators include raccoons, coyotes, raptors, weasels, large fish, and bullfrogs. The species breeds from mid to late spring in adjacent open grasslands or sandy banks.

Channel A within the study area is shallow, ephemeral, and contains very little open water that northwestern pond turtle prefer. The species may use Channel A to disperse from pond habitats at the North Davis Farms and Julie Partansky Pond downstream through the study area toward the Willow Slough Bypass. Channel A is dry for most of the year and does not serve as suitable habitat when not inundated. The adjacent uplands are heavily disturbed farmland that are unsuitable for northwestern pond turtle. The nearest occurrence of northwestern pond turtle was in 2001, approximately 2.1 miles southwest of the study area along the old Putah Creek channel

in the University of California, Davis (UC Davis) Arboretum (see Figure 4.4-7) (CNDDB Occurrence #362), and the species was observed at the location by Madrone in 2023. Northwestern pond turtles were not observed within the study area during the field surveys. Thus, the potential for northwestern pond turtle to occur in the study area is *low*.

Tricolored Blackbird

Tricolored blackbird (*Agelaius tricolor*) is State-listed as threatened, a CDFW Species of Special Concern, and a Yolo County HCP/NCCP Covered Species. Historically, colonies were established in freshwater marshes dominated by cattails (*Typha* spp.) and bulrushes (*Scirpus* or *Schoenoplectus* spp.). More recently, the species has used non-native mustards (*Brassica* spp.), blackberries (*Rubus* spp.), thistles (*Circium* spp.), and mallows (*Malva* spp.) as nesting substrate. Since the 1980s, the largest colonies have been observed in the San Joaquin Valley in cultivated fields of triticale, which is a hybrid of wheat and rye often grown as livestock fodder. The current trend of nesting in active agricultural fields has further imperiled the species as nestlings typically are not fledged by the time the triticale is harvested.

A very small freshwater emergent marsh and isolated patches of cattail, bulrush, and blackberry in Channel A are present on-site; however, such areas are too small to support colonial nesting habitat. Therefore, suitable nesting habitat is not present within the study area. However, the agricultural fields on-site represent potential foraging habitat for the species. Five documented occurrences of the species are within five miles of the study area (see Figure 4.4-5). The nearest occurrence (CNDDB Occurrence #488) overlaps the study area and has been mapped as a "best guess," based on the vague location description of "Davis." The occurrence is from 1932, and the exact location is unknown. The nearest distinct occurrence (CNDDB Occurrence #489) is located approximately 2.4 miles northeast of the project site/BRPA site, and dates to 2011. Tricolored blackbird was not observed within the study area by Madrone during any surveys conducted in 2023 and 2024, including the protocol-level Swainson's hawk and burrowing owl surveys. Thus, the potential for tricolored blackbird to occur in the study area is *low*.

Burrowing Owl

Burrowing owl (*Athene cunicularia*) is not federally listed, but is a candidate for listing under CESA. The species is also designated as a CDFW Species of Special Concern and is a Yolo HCP/NCCP Covered Species. Burrowing owls typically inhabit dry open rolling hills, grasslands, desert floors, and open bare ground with gullies and arroyos. The species typically uses burrows created by fossorial mammals, most notably the California ground squirrel, but may also use man-made structures, such as culverts; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement. The species' breeding season extends from February 1 through August 31.

Extensive complexes of ground squirrel burrows occur throughout the study area, particularly along the western edge of the project site/BRPA site and along the irrigation canal; the burrows represent suitable habitat for burrowing owls. Signs of burrowing owl (owls, whitewash, feathers, or pellets) were not observed at any of the burrows during the non-breeding season surveys. Several documented records of the species occur within five miles of the study area (see Figure 4.4-5 and Figure 4.4-7). The nearest occurrence (CNDDB Occurrence #1967) is located immediately adjacent to the site along the northeast boundary, and dates to 2016. Despite the extensive potential habitat, burrowing owls were not observed during protocol-level breeding- and non-breeding-season surveys of the study area conducted in 2023 and 2024. However, the species is highly mobile and could move into the area at any time. Thus, the potential for burrowing owl to occur in the study area is *high*.

Swainson's Hawk

Swainson's hawk (*Buteo swainsoni*) is a raptor species that is not federally listed, but is listed as threatened by CDFW, and is a Yolo HCP/NCCP Covered Species. Breeding pairs typically nest in tall trees associated with riparian corridors, and forage in grassland, irrigated pasture, and cropland with a high density of rodents. The Central Valley populations breed and nest in the late spring through early summer before migrating to Central and South America for the winter.

Large trees throughout the study area represent suitable nesting habitat for the species, and the agricultural fields on-site represent suitable foraging habitat. Many documented occurrences of Swainson's hawk occur within five miles of the study area (see Figure 4.4-4 and Figure 4.4-7), including two occurrences (CNDDB Occurrence #450 and #1985) which are located on-site. Occurrence #450 is in the southern portion of the project site/BRPA site and dates to 1991, while Occurrence #1985 is located at the northwest corner of the site and dates to 2009. During the 2024 protocol-level surveys for the species, one active nest was observed within the study area along Channel A, and a second was observed just to the north of the study area (see Figure 4.4-6). The species forages throughout the study area regularly. Thus, Swainson's hawk is *present* in the study area.

Northern Harrier

The northern harrier *(Circus cyaneus)* is not listed, pursuant to either the FESA or CESA. The species is a CDFW Species of Special Concern. Northern harrier, a ground-nesting species, is known to nest within the Central Valley, along the Pacific Coast, and in northeastern California, typically nesting in emergent wetland/marsh, open grasslands, or savannah habitats. Foraging occurs within a variety of open habitats, such as marshes, agricultural fields, and grasslands.

The project site does not support potential nesting habitat for the species because suitable grassland or marsh habitat does not occur on-site; however, the agricultural fields support suitable foraging habitat and suitable nesting habitat occurs within 500 feet of the project site on the old wastewater treatment property and on the Western Program Study Area, the latter of which is included in the BRA study area. One documented record of northern harrier occurs within five miles of the project site/BRPA site (see Figure 4.4-7). The occurrence (CNDDB Occurrence #51) dates to 2015 and is located approximately 0.5-mile northwest of the study area. The species was observed foraging on-site during several field surveys. Thus, northern harrier is *present* in the study area.

White-Tailed Kite

White-tailed kite (*Elanus leucurus*) is not federally or State-listed. The raptor is a CDFW Fully Protected species and is also a Yolo HCP/NCCP Covered Species. White-tailed kite is a yearlong resident of the Central Valley and is primarily found in or near foraging areas, such as open grasslands, meadows, farmlands, savannahs, and emergent wetlands. White-tailed kites typically nest from March through June in trees within riparian, oak woodland, and savannah habitats of the Central Valley and Coast Range.

Trees throughout the study area represent suitable nesting habitat for the species, and the agricultural fields on-site represent suitable foraging habitat. Six documented records of white-tailed kite occur within five miles of the project site/BRPA site (see Figure 4.4-7). The nearest occurrence (CNDDB Occurrence #64) is located approximately 0.9-mile to the southeast of the study area, and dates to 2003. The species was observed foraging on-site during several field surveys. Thus, white-tailed kite is *present* in the study area.

Pallid Bat

Pallid bat (*Antrozous pallidus*) is not federally or State-listed. The species is a CDFW Species of Special Concern and classified by the WBWG as a High priority species. Pallid bat favors roosting sites in crevices in rock outcrops, caves, abandoned mines, hollow trees, and man-made structures, such as barns, attics, and sheds. Though pallid bats are gregarious, the species tends to group in smaller colonies of two to 20 individuals. The bat is a nocturnal hunter and captures prey in flight, but unlike most American bats, the species has been observed foraging for flightless insects, which the bat seizes after landing. Pallid bats forage over open shrub-steppe grasslands, oak savannah grasslands, open Ponderosa pine forests, talus slopes, gravel roads, fruit orchards, and vineyards.

Tree hollows and exfoliating bark on trees throughout the study area provide suitable roosting habitat for pallid bat. One record of the species occurs within five miles of the study area (see Figure 4.4-7). The closest record (CNDDB Occurrence #312), documented in 1964, overlaps the study area and has been mapped as a "best guess," based on the vague location description of "Davis." Thus, the potential for pallid bat to occur in the study area is *high*.

Silver-Haired Bat

Silver-haired bat (*Lasionycteris noctivagans*) is not federally or State-listed. The species is classified by the WBWG as a Medium priority species. The silver-haired bat occurs in more xeric environments during winter and seasonal migrations. The species changes roosts frequently, and uses multiple roosts within a limited area, indicating that clusters of large trees are necessary. Silver-haired bat roosts in hollow trees, abandoned woodpecker holes, under sloughing bark, in rock crevices, and occasionally under wood piles. The bats tend to forage above the canopy, over open meadows, and in the riparian zone along water courses. The species is known to eat a wide variety of species; however, moths appear to be a major portion of dietary prey.

Tree hollows and exfoliating bark on trees throughout the study area represent suitable roosting habitat for silver-haired bat. One record of the species occurs within five miles of the study area (see Figure 4.4-7). The closest record (CNDDB Occurrence #88), documented in 1957, overlaps the study area and has been mapped as a "best guess," based on the vague location description of "Davis." Thus, the potential for silver-haired bat to occur in the study area is *high*.

Hoary Bat

The hoary bat (*Lasiurus cinereus*) is not federally or State-listed. The species is classified by the WBWG as a Medium priority species. Hoary bat is considered to be one of the most widespread of all American bats, with a range extending from Canada to central Chile and Argentina, as well as Hawaii. Hoary bats are solitary and roost primarily in foliage of both coniferous and deciduous trees, near the ends of branches at the edge of a clearing. The species is primarily crepuscular or nocturnal and requires open areas to hunt its preferred prey item, moths. The hoary bat is considered a forest/woodland species and often associated with undisturbed riparian or stream corridors in California.

Trees scattered throughout the study area represent suitable roosting habitat for hoary bat. One record of the species occurs within five miles of the study area (see Figure 4.4-7). The closest record (CNDDB Occurrence #136), last observed in 1991, overlaps the study area and has been mapped as a "best guess," based on the vague location description of "Davis." Thus, the potential for hoary bat to occur in the study area is *high*.

American Badger

The American badger (*Taxidea taxus)* is not federally or State-listed but is considered a CDFW Species of Special Concern. The species historically ranged throughout much of the State, except in humid coastal forests. Badgers were once numerous in the Central Valley; however, populations now occur in low numbers in the surrounding peripheral parts of the valley and in the adjacent lowlands of eastern Monterey, San Benito, and San Luis Obispo counties. Badgers occupy a variety of habitats, including grasslands and savannahs. The principal requirements seem to be significant food supply, friable soils, and relatively open, uncultivated ground. The burrowing carnivorous mammal is solitary and very territorial. American badger does not have known natural predators, and feeds on small mammals, lizards, snakes, insects, and carrion.

The small area of grassland within the study area is surrounded by development and has regular pedestrian traffic. As such, the grassland is not suitable habitat for American badger. The species may use Channel A as a migratory corridor dispersing to and from suitable habitat. Two documented records of American badger occur within five miles of the study area (see Figure 4.4-7). The nearest occurrence (CNDDB Occurrence #329), observed in 1986, overlaps the study area and has been mapped as a "best guess," based on the vague location description of "Davis." American badgers were not observed within the study area during the field surveys. Thus, the potential for American badger to occur in the study area is *low*.

Trees

As detailed below in the Methods of Analysis section, Madrone conducted a tree inventory under the supervision of a certified arborist within most of the study area. Existing trees within the project site/BRPA site include planted trees located along East Covell Boulevard and along the southern-most west boundary of the site, as well as non-native and native riparian trees located along either side of Channel A. In addition, native and non-native trees occur in association with the on-site remnants of the mostly demolished rural residence, located in the southern portion of the site.

A total of 1,294 trees were inventoried within the study area. Less than seven percent of the trees inventoried within the Channel A riparian corridor are native. The majority of the trees (78 percent) are Arizona ash and Chinese wingnut (*Pterocarya stenoptera*). Although Arizona ash is native to the Southern California deserts, the species is not regionally native. Table 4.4-4 summarizes the trees inventoried within the study area, including those extrapolated as discussed further in the Method of Analysis section.

Table 4.4-4
Trees Inventoried Within the Study Area

Tree Species	Number of Trees (DBH[3] if applicable)			
	Project Area		Program Study Area	Study Area Total
	Inventoried	Extrapolated[2]		
Aleppo pine (*Pinus halepensis*)	3 (100.0)	--	--	3
Almond (*Prunus dulcis*)	2 (36.5)	--	--	2
American sycamore (*Platanus occidentalis*)	2 (19.0)	--	11 (115.5)	13
Arizona ash (*Fraxinus velutina*)	254 (4,183.1)	244	5 (91.5)	503

(Continues on next page)

Table 4.4-4
Trees Inventoried Within the Study Area

Tree Species	Number of Trees (DBH[3] if applicable)			
	Project Area		Program Study Area	Study Area Total
	Inventoried	Extrapolated[2]		
Australian blackwood (*Acacia melanoxylon*)	12 (207.0)	--	--	12
Bald cypress (*Taxodium distichum*)	1 (13.0)	--	--	1
Black willow[1] (*Salix gooddingii*)	1 (27.5)	1	--	2
Boxelder[1] (*Acer negundo*)	22 (260.5)	21	--	43
Bradford pear (*Pyrus calleryana*)	3 (49.5)	1	--	4
Cherry plum (*Prunus cerasifera*)	1 (8.0)	--	--	1
Chinese elm (*Ulmus parvifolia*)	25 (344.8)	24	--	49
Chinese hackberry (*Celtis sinensis*)	8 (100.5)	10	2 (23.5)	20
Chinese pistache (*Pistacia chinensis*)	7 (111.5)	--	1 (9.5)	8
Chinese tallowtree (*Triadica sebifera*)	38 (539.1)	--	1 (13.0)	39
Chinese wingnut (*Pterocarya stenoptera*)	183 (2,532.6)	178	--	361
Cigar tree (*Catalpa bignonioides*)	14 (203.8)	14	--	28
Coast live oak[1] (*Quercus agrifolia*)	4 (47.3)	1	1 (14.0)	6
Cork oak (*Quercus suber*)	11 (192.5)	9	--	20
English walnut (*Juglans regia*)	1 (32.5)	--	--	1
Japanese privet (*Ligusticum japonicum*)	4 (54.4)	4	--	8
Kentucky coffeetree (*Gymnocladus dioicus*)	1 (8.5)	--	--	1
London planetree (*Platanus x acerifolia*)	8 (69.5)	8	--	16
Mexican fan palm (*Washingtonia robusta*)	1 (22.0)	1	--	2
Narrow-leaved ash (*Fraxinus angustifolia*)	1 (10.5)	--	--	1

(Continues on next page)

Table 4.4-4
Trees Inventoried Within the Study Area

Tree Species	Number of Trees (DBH[3] if applicable)			
	Project Area		Program Study Area	Study Area Total
	Inventoried	Extrapolated[2]		
Northern California black walnut[1] (*Juglans hindsii*)	8 (157.5)	8	--	16
Olive (*Olea europaea*)	1 (16.5)	--	--	1
Pecan (*Carya illinoinensis*)	1 (7.5)	--	--	1
Persian silk tree (*Albizia julibrissin*)	1(25.0)	--	--	1
Queen's crepe-myrtle (*Lagerstroemia speciosa*)	4 (21.5)	--	--	4
Red willow[1] (*Salix laevigata*)	2 (114.0)	2	--	4
Redwood (*Sequoia sempervirens*)	2 (43.5)	--	--	2
Siberian elm (*Ulmus pumila*)	38 (799.0)	11	--	49
Silver maple (*Acer saccharum*)	1 (12.4)	1	--	2
Sour cherry (*Prunus cerasus*)	1 (8.5)	--	--	1
Valley oak[1] (*Quercus lobata)*	59 (1,125.0)	4	7 (101.5)	70
Total	**725 (11,504.0)**	**541**	**28 (368.5)**	**1,294**

[1] Native species.
[2] Most of the extrapolated trees are within the project site, but a few are located within the Program Study Area.
[3] Diameter at Breast Height (DBH).

Source: Madrone Ecological Consulting, 2024.

4.4.3 REGULATORY CONTEXT

A number of federal, State, and local policies provide the regulatory framework that guides the protection of biological resources. The following discussion summarizes those laws that are most relevant to biological resources in the vicinity of the project site/BRPA site.

Federal Regulations

The following are the federal environmental laws and policies relevant to biological resources.

Federal Endangered Species Act

The U.S. Congress passed the FESA in 1973 to protect species that are endangered or threatened with extinction. FESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and

threatened species depend. FESA prohibits the "take" of endangered or threatened wildlife species. "Take" is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (FESA Section 3[3], [19]). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 Code of Federal Regulations [CFR] Section 17.3). Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR Section 17.3). Actions that result in take can result in civil or criminal penalties.

Section 10 requires the issuance of an "incidental take" permit before any public or private action may be taken that could take an endangered or threatened species. The permit requires preparation and implementation of an HCP that would offset the take of individuals that may occur, incidental to implementation of a proposed project, by providing for the protection of the affected species.

Pursuant to the requirements of FESA, a federal agency reviewing a project within the jurisdiction of the agency must determine whether any federally listed threatened or endangered species may be present on-site and whether the proposed project will have a potentially significant impact on such species. In addition, the agency is required to determine whether the proposed action is likely to jeopardize the continued existence of any species proposed to be listed under FESA or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 U.S. Code [USC], Section 1536[3], [4]).

For federally listed species covered under the Yolo HCP/NCCP, the Biological Opinion issued by the USFWS for the Yolo HCP/NCCP provides take coverage for covered projects. Further consultation is not required as long as the covered project complies with Yolo HCP/NCCP requirements. For federally listed species that are not Yolo HCP/NCCP Covered Species, take coverage is required as outlined below.

In the context of the Proposed Project and BRPA, FESA consultation with USFWS or the NMFS would be initiated if development would result in take of a threatened or endangered species not covered under the Yolo HCP/NCCP or if issuance of a Section 404 permit or other federal agency action could result in take of an endangered species not covered under the Yolo HCP/NCCP or adversely modify critical habitat of such a species.

Migratory Bird Treaty Act

Raptors (birds of prey), migratory birds, and other avian species are protected by a number of State and federal laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior.

Clean Water Act

The USACE regulates discharge of dredged or fill material into waters of the U.S. under Section 404 of the Clean Water Act (CWA). "Discharge of fill material" is defined as the addition of fill material into waters of the U.S., including but not limited to, the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for the construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes and sub-

aqueous utility lines (33 CFR Section 328.2[f]). In addition, Section 401 of the CWA (33 USC, Section 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the U.S. to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Waters of the U.S. include a range of wet environments, such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows. Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR Section 328.3[b]).

Furthermore, jurisdictional waters of the U.S. can be defined by exhibiting a defined bed and bank and ordinary high-water mark (OHWM). The OHWM is defined by the USACE as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" (33 CFR Section 328.3[e]).

State Regulations

The following are the State environmental laws and policies relevant to biological resources.

California Department of Fish and Wildlife

CDFW administers a number of laws and programs designed to protect fish and wildlife resources under the California Fish and Game Code (CFGC), such as CESA (CFGC Section 2050, et seq.), Fully Protected Species (CFGC Section 3511), and the Lake or Streambed Alteration Agreement (LSAA) Program (CFGC Sections 1600 to 1616). Such regulations are summarized in the following sections.

California Endangered Species Act

The State of California enacted CESA in 1984. CESA is similar to the FESA but pertains to State-listed endangered and threatened species. Candidate species under the CESA are defined as native plant or animal species being considered for addition to the State's endangered or threatened species list. CESA requires State agencies to consult with CDFW when preparing CEQA documents to ensure that the State lead agency actions do not jeopardize the existence of listed species. CESA directs agencies to consult with CDFW on projects or actions that could affect listed species, directs CDFW to determine whether jeopardy would occur, and allows CDFW to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. Agencies can approve a project that affects a listed species if they determine that "overriding considerations" exist; however, the agencies are prohibited from approving projects that would result in the extinction of a listed species.

As with FESA, for covered projects that may impact State-listed species under CESA that are also Covered Species under the Yolo HCP/NCCP, direct consultation with CDFW for State-listed take authorization is not required as long as the covered project complies with Yolo HCP/NCCP requirements. For projects that may result in take of State-listed species that are not Yolo HCP/NCCP Covered Species, CESA directs agencies to consult with CDFW on projects or actions that could affect listed species, directs CDFW to determine whether jeopardy would occur and allows CDFW to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. CESA allows CDFW to authorize exceptions to the State's prohibition

against take of a listed species if the "take" of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (CFGC Section 2081).

California Fish and Game Codes

A number of species have been designated “Fully Protected” species under Sections 5515, 5050, 3511, and 4700 of the CFGC, but are not listed as endangered (Section 2062) or threatened (Section 2067) species under CESA. Except for take related to scientific research, all take of Fully Protected species is prohibited. The CFGC defines take as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.”

Birds of prey are protected in California under provisions of the CFGC Section 3503.5 (1992), which states, “it is unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “taking” by CDFW.

Lake or Streambed Alteration Program

The CDFW is responsible for conserving, protecting, and managing California’s fish, wildlife, and native plant resources. To meet this responsibility, CFGC Section 1602 requires notification to CDFW of any proposed activity that may substantially modify a river, stream, or lake. Notification is required by any person, business, State or local government agency, or public utility that proposes an activity that will:

- substantially divert or obstruct the natural flow of any river, stream, or lake;
- substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or
- deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

For the purposes of Section 1602, rivers, streams, and lakes must flow at least intermittently through a bed or channel. If notification is required and CDFW believes the proposed activity is likely to result in adverse harm to the natural environment, the CDFW will require that the parties enter into a LSAA.

CDFW Species of Special Concern

In addition to formal listings under FESA and CESA, plant and wildlife species receive additional consideration during the CEQA process. Species that may be considered for review are included on a list of “Species of Special Concern” developed by CDFW. Species whose numbers, reproductive success, or habitat may be threatened are tracked by CDFW in California.

Native Plant Protection Act

The Native Plant Protection Act (NPPA) was enacted in 1977 and allows the Fish and Game Commission to designate plants as rare or endangered. Currently, 64 species, subspecies, and varieties of plants are protected as rare under the NPPA. The NPPA prohibits take of endangered or rare native plants, but includes some exceptions for agricultural and nursery operations, emergencies, and after properly notifying CDFW for vegetation removal from canals, roads, and other sites, changes in land use, and in certain other situations.

Regional Water Quality Control Board

Any action requiring a CWA Section 404 permit, or a Rivers and Harbors Act Section 10 permit, must also obtain a CWA Section 401 Water Quality Certification. The State of California Water Quality Certification (WQC) Program was formally initiated by the State Water Resources Control Board (SWRCB) in 1990 under the requirements stipulated by Section 401 of the federal CWA. Although the CWA is a federal law, Section 401 of the CWA recognizes that states have the primary authority and responsibility for setting water quality standards. In California, under Section 401, the State and Regional Water Quality Control Boards (RWQCBs) are the authorities that certify that issuance of a federal license or permit does not violate California's water quality standards (i.e., that they do not violate Porter-Cologne and the Water Code). The WQC Program currently issues the WQC for discharges requiring USACE's permits for fill and dredge discharges within waters of the U.S., and also implements the State's wetland protection and hydromodification regulation program under the Porter-Cologne Water Quality Control Act.

On April 2, 2019, the SWRCB adopted a State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures), for inclusion in the forthcoming Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California Plan. The Procedures consist of four major elements: (1) a wetland definition; (2) a framework for determining if a feature that meets the wetland definition is a water of the State; (3) wetland delineation procedures; and (4) procedures for the submittal, review, and approval of applications for WQCs and Waste Discharge Requirements (WDR) for dredge or fill activities. The State Office of Administrative Law (OAL) approved the Procedures on August 28, 2019, and the Procedures became effective May 28, 2020.

Under the Procedures and the State Water Code (Water Code Section 13050[e]), "waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state." Unless excluded by the Procedures, any activity that could result in discharge of dredged or fill material to waters of the State, which includes waters of the U.S. and non-federal waters of the State, requires filing of an application under the Procedures.

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act, Water Code Section 13000 et seq.) is California's statutory authority for the protection of water quality in conjunction with the federal CWA. The Porter-Cologne Act requires the SWRCB and RWQCBs under the CWA to adopt and periodically update water quality control plans, or basin plans. Basin plans are plans in which beneficial uses, water quality objectives, and implementation programs are established for each of the nine regions in California. The Porter-Cologne Act also requires dischargers of pollutants or dredged or fill material to notify the RWQCBs of such activities by filing Reports of Waste Discharge and authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements, National Pollutant Discharge Elimination System (NPDES) permits, Section 401 water quality certifications, or other approvals.

Local Regulations

The following are the local environmental laws and policies relevant to biological resources.

Yolo County Habitat Conservation Plan and Natural Community Conservation Plan

The Yolo HCP/NCCP, which was adopted in January 2019, is a 50-year regional plan that provides for the conservation of 12 Covered Species and the natural communities and agricultural land on which they depend, while allowing for orderly development in Yolo County consistent with

local general plans. The following six local agencies prepared the Yolo HCP/NCCP: the Yolo Habitat Conservancy, County of Yolo, City of Davis, City of West Sacramento, City of Winters, and City of Woodland. The Yolo HCP/NCCP only applies to eligible projects, also known as Covered Activities, undertaken within the Yolo HCP/NCCP Plan Area, which includes all areas within Yolo County, including the incorporated cities of Davis, West Sacramento, Winters, and Woodland.

The Yolo HCP/NCCP provides the basis for issuance of long-term permits under FESA and the California Natural Community Conservation Planning Act (NCCPA) that cover an array of public and private activities, including activities that are essential to the ongoing viability of Yolo County's agricultural and urban economies. Specifically, the Yolo HCP/NCCP provides permittees (i.e., Yolo County, the four incorporated cities, and the Yolo Habitat Conservancy) with incidental take permits from both USFWS and CDFW for the 12 Covered Species, pursuant to Section 10(a)(1)(B) of the FESA and Section 2835 of the NCCPA chapter of the CFGC. The Yolo HCP/NCCP ensures compliance with the FESA, NCCPA, and CESA for Covered Activities that may affect Covered Species.

In addition to the permittees, the Yolo HCP/NCCP permits may cover the activities of other entities through certificates of inclusion obtained by completing the Yolo HCP/NCCP application process. The Yolo Habitat Conservancy charges various types of fees to cover implementation costs, including administration, land acquisition, restoration, and land management costs. Yolo HCP/NCCP applicants can either pay mitigation fees for land cover conversion, or conduct wetland restoration, and/or dedicate land in-lieu of the fees. Wetland restoration and land-in-lieu proposals must be reviewed and approved by the Yolo Habitat Conservancy. If an applicant opts to pay the mitigation fees, the Yolo Habitat Conservancy applies an adopted land cover fee schedule, with additional fees for wetlands. Fees are automatically increased annually, adjusted for inflation. Additionally, every five years, the Yolo Habitat Conservancy completes a fee assessment to review costs, underlying assumptions, and actual costs. After the review, fee schedule adjustments are made, and automatic annual increases resume based off the five-year fee assessment.

City of Davis General Plan

The City of Davis General Plan biological resource policies that are applicable to the Proposed Project and BRPA are presented below.

Habitat and Natural Areas Chapter

Goal HAB 1 Identify, protect, restore, enhance and create natural habitats. Protect and improve biodiversity consistent with the natural biodiversity of the region.

Policy HAB 1.1 Protect existing natural habitat areas, including designated Natural Habitat Areas.

Policy HAB 1.2 Enhance and restore natural areas and create new wildlife habitat areas.

City of Davis Tree Ordinance

The City of Davis regulates tree planting and removal within the community in Davis Municipal Code Chapter 37, Tree Planting, Preservation, and Protection. Article 37.01 of the Municipal Code contains the administrative provisions, the pertinent sections of which are as follows:

Section 37.01.020 Definitions

City tree means any tree, other than a street tree, planted or maintained by the city within a city easement, right-of-way, park, greenbelt, public place or property owned or leased by the city.

Landmark tree means a tree that has determined by resolution of the city council to be of high value because of its species, size, age, form, historical significance, or some other professional criterion. The landmark tree list, available from the community services department, lists these identified trees.

Private tree means any tree privately owned and growing on private property, which may include landmark trees and/or trees of significance.

Street tree means any tree planted and/or maintained by the city, or recorded as a street tree, adjacent to a street or within a city easement or right-of-way on private property, within the street tree easement.

Tree means any woody perennial plant having one or several main stems commonly achieving ten or more feet in height and capable of being pruned and shaped to develop a branch-free trunk at least nine feet in height. Reference to any tree indicates the entire plant, including both visible (canopy, trunk) and below grade (roots).

Tree of significance means any tree included but not limited to those listed as per Section 37.03.050 as small and large trees which measure five inches or more in diameter (DBH).

In addition, Davis Municipal Code Article 37.03 contains the criteria for landmark trees and trees of significance, the pertinent sections of which are as follows:

37.03.020 Landmark tree designation criteria

(a) Any person may and is encouraged to submit a proposal to designate a tree as a landmark tree. Property owners of trees under consideration shall be notified that a proposal has been submitted and shall have the opportunity to be fully involved in the designation process. Proposals shall be reviewed by the director and sent to the tree commission for its review. Upon recommendation of the tree commission and approval of the City Council, a tree may be designated as a landmark tree if it meets any of the following criteria:

(1) The tree is an outstanding specimen of a desirable species;
(2) The tree is one of the largest or oldest trees in Davis;
(3) The tree is of historical interest;
(4) The tree is of distinctive form; or,
(5) The tree is an unusual species, significant grove or is otherwise unique.

The director shall notify, in writing, the person who submitted the proposal and the tree owner (if different from the applicant) of the City Council's decision.

(b) When considering designating, removing designation (per Section 37.03.040) or removing (per Sections 37.03.060 and 37.03.070) landmark trees of historic value, the historical resources management commission shall be given the opportunity to comment on the proposal prior to tree commission review. (Ord. 2099 § 1, 2002)

37.03.050 Trees of significance – Identification and classification

All trees of significance are considered significant at five inches or greater in diameter (DBH). The following list [as included in the Davis Municipal Code] of potential trees of

significance divides tree species into two separate categories based upon their potential size at maturity; however, this list is not exhaustive. Should a property owner not know how a specific tree(s) five inches or greater may be affected by this section, (such as identification of species or species not on the list), the property owner may contact the city arborist. Not all trees on the following lists are appropriate for street trees or parking lot trees. For recommended street trees and parking lot trees, the City of Davis master tree list should be consulted.

37.03.070 Landmark trees and trees of significance – Removal or modification associated with building permits or discretionary projects

(d) Standards and provisions to be observed considering a permit under this section are as follows:

(1) The design and placement of development should attempt to incorporate existing healthy trees into the site design.

(A) All trees to be removed shall be mitigated as required in the permit, with options as follows:
(B) Replanting a Tree(s) On-Site. Trees shall be planted in number and size so that there is no net loss in tree diameter at breast height (DBH). For example, if one tree is removed with a twelve-inch DBH size, mitigation may consist of a replacement of equal size, two trees each six-inch DBH, or four trees each three-inch DBH. The replanted tree(s) shall be minimum five-gallon size and of a species that will eventually equal or exceed the removed tree in size.
(C) Replanting a Tree(s) Off-Site. If there is insufficient space on the property for the replacement tree(s), required planting shall occur on the other property in the applicant's ownership or in city-owned open space or park, subject to the approval of the city arborist and authorized property owners.
(D) Payment to the Tree Preservation Fund in Lieu of Replacement. If in the city arborist's determination no feasible alternative exists to plant the required mitigation, or there are other considerations for alternative mitigation, the applicant shall pay into the tree preservation fund an amount determined by the director based upon the ISA appraisal guidelines or other approved method. If the director approves another method of appraisal guidelines the director shall publish notice of that approval and notify the permit applicant at the time the permit application is issued.

(2) Removal or modification shall not be approved unless one of the following shall apply:

(A) The tree(s), due to its location in respect to topography and required setbacks and easements, prevents reasonable development of permitted uses. Existing development on similar sites in the same zone and having similar characteristics shall be considered when determining reasonable development of permitted uses.
(B) The condition of the tree(s), with respect to general health; disease; maturity; structural integrity; proximity to existing structures; parking; high pedestrian traffic areas; activity areas or interference with utility services, cannot be controlled or remedied through reasonable preservation procedures and practices.

(C) Good forestry practice suggests a reduction in the number of trees due to incapacity of the property to sustain the present number in healthy condition.

(3) The visual prominence and function of each tree on the site shall be considered prior to a decision on the application.
(4) If the application is approved, such conditions shall be imposed as are deemed necessary to fulfill the standards of this chapter.

Davis Municipal Code Section 37.03.050 protects 25 small tree species and 43 large tree species. However, as noted above, the listed tree species is not exhaustive. In addition, Davis Municipal Code Section 37.03.060 requires approval of a valid tree removal request and/or tree modification permit prior to cutting down, pruning substantially, encroaching into the protection zone of, or topping or relocating any landmark tree or tree of significance. Furthermore, Article 37.05 contains protection procedures to be implemented during grading, construction, or other site-related work. Such procedures, include, but are not limited to, inclusion of tree protection measures on approved development plans and specifications, and inclusion of tree care practices, such as the cutting of roots, pruning, etc., in approved tree modification permits, tree preservation plans, or project conditions.

4.4.4 IMPACTS AND MITIGATION MEASURES

The following section describes the standards of significance and methodology used to analyze and determine the potential impacts of the Proposed Project and BRPA related to biological resources. In addition, a discussion of the project's impacts, as well as mitigation measures, where necessary, is also presented.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines, a significant impact would occur if the Proposed Project or BRPA would result in the following:

- 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, 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, 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 any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or State habitat conservation plan.

Method of Analysis

The information contained in the analysis is primarily based on the BRA prepared by Madrone, which is discussed further below.

Biological Resources Assessment

The analyses within the BRA is based on a literature review and field surveys of the study area, which are detailed further below.

Literature Review

A list of special-status plant and wildlife species with potential to occur within the study area was developed as part of the BRA through queries of the following databases:

a) CNDDB query of the study area and all areas within five miles of the study area (Figure 4.4-4, Figure 4.4-5, and Figure 4.4-7);
b) CNDDB "unprocessed records" within the study area;
c) USFWS Information for Planning and Conservation (IPaC) query of the study area (included as Attachment C of the BRA);
d) CNPS Rare and Endangered Plant Inventory query of the "Davis, California" U.S. Geological Survey topographic quadrangle and the eight surrounding quadrangles (included as Attachment D of the BRA); and
e) WBWG Species Matrix.

In addition, any special-status plant and wildlife species that are known to occur in the project region, but that were not identified through any of the above database searches, were also analyzed for their potential to occur within the study area.

Field Surveys

Madrone conducted field surveys of various portions of the study area on August 23 and 25, October 3, November 7, and December 14, 2023, as well as on January 17, 23, and 24, February 7, and April 22, 2024, to map Yolo HCP/NCCP land covers, assess the suitability of habitats on-site to support special-status species, and conduct protocol-level surveys listed below. Meandering pedestrian surveys were performed on foot throughout the study area. Vegetation communities were classified in accordance with the Yolo HCP/NCCP, and plant taxonomy was based on the nomenclature in the Jepson eFlora. A list of all wildlife species observed during field surveys is included as Attachment E of the BRA (see Appendix D of this EIR).

The following biological surveys have been conducted within the study area:

- Special-Status Plant Survey: Late-summer visits were conducted on August 23 and 25, 2023, but much of the habitat was being actively farmed or was disked and lacked vegetation. Thus, the surveys were repeated in April, June, and July 2024 when the habitat had not been disturbed and sufficient vegetation was present to conduct a determinate-level survey. The 2024 surveys were comprehensive for the entire study area. The special-status plant surveys were conducted in accordance with the USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants, CDFW's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities, and the CNPS Botanical Survey Guidelines.

- Dry-Season and Wet-Season Vernal Pool Branchiopod Surveys: Dry-season samples were collected on October 26, 2023 in areas that appear to pond in winter, based on aerial photograph examination, including the Western Program Study Area. Wet-season surveys were conducted in all ponded habitat during the winter of 2023 through 2024. Additional habitat was identified during the course of the wet-season surveys, and dry-season samples of the additional habitat were collected on June 18, 2024. The surveys were conducted in accordance with the USFWS Survey Guidelines for the Listed Large Branchiopods. A report is included as Attachment F to the BRA.
- Burrowing Owl Surveys: Four non-breeding-season surveys were completed on October 3, November 7, and December 14, 2023 and January 17, 2024. Four breeding-season surveys were conducted on March 21, April 9, May 14, and June 20, 2024. Surveys were conducted in accordance with the CDFW Staff Report on Burrowing Owl Mitigation (2012). A report is included as Attachment G to the BRA.
- Swainson's Hawk Nest Surveys: Seven Swainson's hawk surveys were conducted within the study area and a 0.5-mile buffer on January 17, March 21 and 26, and April 4, 9, 12, and 19, 2024. The surveys were conducted in accordance with the CDFW Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (2000). A report is included as Attachment H to the BRA.
- VELB Surveys: Elderberry shrub surveys were conducted concurrent with the special-status plant surveys. As required by the Yolo HCP/NCCP, all elderberry shrubs with stems one inch in diameter or greater were mapped, stems were counted, and an exit hole search was conducted.
- Tree Inventory: A tree inventory was conducted under the supervision of a Certified Arborist, pursuant to the City's Tree Ordinance, within most of the study area on May 31 and June 3, 4, 6, 7, and 21, 2024. Detailed tree data was collected throughout all areas outside the Channel A riparian corridor. Approximately half of the trees within the Channel A riparian corridor were also inventoried. Following discussions with City of Davis staff, the remaining trees within the riparian corridor were estimated by extrapolating the collected data to the remaining canopy area. Given the current uncertainty regarding exactly which trees may be impacted, and because a formal arborist survey would be required in the future in order to secure a Tree Modification Permit from the City, estimating the number and types of trees on-site was determined to be sufficient for the purposes of CEQA review. As such, the tree data presented in Attachment K of the BRA (see Appendix D of this EIR) includes tree points where trees were inventoried, and canopy polygons where trees were extrapolated.

  Trees were extrapolated in non-surveyed portions of the Channel A riparian corridor as follows: The inventoried riparian canopy acreage was divided by the number of inventoried trees of each species, which yielded the "occupied area" for each tree by species. Subsequently, the non-inventoried canopy acreage was divided by the "occupied area" for each species to yield the number of each species of tree expected to occur in the non-inventoried area. DBH and condition were collected for all inventoried trees. The report for the survey is included as Attachment I to the BRA.
- Giant Garter Snake Habitat Assessment: A review of data from the USFWS Giant Garter Snake 5-Year Review (2012) and the CNDDB for all current known locations of giant garter snake within the vicinity of the study area was conducted. After reviewing background information, a field survey was conducted January 24, 2024. The field survey was conducted for the entire study area, but focused on evaluating the section of Channel A, which contains potential giant garter snake habitat. Additionally, all areas within 200 feet

of Channel A were evaluated for potential upland habitat. A report is included as Attachment J to the BRA; and

- An ARD was conducted in accordance with the USACE Wetlands Delineation Manual (1987), the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (2008), A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (2008), and the USACE Sacramento District's Minimum Standards for Acceptance of Preliminary Wetlands Delineations (2016).

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts related to biological resources is based on implementation of the Proposed Project and BRPA in comparison to existing conditions and the standards of significance presented above.

4.4-1 Have a substantial adverse effect, either directly or through habitat modifications, on special-status plant species. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

The species that are considered to be *absent* from the study area include Ferris' milk-vetch, heartscale, brittlescale, bristly sedge, pappose tarplant, palmate-bracted bird's beak, Jepson's coyote-thistle, woolly-rose-mallow, Heckard's pepper-grass, little mousetail, Baker's navarretia, Colusa grass, bearded popcornflower, California alkali grass, saline clover, and Crampton's tuctoria. As detailed in Table 4.4-3, the special-status plant species present within the study area include alkali milk-vetch and San Joaquin spearscale. Approximately 19,300 alkali milk vetch plants and approximately 20,900 San Joaquin spearscale plants were observed during the special-status plant surveys (see Figure 4.4-6).

The following discussions include an analysis of potential impacts to special-status plant species associated with both development of the Proposed Project, as well as the BRPA.

Proposed Project

The Proposed Project would permanently impact all alkali milk-vetch and San Joaquin spearscale plants within the study area. The special-status plant surveys conducted throughout the study area in 2023 and 2024 were negative for all other special-status plant species that could occur within the proposed impact area; however, given enough time, plants may become established in areas where suitable habitat exists. Based on the current development plan for the Proposed Project, the on-site alkali playa and nearby seasonal wetlands, which provide suitable habitat for a variety of special-status plant species, would be impacted, and any special-status plants occurring within those features could be impacted, if present. Special-status plants could become established within the foregoing vegetation communities and land covers in the interim between surveys/analysis and construction, which could result in potential impacts during construction of the Proposed Project. Based on agency guidance, should construction not commence within three years of completion of protocol-level plant surveys, additional surveys are recommended.

Biological Resources Preservation Alternative

Due to the preservation of the on-site Alkali Praire land cover as part of the 47.1-acre Natural Habitat Area, the BRPA would avoid all alkali milk-vetch and San Joaquin spearscale plants within the study area.

While the special-status plant surveys conducted throughout the study area in 2023 and 2024 were negative for all other special-status plant species that could occur within the proposed impact area, given enough time, plants may become established in areas where suitable habitat exists. The BRPA would avoid a substantial portion of the aquatic resources in the BRPA site, which would reduce the potential for impacts to special-status plant species; however, development of the BRPA would still result in permanent impacts to the on-site freshwater emergent marsh, and off-site seasonal wetland within the Western Program Study Area. Thus, should special-status plants become established within the foregoing habitats in the interim between surveys/analysis and construction, potential impacts to special-status plant species could occur during construction of the BRPA. Based on agency guidance, should construction not commence within three years of completion of protocol-level plant surveys, additional surveys are recommended.

Conclusion

Based on the above, the Proposed Project and BRPA could have a substantial adverse effect, either directly or through habitat modifications, on a plant species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS, and a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measures are applicable to both the Proposed Project and the BRPA and would reduce the above potential impact to a *less-than-significant* level. The Yolo HCP/NCCP provides incidental take coverage of Palmate-bracted bird's beak. All other special-status plant species are not covered under the Yolo HCP/NCCP. Thus, Mitigation Measures 4.4-1(a) and 4.4-1(b) apply to all special-status plant species that could be potentially impacted by the Proposed Project or the BRPA, other than Palmate-bracted bird's beak, which is subject to the applicable Yolo HCP/NCCP Avoidance and Minimization Measure (AMM) through Mitigation Measure 4.4-1(c).

Proposed Project, Biological Resources Preservation Alternative

4.4-1(a) *If construction does not commence by the end of 2027 (i.e., within three years from the date of Madrone's 2024 protocol-level plant surveys), protocol-level special-status plant surveys shall be conducted throughout the study area in accordance with the U.S. Fish and Wildlife Service (USFWS) Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants; the California Native Plant Society (CNPS) Botanical Survey Guidelines of the California Native Plant Society; and the California Department of Fish and Wildlife (CDFW) Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities. The protocols require conducting surveys at the*

appropriate time of year, when plants are identifiable and in bloom and/or in fruit (which may include multiple visits to capture blooming and/or fruiting periods for all target plants), and includes ensuring that habitats are not disturbed prior to the survey so that any plants that are present may be documented. A report summarizing the results of the protocol-level special-status plant surveys shall be submitted for review and approval to the City of Davis Community Development Department and Public Works Utilities and Operations Department.

If, based on whichever is approved, the Proposed Project or Biological Resources Preservation Alternative (BRPA) avoids the special-status plants through an associated "Avoidance Zone," then further mitigation is not necessary. The size of the Avoidance Zone needed to prevent impacts may vary based on the plant species and its habitat requirements. If a special-status plant listed under the federal Endangered Species Act (FESA) or California Endangered Species Act (CESA) is found and is to be avoided, then an appropriate Avoidance Zone shall be developed in consultation with USFWS or CDFW, as applicable. If the species is not listed under FESA or CESA, an appropriate Avoidance Zone shall be developed by a qualified botanist in consultation with the City of Davis. Avoidance Zone areas may differ by species and site-specific conditions, and they shall be developed such that the avoided special-status plant population is likely to persist in perpetuity. Avoidance zones may be based on a fixed buffer distance from the special-status plant population, at the limit of a hydrologic break (such as Channel A), or as otherwise determined appropriate for the species in question. For plants associated with seasonal wetlands, the Avoidance Zone shall be 250 feet, but this zone may be as small as 50 feet for plant species that occur in uplands and do not appear to be associated with wetland hydrology.

4.4-1(b) *If any impacts (direct or indirect) would occur to special-status plants, a Special-Status Plant Mitigation Plan shall be developed and submitted to the City of Davis Community Development Department and Public Works Utilities and Operations Department (or USFWS or CDFW, as appropriate for FESA- or CESA-listed species). The Special-Status Plant Mitigation Plan shall be subject to review and approval by the City, USFWS, or CDFW (as appropriate, based on listing status) prior to issuance of a grading permit that would impact the plants. The project proponent shall mitigate according to one or a combination of the options below. It should be noted that the options are minimum recommendations; the USFWS and/or CDFW may require additional mitigation if the plants are FESA- or CESA-listed.*

- *<u>Indirect impacts</u>: Indirect impacts would occur if the Proposed Project or BRPA avoids the mapped populations, but affects a portion of an Avoidance Zone. The project proponent shall mitigate for indirect impacts through a 0.5:1 mitigation ratio (mitigation-to-impact), based on the acreage or number of plants that have impacts within an Avoidance Zone. If there are*

dense populations, acreage may be a better metric for dense population, while mitigation based on number of plants may be better for relatively few, widely scattered plants.

- *Direct impacts: Direct impacts would occur if grading or other direct disturbance occurs within mapped populations. The project proponent shall mitigate for direct impacts through a 1:1 ratio for preservation of an existing population, or a 2:1 ratio for relocation/translocation of impacted plants/seeds. The ratios may be based on the acreage of occupied habitat or number of plants. The metric shall be clearly defined in the Special-Status Plant Mitigation Plan.*
    - *Preservation: Identify one or more existing, unprotected populations of the special-status plant that would be impacted by the Proposed Project or BRPA in the project vicinity and protect the population in perpetuity by establishing a preserve on the land that supports those populations. Once the proposed mitigation area is approved by the City of Davis and/or USFWS/CDFW (as appropriate, based on listing status, if any), the mitigation area shall be protected by a recorded conservation easement or deed restriction and managed in accordance with a long-term management plan that maintains the habitats the conservation easement was established to protect (including the special-status plants). Additionally, a preserve management endowment shall be established to fund the long-term management outlined in the long-term management plan, or sufficient annual management funding shall be a condition of a Homeowner's Association, Community Services District, or other alternative as approved by the City of Davis or regulating agency.*

      As this option would preserve an existing, established population, temporal loss would not occur and the option would include low risk of failure. The 1:1 ratio may be based on the acreage of occupied habitat or number of plants; this metric shall be clearly defined in the Special-Status Plant Mitigation Plan. This option may be implemented at a mitigation/conservation bank if the target plant species is present at the bank. The Special-Status Plant Mitigation Plan shall describe how the purchase of bank credits translates into appropriate 1:1 preservation.
    - *Relocation and translocation: Mitigate impacts by establishment of a new special-status plant population or expansion of an existing special-status plant population. The proposed mitigation area may be on-site or off-site and shall be permanently protected by the recordation of a conservation easement or deed*

restriction, development of a long-term management plan that maintains the habitats that the conservation easement was established to protect, and establishment of a preserve management endowment or sufficient annual management funding as a condition of a Homeowner's Association, Community Services District, or other alternative, as approved by the City of Davis or regulating agency.

The project proponent shall locate and protect the mitigation area(s), translocate seeds or relocate perennial plants to the mitigation area(s), monitor the translocated/relocated seeds/plants for a minimum of five years, and meet established success criteria as detailed in the Special-Status Plant Mitigation Plan. The minimum success criterion for this option shall be a 2:1 replacement of directly impacted plants and 1:1 replacement for indirectly impacted plants by year five of monitoring (or as otherwise required by the regulatory agencies). This ratio may be based on the acreage of occupied habitat or number of plants. This metric shall be clearly defined in the Special-Status Plant Mitigation Plan.

If the success criteria are not met, then additional habitat shall be set aside as set forth by the Preservation requirements or as agreed upon by the City of Davis and/or USFWS/CDFW, as appropriate. Because population sizes for annual plants can vary widely from year to year, for relocation or translocation, population counts or acreage mapping shall be conducted in the last two years of monitoring, and the highest count or acreage shall be at least equivalent to the number of required replacement plants.

4.4-1(c) *If construction does not commence by the end of 2027 (i.e., within three years from the date of Madrone's 2024 protocol-level plant surveys), the following measure shall be required:*

Yolo HCP/NCCP AMM11: Palmate-bracted bird's-beak is covered by the Yolo HCP/NCCP only for the removal of suitable habitat and not for the removal of palmate-bracted bird's beak plants. This AMM ensures compliance with this provision. To determine if palmate-bracted bird's-beak is present and could be affected, the project proponent will conduct a planning-level survey for this species for any covered activities to be conducted within 250 feet of suitable habitat (as defined in Appendix A, Covered Species Accounts). The survey will be conducted during the period from May 31 to September 30 and will be consistent with Protocols for Surveying and Evaluating Impacts to

Special Status Native Plant Populations and Natural Communities (California Department of Fish and Game 2009).

The project proponent will avoid occupied habitat where palmate-bracted bird's beak has been located within any of the last 15 years (seed viability could be as little as three years and as much as six years, as described in Appendix A, Section A.1.2, Species Description and Life History). The project proponent also will avoid any new occurrences of this species identified during planning-level surveys. Avoidance will require a 250-foot setback from the occupied habitat, or greater distance depending on site-specific topography to avoid hydrologic effects. A shorter buffer distance may apply if is determined to avoid effects and is approved by the Conservancy, USFWS, and CDFW. Mortality of palmate-bracted bird's beak individuals will be avoided, except as needed through management activities that provide an overall benefit to the species.

4.4-2 Have a substantial adverse effect, either directly or through habitat modifications, on Crotch's bumble bee. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

As discussed above, Crotch's bumble bee is considered to have moderate potential to occur within the study area. The following discussions include an analysis of potential impacts to Crotch's bumble bee associated with development of the Proposed Project, as well as the BRPA.

Proposed Project

The California Annual Grassland Alliance land cover and unplowed portions of the Alkali Prairie land cover within the study area represent potential habitat for Crotch's bumble bee.

As shown in Table 4.4-5 and Figure 4.4-8, under the Proposed Project, approximately 2.7 acres of California Annual Grassland Alliance land cover in the Western Program Study Area could be impacted and approximately 26 acres of the unplowed portions of the Alkali Prairie land cover would be permanently impacted. If Crotch's bumble bee is present at the time of grading, incidental mortality could occur. Therefore, without completion of protocol-level preconstruction surveys of areas that would be disturbed to confirm the presence/absence of Crotch's bumble bee, the Proposed Project could have a substantial adverse effect, either directly or through habitat modifications, on special-status wildlife species.

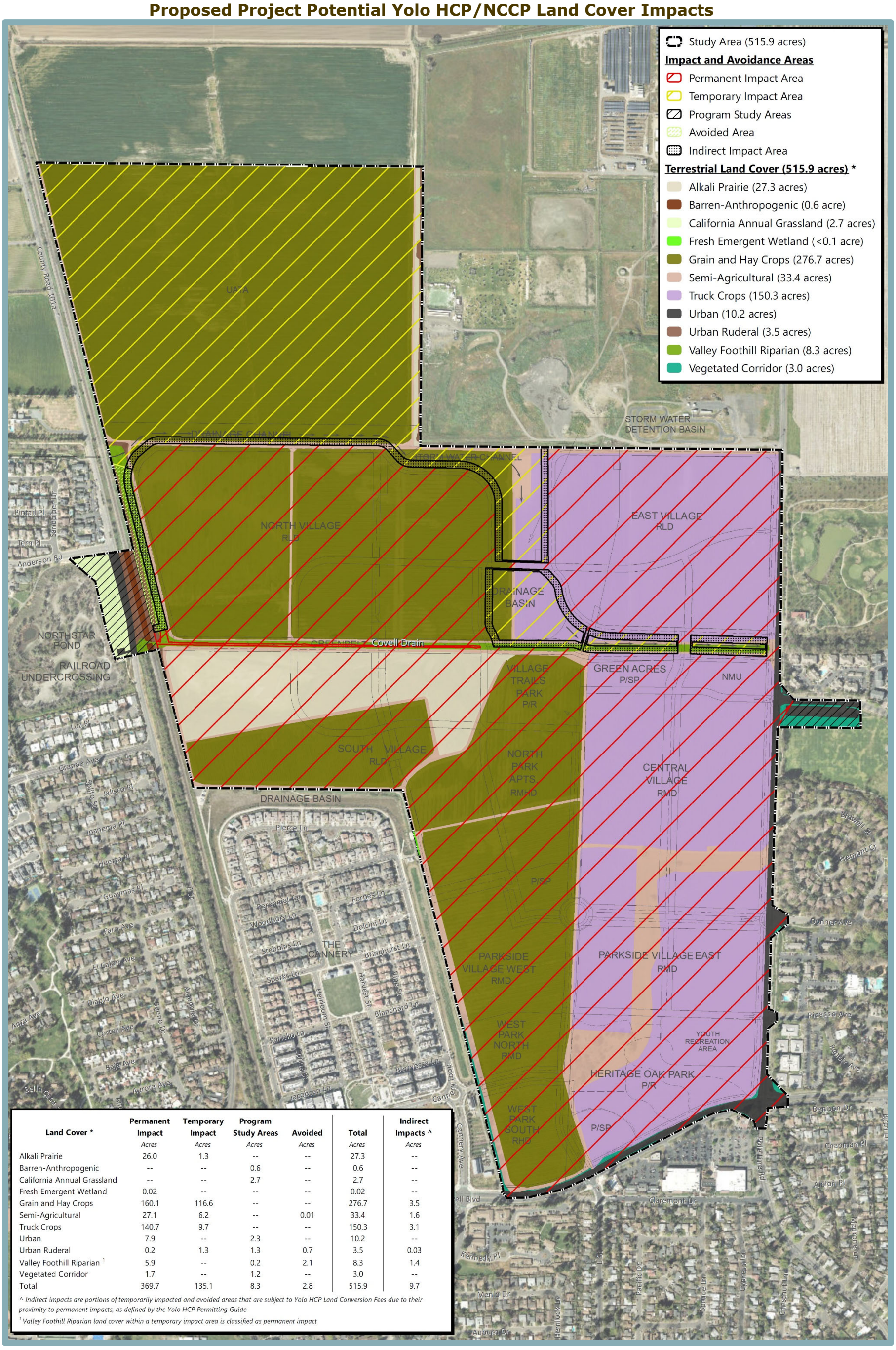
Table 4.4-5
Proposed Project Yolo HCP/NCCP Land Cover Impacts

Land Cover Type	Acres					
	Permanent Impact	Temporary Impact	Program Study Areas	Avoided	Total	Indirect Impacts
Alkali Prairie	26.0	1.3	--	--	27.3	--
Barren-Anthropogenic	--	--	0.6	--	0.6	--
California Annual Grassland	--	--	2.7	--	2.7	--
Fresh Emergent Wetland	0.02	0.0	--	--	0.02	--
Grain and Hay Crops	160.1	116.6	--	--	276.7	3.5
Semiagricultural	27.1	6.2	--	0.0	33.4	1.6
Truck Crops	140.7	9.7	--	--	150.3	3.1
Urban	7.9	0.0	2.3	--	10.2	--
Urban Ruderal	0.2	1.3	1.3	0.7	3.5	--
Valley Foothill Riparian	5.9	0.0	0.2	2.1	8.3	1.4
Vegetated Corridor	1.7	0.0	1.2	--	3.0	--
Total	**369.7**	**135.1**	**8.3**	**2.8**	**515.9**	**9.7**

Note: Indirect impacts are portions of temporarily impacted and avoided areas subject to Yolo HCP/NCCP Land Conversion fees due to their proximity to permanent impacts, as defined by the Yolo HCP Permitting Guide.

Source: Madrone Ecological Consulting, 2024.

Figure 4.4-8
Proposed Project Potential Yolo HCP/NCCP Land Cover Impacts



Land Cover *	Permanent Impact	Temporary Impact	Program Study Areas	Avoided	Total	Indirect Impacts ^
	Acres	*Acres*	*Acres*	*Acres*	*Acres*	*Acres*
Alkali Prairie	26.0	1.3	--	--	27.3	--
Barren-Anthropogenic	--	--	0.6	--	0.6	--
California Annual Grassland	--	--	2.7	--	2.7	--
Fresh Emergent Wetland	0.02	--	--	--	0.02	--
Grain and Hay Crops	160.1	116.6	--	--	276.7	3.5
Semi-Agricultural	27.1	6.2	--	0.01	33.4	1.6
Truck Crops	140.7	9.7	--	--	150.3	3.1
Urban	7.9	--	2.3	--	10.2	--
Urban Ruderal	0.2	1.3	1.3	0.7	3.5	0.03
Valley Foothill Riparian [1]	5.9	--	0.2	2.1	8.3	1.4
Vegetated Corridor	1.7	--	1.2	--	3.0	--
Total	369.7	135.1	8.3	2.8	515.9	9.7

^ Indirect impacts are portions of temporarily impacted and avoided areas that are subject to Yolo HCP Land Conversion Fees due to their proximity to permanent impacts, as defined by the Yolo HCP Permitting Guide

[1] Valley Foothill Riparian land cover within a temporary impact area is classified as permanent impact

Biological Resources Preservation Alternative

Similar to the Proposed Project, the California Annual Grassland Alliance land cover within the Western Program Study Area represents potential habitat for Crotch's bumble bee. Under the BRPA, impacts to the California Annual Grassland Alliance land cover may impact Crotch's bumble bees. If Crotch's bumble bees are present at the time of grading, incidental mortality could occur. In addition, the unplowed portions of the Alkali Prairie land cover represent potential habitat. However, as shown in Table 4.4-6 and Figure 4.4-9, the BRPA would preserve the majority of the Alkali Prairie land cover through avoiding 25.8 acres of the land cover. Therefore, potential impacts to Crotch's bumble bee would be significantly reduced as compared to the Proposed Project. Nonetheless, without completion of protocol-level preconstruction surveys of areas that would be disturbed to confirm the presence/absence of Crotch's bumble bee, the BRPA could have a substantial adverse effect, either directly or through habitat modifications, on special-status wildlife species.

Conclusion

Based on the above, the Proposed Project and the BRPA could have a substantial adverse effect, either directly or through habitat modifications, on a wildlife species (Crotch's bumble bee) identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. Thus, a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure is applicable to both the Proposed Project and the BRPA and would reduce the above potential impact to a *less-than-significant* level.

Proposed Project, Biological Resources Preservation Alternative

4.4-2 *The provisions contained herein only apply if Crotch's bumble bee remains a candidate species or is listed under CESA at the commencement of construction. Following CDFW's status report on Crotch's bumble bee, if the California Fish and Game Commission finds that the petitioned action is not warranted, the provisions contained herein shall not be required.*

If feasible, initial ground-disturbing activities associated with the Proposed Project or BRPA (e.g., grading, vegetation removal, staging) shall take place between September 1 and March 31 (i.e., outside the colony active period) to avoid potential impacts on special-status bumble bees. If completing all initial ground-disturbing activities between September 1 and March 31 is not feasible, then at a maximum of 14 days prior to the commencement of construction activities, a qualified biologist with 10 or more years of experience conducting biological resource surveys within California, and familiar with Crotch's bumble bee life history, shall conduct a preconstruction survey for special-status bumble bees in the area(s) proposed for impact.

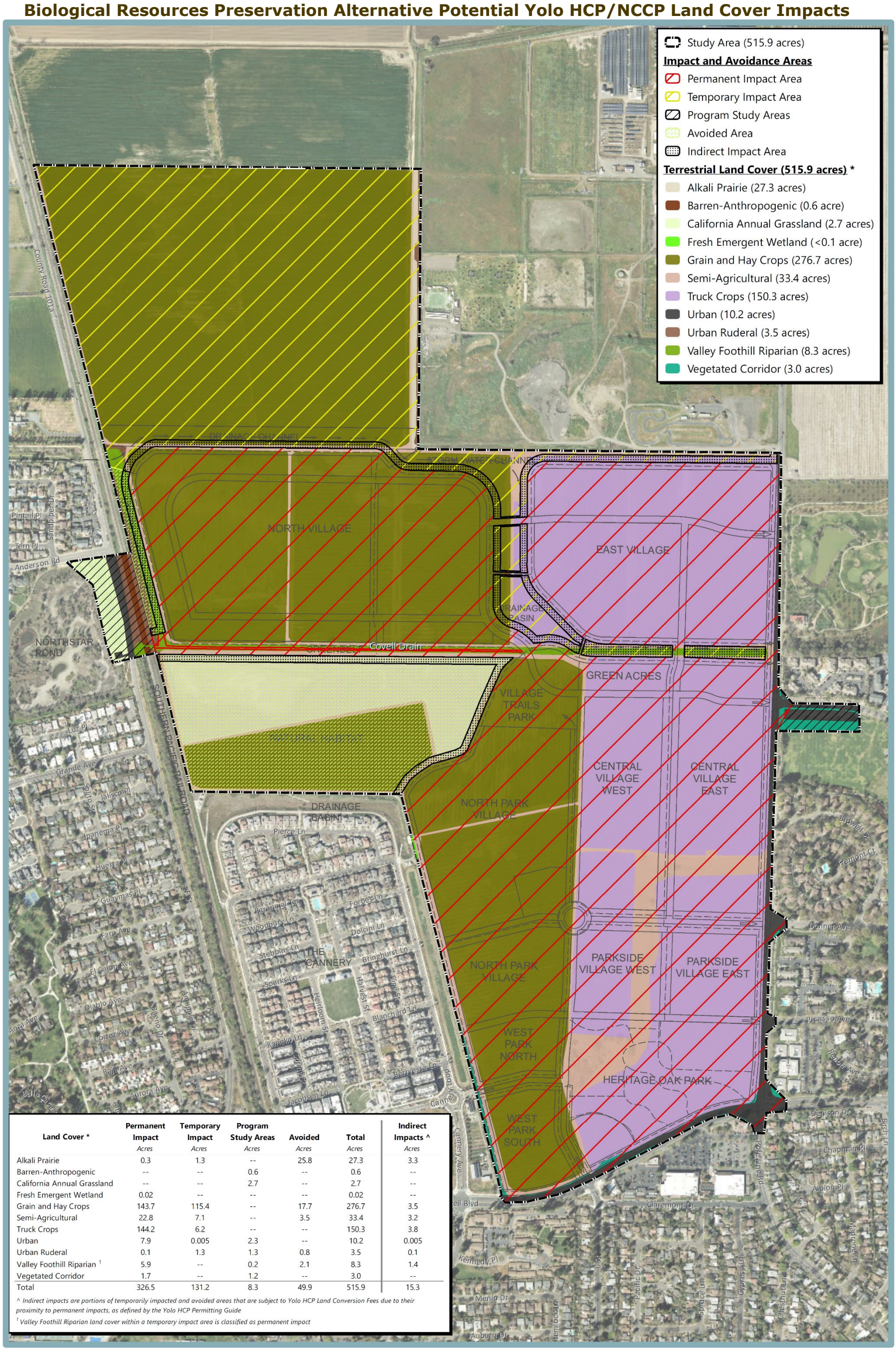
Table 4.4-6
Biological Resources Preservation Alternative
Yolo HCP/NCCP Land Cover Impacts

Land Cover Type	Acres					
	Permanent Impact	Temporary Impact	Program Study Areas	Avoided	Total	Indirect Impacts
Alkali Prairie	0.3	1.3	--	25.8	27.3	3.3
Barren-Anthropogenic	--	--	0.6	--	0.6	--
California Annual Grassland	--	--	2.7	--	2.7	--
Fresh Emergent Wetland	0.02	0.0	--	--	0.02	--
Grain and Hay Crops	143.7	115.4	--	17.7	276.7	3.5
Semiagricultural	22.8	7.1	--	3.5	33.4	3.2
Truck Crops	144.2	6.2	--	--	150.3	3.8
Urban	7.9	0.0	2.3	--	10.2	0.0
Urban Ruderal	0.1	1.3	1.3	0.8	3.5	0.1
Valley Foothill Riparian	5.9	0.0	0.2	2.1	8.3	1.4
Vegetated Corridor	1.7	0.0	1.2	--	3.0	0.0
Total	**326.5**	**131.2**	**8.3**	**49.9**	**515.9**	**15.3**

Note: Indirect impacts are portions of temporarily impacted and avoided areas subject to Yolo HCP/NCCP Land Conversion fees due to their proximity to permanent impacts, as defined by the Yolo HCP Permitting Guide.

Source: Madrone Ecological Consulting, 2024.

Figure 4.4-9
Biological Resources Preservation Alternative Potential Yolo HCP/NCCP Land Cover Impacts



Land Cover *	Permanent Impact	Temporary Impact	Program Study Areas	Avoided	Total	Indirect Impacts ^
	Acres	*Acres*	*Acres*	*Acres*	*Acres*	*Acres*
Alkali Prairie	0.3	1.3	--	25.8	27.3	3.3
Barren-Anthropogenic	--	--	0.6	--	0.6	--
California Annual Grassland	--	--	2.7	--	2.7	--
Fresh Emergent Wetland	0.02	--	--	--	0.02	--
Grain and Hay Crops	143.7	115.4	--	17.7	276.7	3.5
Semi-Agricultural	22.8	7.1	--	3.5	33.4	3.2
Truck Crops	144.2	6.2	--	--	150.3	3.8
Urban	7.9	0.005	2.3	--	10.2	0.005
Urban Ruderal	0.1	1.3	1.3	0.8	3.5	0.1
Valley Foothill Riparian [1]	5.9	--	0.2	2.1	8.3	1.4
Vegetated Corridor	1.7	--	1.2	--	3.0	--
Total	326.5	131.2	8.3	49.9	515.9	15.3

^ *Indirect impacts are portions of temporarily impacted and avoided areas that are subject to Yolo HCP Land Conversion Fees due to their proximity to permanent impacts, as defined by the Yolo HCP Permitting Guide*

[1] *Valley Foothill Riparian land cover within a temporary impact area is classified as permanent impact*

The survey shall occur during the period from one hour after sunrise to two hours before sunset, with temperatures between 65 degrees Fahrenheit and 90 degrees Fahrenheit, with low wind and zero rain. If the timing of the start of construction makes the survey infeasible due to the temperature requirements, the surveying biologist shall select the most appropriate days based on the National Weather Service seven-day forecast and shall survey at a time of day that is closest to the temperature range stated above. The survey duration shall be commensurate with the extent of suitable floral resources (which represent foraging habitat) present within the area proposed for impact, and the level of effort shall be based on the metric of a minimum of one person-hour of searching per three acres of suitable floral resources/foraging habitat. A meandering pedestrian survey shall be conducted throughout the area proposed for impact in order to identify patches of suitable floral resources. Suitable floral resources for Crotch's bumble bee include species in the following families: Apocynaceae, Asteraceae, Boraginaceae, Fabaceae, and Lamiaceae. Suitable floral resources for western bumble bee include species in the following families: Asteraceae, Fabaceae, Rhamnaceae, and Rosaceae, as well as plants in the genera Eriogonum and Penstemon.

At a minimum, preconstruction survey methods shall include the following:

- *Search areas with floral resources for foraging bumble bees. Observed foraging activity may indicate a nest is nearby, and therefore, the survey duration shall be increased when foraging bumble bees are present;*
- *If special-status bumble bees are observed, watch any special-status bumble bees present and observe their flight patterns. Attempt to track their movements between foraging areas and the nest;*
- *Visually look for nest entrances. Observe burrows, any other underground cavities, logs, or other possible nesting habitat;*
- *If floral resources or other vegetation preclude observance of the nest, small areas of vegetation may be removed via hand removal, line trimming, or mowing to a height of a minimum of four inches to assist with locating the nest;*
- *Look for concentrated special-status bumble bee activity;*
- *Listen for the humming of a nest colony; and*
- *If bumble bees are observed, attempt to photograph the individual and identify it to species.*

The biologist conducting the survey shall record when the survey was conducted, a general description of any suitable foraging habitat/floral resources present, a description of observed bumble bee activity, a list of bumble bee species observed, a description of any vegetation removed to facilitate the survey, and their determination of if survey observations suggest a special-status bumble bee nest(s) may be

present or if construction activities could result in take of special-status bumble bees. The report shall be submitted to the City of Davis Community Development Department and Public Works Utilities and Operations Department prior to the commencement of construction activities.

If bumble bees are not located during the preconstruction survey or the bumble bees located are definitively identified as a common species (i.e., not special-status species), then further mitigation or coordination with the CDFW is not required.

If any sign(s) of a bumble bee nest is observed, and if the species present cannot be established as a common bumble bee, then construction shall not commence until either (1) the bumble bees present are positively identified as common (i.e., not a special-status species), or (2) the completion of coordination with CDFW to identify appropriate mitigation measures, which may include, but not be limited to, waiting until the colony active season ends, establishment of nest buffers, or obtaining an Incidental Take Permit (ITP) from CDFW.

If special-status bees are located, and after coordination with CDFW take of special-status bumble bees cannot be avoided, the project proponent shall obtain an ITP from CDFW, and the project proponent shall implement all conditions identified in the ITP. Mitigation required by the ITP may include, but not be limited to, the project proponent translocating nesting substrate in accordance with the latest scientific research to another suitable location (i.e., a location that supports similar or better floral resources as the impact area), enhancing floral resources on areas of the project site/BRPA site that will remain appropriate habitat, worker awareness training, and/or other measures specified by CDFW.

4.4-3 Have a substantial adverse effect, either directly or through habitat modifications, on special-status branchiopods. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

The following discussions include an analysis of potential impacts to special-status branchiopods associated with both development of the Proposed Project, as well as the BRPA.

Proposed Project

The identified special-status branchiopod species with the potential to occur within the study area include vernal pool fairy shrimp, vernal pool tadpole shrimp, and conservancy fairy shrimp. Protocol-level wet- and dry-season surveys for the species were conducted in all suitable habitat within the study area and the surveys were negative for conservancy fairy shrimp and vernal pool fairy shrimp. Vernal pool tadpole shrimp was determined to be present within the study area. Approximately 9.812 acres

of occupied vernal pool tadpole shrimp habitat, including alkali playa and wetland ditch basin, are present within the study area.

All 9.812 acres of vernal pool tadpole shrimp would be permanently filled as part of the Proposed Project, including potential future construction activities that could occur within the Western Program Study Area, and any cysts within the features would be crushed and buried. As such, mortality of vernal pool tadpole shrimp, as well as permanent loss of suitable habitat, would occur during construction of the Proposed Project.

Biological Resources Preservation Alternative

Because the BRPA would preserve the 47.1-acre Natural Habitat Area, which includes the majority of the Alkali Prairie land cover within the BRPA site, potential impacts related to special-status branchiopods would be reduced, as 9.789 acres of vernal pool tadpole shrimp habitat would be avoided. However, 0.023-acre of vernal pool tadpole shrimp habitat would be permanently filled, and any cysts within permanently filled features would be crushed and buried. In addition, potential off-site activities associated with the grade-separated crossing in the Western Program Study Area could result in potential impacts to 0.104-acre of seasonal wetland in the Western Program Study Area. As such, mortality of vernal pool tadpole shrimp, as well as permanent loss of suitable habitat, would occur during construction of the BRPA.

Conclusion

Based on the above, the Proposed Project and the BRPA could have a substantial adverse effect, either directly or through habitat modifications, on a branchiopod species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS, and a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure is applicable to both the Proposed Project and the BRPA and would reduce the above potential impact to a *less-than-significant* level.

Proposed Project and Biological Resources Preservation Alternative

4.4-3 *If occupied aquatic habitat is located in planned development areas associated with the Proposed Project or BRPA, the project proponent shall consult with the USFWS regarding impacts to federally listed vernal pool tadpole shrimp prior to the approval by the City of Davis of any permit authorizing construction.*

The project proponent shall obtain and comply with any conditions of the appropriate take authorization from the USFWS. The conditions in the take authorization may include, but shall not be limited to, fencing off avoided habitat; worker awareness training; preservation, restoration, or enhancement of habitat on- or off-site to compensate for indirect and/or direct effects; purchase of habitat credits (the mitigation ratio for habitat preservation is generally 2:1) from an agency-approved

mitigation/conservation bank; working with a local land trust to preserve land; or any other method acceptable to USFWS.

4.4-4 Have a substantial adverse effect, either directly or through habitat modifications, on monarch butterfly. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

As discussed above, monarch butterfly is considered to have high potential to occur within the study area. The following discussions include an analysis of potential impacts to monarch butterfly associated with both development of the Proposed Project, as well as the BRPA.

Proposed Project

Pursuant to the BRA, several stands of narrowleaf milkweed are located along the western study area boundary that represent potential habitat for monarch butterfly. The area is proposed for permanent impacts under the Proposed Project. Additional habitat for monarch butterfly occurs in areas that could be disturbed as part of potential future construction activities within the off-site Western and Eastern Program Study Areas. If monarch butterfly eggs, larva, or chrysalises are present on the milkweed plants when they are removed, incidental mortality could occur.

Biological Resources Preservation Alternative

Under the BRPA, the area where most of the narrowleaf milkweed plants occur (south of Channel A and west of the alkali playas) would be avoided. However, isolated milkweed plants scattered throughout the study area could still be permanently impacted by BRPA construction activities. Additional habitat for monarch butterfly occurs in areas that could be disturbed as part of potential future construction activities within the off-site Western and Eastern Program Study Areas. If monarch butterfly eggs, larva, or chrysalises are present on the milkweed plants when they are removed, incidental mortality could occur.

Conclusion

Based on the above, the Proposed Project and the BRPA could have a substantial adverse effect, either directly or through habitat modifications, on a wildlife species (monarch butterfly) identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. Thus, a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure is applicable to both the Proposed Project and the BRPA and would reduce the above potential impact to a *less-than-significant* level.

Proposed Project and Biological Resources Preservation Alternative

4.4-4 The provisions contained herein only apply if monarch butterfly remains proposed for listing under FESA at the commencement of construction.

If construction occurs during the time when milkweed plants may host monarch eggs or caterpillars (approximately mid-March through late September), a preconstruction survey shall be conducted by a qualified biologist within the proposed impact area and a 50-foot buffer in accessible areas for the presence of eggs, larvae (i.e., caterpillars), or pupae, at most, 14 days prior to plant removal. Additionally, other plants immediately adjacent to milkweed plants shall also be searched for chrysalises. If eggs, caterpillars, or pupae are not detected, additional protection measures are not necessary.

A report summarizing the results of the survey shall be submitted for review and approval to the City of Davis Community Development Department and Public Works Utilities and Operations Department.

If eggs, caterpillars, or pupae are found, the plants shall be avoided with a 50-foot buffer until metamorphosis is completed and adult butterflies emerge and leave the host plant. If the eggs, larvae, or chrysalises cannot be avoided, all eggs, larvae, and chrysalises, including the portion of the plant to which they are attached, shall be translocated to an alternative location. The location must be a minimum of 50 feet outside of the impact area and contain a similarly sized or larger population of larval host plants. The portions of the plants supporting eggs or chrysalises shall be tied to the live stem of the avoided larval host plant while caterpillars shall be placed directly on a stem or leaf of a larval host plant. Should the species be listed under FESA in the future, coordination with USFWS shall be conducted prior to translocation.

4.4-5 Have a substantial adverse effect, either directly or through habitat modifications, on VELB. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

As discussed above, VELB is considered to have high potential to occur within the study area. The following discussion includes an analysis of potential impacts related to VELB associated with the development of the Proposed Project and the BRPA. Because the Proposed Project and the BRPA would both include components with potential to affect the species and its habitat, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

As generally shown in Figure 4.4-6, a total of 23 elderberry shrubs have been mapped inside or within 100 feet of the project site/BRPA site. One elderberry shrub would be permanently impacted, and an additional 22 elderberry shrubs would be indirectly impacted by construction activities associated with both the Proposed Project and BRPA. The elderberry shrubs represent potential habitat for VELB, which is a Yolo HCP/NCCP Covered Species. If VELB larvae are present within the elderberry shrubs when the shrubs are removed, incidental mortality of larvae could occur. Additionally, construction activities that occur within 100 feet of avoided elderberry shrubs could

indirectly affect VELB, if present, given that dust, herbicides, or adjacent compaction could reduce the health of the shrubs hosting the beetles and cause larva inside the shrubs to die.

Based on the above, the Proposed Project and the BRPA could have a substantial adverse effect, either directly or through habitat modifications, on a wildlife species (VELB) identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS, and a ***significant*** impact could occur.

Mitigation Measure(s)

VELB is a Yolo HCP/NCCP Covered Species. Thus, the Proposed Project and BRPA would be subject to the following species-specific Yolo HCP/NCCP AMM to address potential impacts to the species. Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

Proposed Project and Biological Resources Preservation Alternative

4.4-5 *Yolo HCP/NCCP AMM12: The project proponent will retain a qualified biologist who is familiar with valley elderberry longhorn beetle and evidence of its presence (i.e., exit holes in elderberry shrubs) to map all elderberry shrubs in and within 100 feet of the project footprint with stems that are greater than one inch in diameter at ground level. To avoid take of valley elderberry longhorn beetle fully, the project proponent will maintain a buffer of at least 100 feet from any elderberry shrubs with stems greater than one inch in diameter at ground level. AMM1, Establish Buffers, describes circumstances in which a lesser buffer may be applied. For elderberry shrubs that cannot be avoided with a designated buffer distance as described above, the qualified biologist will quantify the number of stems one inch or greater in diameter to be affected, and the presence or absence of exit holes. The Conservancy will use this information to determine the number of plants or cuttings to plant on a riparian restoration site to help offset the loss, consistent with Section 6.4.2.4.1, Valley Elderberry Longhorn Beetle. Additionally, prior to construction, the project proponent will transplant elderberry shrubs identified within the project footprint that cannot be avoided.*

Transplantation will only occur if a shrub cannot be avoided and, if indirectly affected, the indirect effects would otherwise result in the death of stems or the entire shrub. If the project proponent chooses, in coordination with a qualified biologist, not to transplant the shrub because the activity would not likely result in death of stems of the shrub, then the qualified biologist will monitor the shrub annually for a five-year monitoring period. The monitoring period may be reduced with concurrence from the wildlife agencies if the latest research and best available information at the time indicates that a shorter monitoring period is warranted. If death of stems at least one inch in diameter occurs within the monitoring period, and the qualified biologist determines that the shrub is sufficiently healthy to transplant, the

project proponent will transplant the shrub as described in the following paragraph, in coordination with the qualified biologist. If the shrub dies during the monitoring period, or the qualified biologist determines that the shrub is no longer healthy enough to survive transplanting, then the Conservancy will offset the shrub loss consistent with the preceding paragraph.

The project proponent will transplant the shrubs into a location in the HCP/NCCP reserve system that has been approved by the Conservancy. Elderberry shrubs outside the project footprint but within the 100-foot buffer will not be transplanted.

Transplanting will follow the following measures:

1. *Monitor: A qualified biologist will be on-site for the duration of the transplanting of the elderberry shrubs to ensure the effects on elderberry shrubs are minimized.*
2. *Timing: The project proponent will transplant elderberry plants when the plants are dormant, approximately November through the first two weeks of February, after they have lost their leaves. Transplanting during the non-growing season will reduce shock to the plant and increase transplantation success.*
3. *Transplantation procedure:*

    a. *Cut the plant back three to six feet from the ground or to 50 percent of its height (whichever is taller) by removing branches and stems above this height. Replant the trunk and stems measuring one inch or greater in diameter. Remove leaves that remain on the plants.*
    b. *Relocate plant to approved location in the reserve system, and replant as described in Section 6.4.2.4.1, Valley Elderberry Longhorn Beetle.*

4.4-6 Impacts to western spadefoot either directly (e.g., cause a wildlife population to drop below self-sustaining levels, threaten to eliminate an animal community) or through substantial habitat modifications. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

As discussed above, western spadefoot is considered to have low potential to occur within the study area. The following discussions include an analysis of potential impacts to western spadefoot associated with both development of the Proposed Project, as well as the BRPA.

Proposed Project

Western spadefoot is a nocturnal amphibian that forages in grassland, open chaparral, and pine-oak woodlands for a variety of invertebrates such as insects and worms and breeds in a variety of temporary wetlands, including creeks, pools in intermittent

drainages, vernal pools, and seasonal wetlands, and other fish-free water features. A total of approximately 10.055 acres of alkali playa and wetland ditch would be permanently impacted by the Proposed Project. The foregoing habitats provide suitable breeding habitat for western spadefoot. Additional habitat for western spadefoot occurs in areas that could be disturbed as part of potential future construction activities within the off-site Western Program Study Area. Thus, incidental mortality could occur to any individual within such aquatic features or in burrows in adjacent uplands.

Biological Resources Preservation Alternative

As discussed above, the on-site alkali playa and wetland ditch provide suitable breeding habitat for western spadefoot. Because the BRPA would preserve the 47.1-acre Natural Habitat Area, which includes the majority of the Alkali Prairie land cover within the BRPA site, the alkali playa and a portion of the wetland ditches would be avoided, thereby reducing potential impacts to western spadefoot as compared to the Proposed Project. However, approximately 0.017-acre of wetland ditch would be temporarily impacted by the BRPA. Additional habitat for western spadefoot occurs in areas that could be disturbed as part of potential future construction activities within the off-site Western Program Study Area. As such, under the BRPA, incidental mortality could occur to any individuals within those features or in burrows in adjacent uplands.

Conclusion

Based on the above, the Proposed Project and the BRPA could have a substantial adverse effect, either directly or through habitat modifications, on a wildlife species (western spadefoot) identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. Thus, a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure is applicable to both the Proposed Project and the BRPA and would reduce the above potential impact to a *less-than-significant* level. The aquatic component of the survey, including sampling aquatic habitat thoroughly with dipnets during March or early April, when spadefoot tadpoles would be present, has already been completed concurrent with the vernal pool branchiopod surveys and does not need to be repeated.

Proposed Project and Biological Resources Preservation Alternative

4.4-6 *Prior to the commencement of construction, one nocturnal acoustic survey of all areas within 300 feet of suitable aquatic habitat shall be conducted during the spring prior to construction of the Proposed Project or BRPA. Acoustic surveys shall consist of walking through the area and listening for the distinctive snore-like call of the species. Timing and methodology for the aquatic and acoustic surveys shall be based on those described in Distribution of the Western Spadefoot (Spea hammondii) in the Northern Sacramento Valley of California, with Comments on Status and Survey Methodology. If both the aquatic survey and the nocturnal acoustic survey are negative, further mitigation shall not be necessary. A report summarizing the results of*

the aquatic survey and nocturnal acoustic survey shall be submitted for review and approval to the City of Davis Community Development Department and Public Works Utilities and Operations Department.

If western spadefoots are identified within the study area during the surveys and the species is not a federally listed species or candidate species and is still a California Species of Special Concern, the following shall be conducted:

- *The tadpoles (as many as are reasonably possible to capture) shall be captured and relocated either to aquatic habitat to be avoided on-site (and implement the fencing requirement outlined below), or to an off-site open space preserve with suitable habitat in the vicinity of the project site/BRPA site. If western spadefoot are observed within aquatic habitat proposed for avoidance, then the project proponent may either relocate the tadpoles to an off-site open space preserve with suitable habitat in the vicinity of the project site/BRPA site, or install silt fence along the edge of the proposed impact area within 300 feet of the occupied aquatic habitat to prevent metamorphosed individuals from dispersing into the construction area.*

If western spadefoots are identified within the study area during the surveys and the species is a federally listed species or a candidate for listing, the following shall be conducted:

- *The project proponent shall consult with the USFWS regarding impacts to western spadefoot from the Proposed Project or BRPA. The project proponent shall obtain and comply with any conditions of the appropriate take authorization from the USFWS. The conditions in the take authorization may include, but not necessarily be limited to, fencing off avoided habitat; worker awareness training; preservation, restoration, or enhancement of habitat on- or off-site to compensate for indirect and/or direct effects; purchase of habitat credits from an agency-approved mitigation/conservation bank; working with a local land trust to preserve land; or any other method acceptable to USFWS.*

4.4-7 Have a substantial adverse effect, either directly or through habitat modifications, on northwestern pond turtle. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

As discussed above, northwestern pond turtle is considered to have low potential to occur within the study area. The following discussion includes an analysis of potential impacts related to northwestern pond turtle associated with the development of the Proposed Project and the BRPA. Because the Proposed Project and the BRPA would

both include components with potential to affect the species and its habitat, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

When inundated, Channel A represents potential habitat for northwestern pond turtle, a Yolo HCP/NCCP Covered Species. Portions of Channel A that run through the project site/BRPA site would be impacted by both the Proposed Project and the BRPA. Additional habitat for northwestern pond turtle occurs in areas that could be disturbed as part of potential future construction activities within the off-site Western Program Study Area. If northwestern pond turtles are present during construction activities, individual turtles could be injured or killed by heavy equipment during initial grading activities. In addition, if northwestern pond turtles are present and/or nesting in the upland areas adjacent to Channel A, incidental mortality of individual turtles or eggs could occur during construction that occurs adjacent to the drainage.

Based on the above, the Proposed Project and the BRPA could have a substantial adverse effect, either directly or through habitat modifications, on a wildlife species (northwestern pond turtle) identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. Thus, a ***significant*** impact could occur.

Mitigation Measure(s)

Northwestern pond turtle is a Yolo HCP/NCCP Covered Species. Thus, the Proposed Project and BRPA would be subject to the following species-specific Yolo HCP/NCCP AMM to address potential impacts to the species. Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

Proposed Project and Biological Resources Preservation Alternative

4.4-7 *Yolo HCP/NCCP AMM14: There are no specific design requirements for western pond turtle habitat, however, project proponents must follow design requirements for the valley foothill riparian and lacustrine and riverine natural communities described in AMMs 9 and 10, which require a 100-foot (minimum) permanent buffer zone from the canopy drip-line (the farthest edge on the ground where water will drip from the tree canopy, based on the outer boundary of the tree canopy). If modeled upland habitat will be impacted, a qualified biologist must be present and will assess the likelihood of western pond turtle nests occurring in the disturbance area (based on sun exposure, soil conditions, and other species habitat requirements). If a qualified biologist determines that there is a moderate to high likelihood of western pond turtle nests within the disturbance area, the qualified biologist will monitor all initial ground disturbing activity for nests that may be unearthed during the disturbance, and will move out of harm's way any turtles or hatchlings found.*

4.4-8 Have a substantial adverse effect, either directly or through habitat modifications, on tricolored blackbird. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

As discussed above, tricolored blackbird is considered to have low potential to occur within the study area. The following discussions include an analysis of potential impacts to tricolored blackbird associated with both development of the Proposed Project, as well as the BRPA.

Proposed Project

Potential nesting habitat for tricolored blackbird, a Yolo HCP/NCCP Covered Species, is not present on-site. However, the on-site Alkali Prairie and Grain and Hay Crops land covers represent potential foraging habitat for the species. Under the Proposed Project, 186.1 acres of tricolored blackbird foraging habitat would be permanently impacted. Removal of the foraging habitat could reduce the food available to nestlings at nest colonies in the vicinity, which could result in mortality of the species. However, it should be noted that the loss of on-site foraging habitat would be offset by the proposed project's participation in the Yolo HCP/NCCP and the payment of land conversion fees.

Biological Resources Preservation Alternative

Under the BRPA, 143.9 acres of tricolored blackbird foraging habitat would be permanently impacted, including the Alkali Prairie and Grain and Hay Crops land covers within the BRPA site. Removal of the foraging habitat could reduce the food available to nestlings at nest colonies in the vicinity, which could result in mortality of the species.

Conclusion

Based on the above, the Proposed Project and the BRPA could have a substantial adverse effect, either directly or through habitat modifications, on a wildlife species (tricolored blackbird) identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. Thus, a ***significant*** impact could occur.

Mitigation Measure(s)

Tricolored blackbird is a Yolo HCP/NCCP Covered Species. Thus, the Proposed Project and BRPA would be subject to the following species-specific Yolo HCP/NCCP AMM to address potential impacts to the species. Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

Proposed Project and Biological Resources Preservation Alternative

4.4-8 *Yolo HCP/NCCP AMM21: The project proponent will retain a qualified biologist to identify and quantify (in acres) tricolored blackbird nesting and foraging habitat (as defined in Appendix A, Covered Species Accounts) within 1,300 feet of the footprint of the covered activity. If a 1,300-foot buffer from nesting habitat cannot be maintained, the*

qualified biologist will check records maintained by the Conservancy (which will include CNDDB data, and data from the tricolored blackbird portal) to determine if tricolored blackbird nesting colonies have been active in or within 1,300 feet of the project footprint during the previous five years. If there are no records of nesting tricolored blackbirds on the site, the qualified biologist will conduct visual surveys to determine if an active colony is present, during the period from March 1 to July 30, consistent with protocol described by Kelsey (2008).

Operations and maintenance activities or other temporary activities that do not remove nesting habitat and occur outside the nesting season (March 1 to July 30) do not need to conduct planning or construction surveys or implement any additional avoidance measures.

If an active tricolored blackbird colony is present or has been present within the last five years within the planning-level survey area, the project proponent will design the project to avoid adverse effects within 1,300 feet of the colony site(s), unless a shorter distance is approved by the Conservancy, USFWS, and CDFW. If a shorter distance is approved, the project proponent will still maintain a 1,300-foot buffer around active nesting colonies during the nesting season but may apply the approved lesser distance outside the nesting season. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.

4.4-9 Have a substantial adverse effect, either directly or through habitat modifications, on burrowing owl. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

As discussed above, burrowing owl is considered to have high potential to occur within the study area. The following discussions include an analysis of potential impacts to burrowing owl associated with both development of the Proposed Project, as well as the BRPA.

Proposed Project

Extensive complexes of ground squirrel burrows occur throughout the project site, particularly along the western edge of the site and along Channel A. The burrows represent suitable habitat for burrowing owl, which is a Yolo HCP/NCCP Covered Species. While burrowing owls or owl sign (white wash, feathers, or pellets) were not observed during the protocol-level burrowing owl surveys, the Proposed Project would permanently impact approximately 53.3 acres of potential burrowing owl habitat, including Alkali Prairie, Semiagricultural, and Urban Ruderal land covers. In addition, portions of the Western and Eastern Program Study Areas also contain suitable burring owl habitat. Given enough time, burrowing owls could colonize the project site and off-site Western and Eastern Program Study Areas in the interim between surveys/analysis and commencement of construction activities. If ground disturbance occurs while burrowing owls are occupying the on-site burrows, individuals could be directly impacted by the Proposed Project.

Biological Resources Preservation Alternative

Similar to the Proposed Project, the BRPA would result in impacts to the ground squirrel burrows that occur within the BRPA site, particularly along the western edge of the site and along Channel A. Additionally, the BRPA would permanently impact approximately 23.1 acres of potential burrowing owl habitat, including the Semiagricultural and Urban Ruderal land covers. In addition, portions of the Western and Eastern Program Study Areas also contain suitable burring owl habitat. Thus, while potential impacts to burrowing owl would be reduced relative to those associated with the Proposed Project, if ground disturbance occurs while burrowing owls are occupying burrows within the BRPA site and off-site Western and Eastern Program Study Areas, individuals could be directly impacted.

Conclusion

Based on the above, the Proposed Project and the BRPA could have a substantial adverse effect, either directly or through habitat modifications, on a wildlife species (burrowing owl) identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. Thus, a ***significant*** impact could occur.

Mitigation Measure(s)

Burrowing owl is a Yolo HCP/NCCP Covered Species. Thus, the Proposed Project and BRPA would be subject to the following species-specific Yolo HCP/NCCP AMM to address potential impacts to the species. Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

Proposed Project and Biological Resources Preservation Alternative

4.4-9 *The project applicant shall comply with Yolo HCP/NCCP AMM18. However, should the Yolo HCP/NCCP be modified with respect to burrowing owl coverage in the future given the recent change in the species' status, the project applicant shall comply with the Yolo HCP/NCCP provisions pertaining to burrowing owl as they exist at the time of permit issuance.*

Yolo HCP/NCCP AMM18: The project proponent will retain a qualified biologist to conduct planning-level surveys and identify western burrowing owl habitat (as defined in Appendix A, Covered Species Accounts) within or adjacent to (i.e., within 500 feet of) a covered activity. If habitat for this species is present, additional surveys for the species by a qualified biologist are required, consistent with CDFW guidelines (Appendix L).

If burrowing owls are identified during the planning-level survey, the project proponent will minimize activities that will affect occupied habitat as follows. Occupied habitat is considered fully avoided if the project footprint does not impinge on a nondisturbance buffer around the suitable burrow. For occupied burrowing owl nest burrows, this nondisturbance buffer could range from 150 to 1,500 feet (Table 4-2, Recommended Restricted Activity Dates and Setback Distances by Level of Disturbance for Burrowing Owls [incorporated as Table 4.4-7

of this chapter]), depending on the time of year and the level of disturbance, based on current guidelines (California Department of Fish and Game 2012). The Yolo HCP/NCCP generally defines low, medium, and high levels of disturbances of burrowing owls as follows.

- *Low: Typically 71-80 dB, generally characterized by the presence of passenger vehicles, small gas-powered engines (e.g., lawn mowers, small chain saws, portable generators), and high-tension power lines. Includes electric hand tools (except circular saws, impact wrenches and similar). Management and enhancement activities would typically fall under this category. Human activity in the immediate vicinity of burrowing owls would also constitute a low level of disturbance, regardless of the noise levels.*
- *Moderate: Typically 81-90 dB, and would include medium- and large-sized construction equipment, such as backhoes, front end loaders, large pumps and generators, road graders, dozers, dump trucks, drill rigs, and other moderate to large diesel engines. Also includes power saws, large chainsaws, pneumatic drills and impact wrenches, and large gasoline-powered tools. Construction activities would normally fall under this category.*
- *High: Typically 91-100 dB, and is generally characterized by impacting devices, jackhammers, compression ("jake") brakes on large trucks, and trains. This category includes both vibratory and impact pile drivers (smaller steel or wood piles) such as used to install piles and guard rails, and large pneumatic tools such as chipping machines. It may also include large diesel and gasoline engines, especially if in concert with other impacting devices. Felling of large trees (defined as dominant or subdominant trees in mature forests), truck horns, yarding tower whistles, and muffled or underground explosives are also included. Very few covered activities are expected to fall under this category, but some construction activities may result in this level of disturbance.*

Table 4.4-7
Recommended Restricted Activity Dates and Setback Distances by Level of Disturbance for Burrowing Owls

Time of Year	Level of Disturbance (feet) from Occupied Burrows		
	Low	Medium	High
April 1-August 15	600	1,500	1,500
August 16-October 15	600	600	1,500
October 16-March 31	150	300	1,500

Source: Yolo Habitat Conservancy. Yolo County Habitat Conservation Plan/Natural Community Conservation Plan [Table 4-2]. April 2018.

The project proponent may qualify for a reduced buffer size, based on existing vegetation, human development, and land use, if agreed upon by CDFW and USFWS (California Department of Fish and Game 2012).

If the project does not fully avoid direct and indirect effects on nesting sites (i.e., if the project cannot adhere to the buffers described above), the project proponent will retain a qualified biologist to conduct preconstruction surveys and document the presence or absence of western burrowing owls that could be affected by the covered activity. Prior to any ground disturbance related to covered activities, the qualified biologist will conduct the preconstruction surveys within three days prior to ground disturbance in areas identified in the planning-level surveys as having suitable burrowing owl burrows, consistent with CDFW preconstruction survey guidelines (Appendix L, Take Avoidance Surveys). The qualified biologist will conduct the preconstruction surveys three days prior to ground disturbance. Time lapses between ground disturbing activities will trigger subsequent surveys prior to ground disturbance.

If the biologist finds the site to be occupied by western burrowing owls during the breeding season (February 1 to August 31), the project proponent will avoid all nest sites, based on the buffer distances described above, during the remainder of the breeding season or while the nest is occupied by adults or young (occupation includes individuals or family groups that forage on or near the site following fledging). Occupancy of burrowing owl habitat during preconstruction surveys is confirmed at a site when at least one burrowing owl or sign (fresh whitewash, fresh pellets, feathers, or nest ornamentation) is observed at or near a burrow entrance. Construction may occur inside of the disturbance buffer during the breeding season if the nest is not disturbed and the project proponent develops an AMM plan that is approved by the Conservancy, CDFW, and USFWS prior to project construction, based on the following criteria:

- *The Conservancy, CDFW, and USFWS approves the AMM plan provided by the project proponent.*
- *A qualified biologist monitors the owls for at least three days prior to construction to determine baseline nesting and foraging behavior (i.e., behavior without construction).*
- *The same qualified biologist monitors the owls during construction and finds no change in owl nesting and foraging behavior in response to construction activities.*
- *If the qualified biologist identifies a change in owl nesting and foraging behavior as a result of construction activities, the qualified biologist will have the authority to stop all construction related activities within the non-disturbance buffers described above. The qualified biologist will report this information to the Conservancy, CDFW, and USFWS within 24 hours, and the*

Conservancy will require that these activities immediately cease within the non-disturbance buffer. Construction cannot resume within the buffer until the adults and juveniles from the occupied burrows have moved out of the project site, and the Conservancy, CDFW, and USFWS agree.

- *If monitoring indicates that the nest is abandoned prior to the end of nesting season and the burrow is no longer in use by owls, the project proponent may remove the nondisturbance buffer, only with concurrence from CDFW and USFWS. If the burrow cannot be avoided by construction activity, the biologist will excavate and collapse the burrow in accordance with CDFW's 2012 guidelines to prevent reoccupation after receiving approval from the wildlife agencies.*

If evidence of western burrowing owl is detected outside the breeding season (December 1 to January 31), the project proponent will establish a non-disturbance buffer around occupied burrows, consistent with Table 4-2 (incorporated as Table 4.4-7 of this chapter), as determined by a qualified biologist. Construction activities within the disturbance buffer are allowed if the following criteria are met to prevent owls from abandoning important overwintering sites:

- *A qualified biologist monitors the owls for at least three days prior to construction to determine baseline foraging behavior (i.e., behavior without construction).*
- *The same qualified biologist monitors the owls during construction and finds no change in owl foraging behavior in response to construction activities.*
- *If there is any change in owl roosting and foraging behavior as a result of construction activities, these activities will cease within the buffer.*
- *If the owls are gone for at least one week, the project proponent may request approval from the Conservancy, CDFW, and USFWS for a qualified biologist to excavate and collapse usable burrows to prevent owls from reoccupying the site if the burrow cannot be avoided by construction activities. The qualified biologist will install one-way doors for a 48-hour period prior to collapsing any potentially occupied burrows. After all usable burrows are excavated, the buffer will be removed and construction may continue.*

Monitoring must continue as described above for the nonbreeding season as long as the burrow remains active.

A qualified biologist will monitor the site, consistent with the requirements described above, to ensure that buffers are enforced and owls are not disturbed. Passive relocation (i.e., exclusion) of owls has been used in the past in the Plan Area to remove and exclude owls from active burrows during the nonbreeding season (Trulio 1995).

Exclusion and burrow closure will not be conducted during the breeding season for any occupied burrow. If the Conservancy determines that passive relocation is necessary, the project proponent will develop a burrowing owl exclusion plan in consultation with CDFW biologists. The methods will be designed as described in the species monitoring guidelines (California Department of Fish and Game 2012) and consistent with the most up-to-date checklist of passive relocation techniques. This may include the installation of one-way doors in burrow entrances by a qualified biologist during the nonbreeding season. These doors will be in place for 48 hours and monitored twice daily to ensure that the owls have left the burrow, after which time the biologist will collapse the burrow to prevent reoccupation. Burrows will be excavated using hand tools. During excavation, an escape route will be maintained at all times. This may include inserting an artificial structure, such as piping, into the burrow to prevent collapsing until the entire burrow can be excavated and it can be determined that no owls are trapped inside the burrow. The Conservancy may allow other methods of passive or active relocation, based on best available science, if approved by the wildlife agencies. Artificial burrows will be constructed prior to exclusion and will be created less than 300 feet from the existing burrows on lands that are protected as part of the reserve system.

4.4-10 Have a substantial adverse effect, either directly or through habitat modifications, on Swainson's hawk or white-tailed kite. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

The following discussions include an analysis of potential impacts to Swainson's hawk and white-tailed kite associated with both development of the Proposed Project, as well as the BRPA.

Proposed Project

The large trees throughout the project site provide suitable nesting habitat to accommodate Swainson's hawk and white-tailed kite, both of which are Yolo HCP/NCCP Covered Species. In addition, Swainson's hawk and white-tailed kite have been observed foraging in suitable habitats throughout the project site and off-site Western Program Study Area, including the Alkali Prairie, California Annual Grassland Alliance, Semiagricultural, and Grain and Hay Crops land covers. One active Swainson's hawk nest was documented within a tree in the riparian corridor surrounding Channel A within the project site, and a second active nest was documented just north of the project site (see Figure 4.4-6).

Under the Proposed Project, the active Swainson's hawk nests would be avoided, but approximately 952 trees that could be used by Swainson's hawks and white-tailed kite for nesting throughout the project site would be removed. If Swainson's hawks or white-tailed kite were nesting in trees removed during construction, incidental mortality of individuals of the species could occur. Additionally, although approximately 285 trees would be avoided adjacent to the western boundary of the project site, as well

as in the new Heritage Oak Park in the southeastern portion of the site, that could be used by Swainson's hawks and white-tailed kite for nesting, if the species are nesting in avoided habitat in the vicinity of construction activities, such activities could cause the species to abandon their nests.

A total of approximately 213.2 acres of Alkali Prairie, Semiagricultural, and Grain and Hay Crops land covers that represent Swainson's hawk and white-tailed kite foraging habitat would also be permanently impacted. Removal of on-site foraging habitat could indirectly impact the species by reducing the availability of prey. Thus, the Proposed Project could have a substantial adverse effect on Swainson's hawk and white-tailed kite foraging habitat. However, the land preservation and management objectives of the Yolo HCP/NCCP are intended to mitigate for the loss of Swainson's hawk and white-tailed kite nesting and foraging habitat within the Plan Area, including the project site. Section 5.7.6.3 of the Yolo HCP/NCCP explains that with full implementation of the HCP/NCCP, 19,286 acres of natural foraging habitat and 22,508 acres of cultivated lands foraging habitat for Swainson's hawk will be conserved in Category 1 and 2 public and easement lands, including public and easement lands and newly protected lands. In addition, Section 5.7.7.2 explains that the Yolo HCP/NCCP will preserve 18,792 acres of foraging habitat for white-tailed kite and will enroll approximately 3,330 acres of pre-permit reserve lands with white-tailed kite foraging habitat into the reserve system. Overall, the loss of foraging habitat is addressed at a regional scale through the Yolo HCP/NCCP, and the Yolo HCP/NCCP will provide a substantial net benefit to the Swainson's hawk and white-tailed kite.

Biological Resources Preservation Alternative

Similar to the Proposed Project, the large trees throughout the BRPA site provide suitable nesting habitat to accommodate Swainson's hawk and white-tailed kite, both of which are Yolo HCP/NCCP Covered Species. In addition, Swainson's hawk and white-tailed kite have been observed foraging in suitable habitats throughout the BRPA site and off-site Western Program Study Area, including the Alkali Prairie, California Annual Grassland Alliance, Semiagricultural, and Grain and Hay Crops land covers. As discussed above, one active Swainson's hawk nest was documented within a tree in the riparian corridor surrounding Channel A within the BRPA site, and a second active nest was documented just north of the site (see Figure 4.4-6).

Under the BRPA, the active Swainson's hawk nests would be avoided, but approximately 952 trees that could be used by Swainson's hawks and white-tailed kite for nesting throughout the BRPA site would be removed. If Swainson's hawks or white-tailed kite were nesting in trees removed during construction, incidental mortality of individuals of the species could occur. Additionally, although approximately 285 trees would be avoided adjacent to the western boundary of the BRPA site, as well as in the new Heritage Oak Park in the southeastern portion of the site, that could be used by Swainson's hawks and white-tailed kite for nesting, if the species are nesting in avoided habitat in the vicinity of construction activities, such activities could cause the species to abandon their nests. A total of approximately 166.7 acres of Alkali Prairie, Semiagricultural, and Grain and Hay Crops land covers that represent Swainson's hawk and white-tailed kite foraging habitat would also be permanently impacted. Removal of on-site foraging habitat could indirectly impact the species by reducing the availability of prey. As discussed above, implementation of the Yolo HCP/NCCP would

address the loss of foraging habitat for Swainson's hawk and white-tailed kite at a regional level. Nonetheless, while potential impacts would be reduced as compared to the Proposed project, the BRPA could have a substantial adverse effect on Swainson's hawk and white-tailed kite foraging habitat.

Conclusion

Based on the above, the Proposed Project and the BRPA could have a substantial adverse effect, either directly or through habitat modifications, on a raptor species (Swainson's hawk and white-tailed kite) identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. Thus, a ***significant*** impact could occur.

Mitigation Measure(s)

Swainson's hawk and white-tailed kite are both Yolo HCP/NCCP Covered Species. Thus, the Proposed Project and BRPA would be subject to the following species-specific Yolo HCP/NCCP AMM to address potential impacts to the species. Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

Proposed Project and Biological Resources Preservation Alternative

4.4-10 *Yolo HCP/NCCP AMM16: The project proponent will retain a qualified biologist to conduct planning-level surveys and identify any nesting habitat present within 1,320 feet of the project footprint. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.*

If a construction project cannot avoid potential nest trees (as determined by the qualified biologist) by 1,320 feet, the project proponent will retain a qualified biologist to conduct preconstruction surveys for active nests consistent, with guidelines provided by the Swainson's Hawk Technical Advisory Committee (2000), between March 15 and August 30, within 15 days prior to the beginning of the construction activity. The results of the survey will be submitted to the Conservancy and CDFW. If active nests are found during preconstruction surveys, a 1,320-foot initial temporary nest disturbance buffer shall be established. If project related activities within the temporary nest disturbance buffer are determined to be necessary during the nesting season, then the qualified biologist will monitor the nest and will, along with the project proponent, consult with CDFW to determine the best course of action necessary to avoid nest abandonment or take of individuals. Work may be allowed only to proceed within the temporary nest disturbance buffer if Swainson's hawk or white-tailed kite are not exhibiting agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, and only with the agreement of CDFW and USFWS. The designated on-site biologist/monitor shall be on-site daily while construction-related activities are taking place within the 1,320-foot buffer and shall have the authority to stop work if raptors are exhibiting agitated behavior. Up to 20 Swainson's hawk nest trees (documented

nesting within the last 5 years) may be removed during the permit term, but they must be removed when not occupied by Swainson's hawks.

For covered activities that involve pruning or removal of a potential Swainson's hawk or white-tailed kite nest tree, the project proponent will conduct preconstruction surveys that are consistent with the guidelines provided by the Swainson's Hawk Technical Advisory Committee (2000). If active nests are found during preconstruction surveys, no tree pruning or removal of the nest tree will occur during the period between March 1 and August 30 within 1,320 feet of an active nest, unless a qualified biologist determines that the young have fledged and the nest is no longer active.

4.4-11 Have a substantial adverse effect, either directly or through habitat modifications, on northern harrier, other nesting birds, and other raptors protected under the MBTA and CFGC. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

The following discussion includes an analysis of potential impacts related to northern harrier, other nesting birds, and other raptors protected under the MBTA and CFGC associated with the development of the Proposed Project and the BRPA. Because the Proposed Project and the BRPA would both include components with potential to affect the species and their habitat, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

In addition to the special-status bird and raptor species listed above, other bird species protected by the MBTA and CFGC, including northern harrier, have the potential to be present and nest within the project site/BRPA site and off-site Western and Eastern Program Study Areas. If such species are actively nesting within trees, shrubs, or ground cover planned for removal during construction, incidental mortality of individuals could occur. Furthermore, construction activities adjacent to birds nesting in avoided areas could result in nest abandonment.

Based on the above, the Proposed Project and the BRPA could have a substantial adverse effect, either directly or through habitat modifications, on nesting songbirds and raptor species protected under the MBTA and CFGC. Thus, a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure is applicable to both the Proposed Project and the BRPA and would reduce the above potential impact to a *less-than-significant* level.

Proposed Project and Biological Resources Preservation Alternative

4.4-11 If construction activities take place during the typical bird breeding/nesting season (February 15 through August 31), a

preconstruction nesting bird survey shall be conducted by a qualified biologist throughout the project site/BRPA site and all accessible areas within a 500-foot radius of proposed construction areas, at most, 14 days prior to the commencement of construction. If a break in construction activity of more than 14 days occurs, then subsequent surveys shall be conducted. A report summarizing the survey(s) shall be provided to the City of Davis Community Development Department and Public Works Utilities and Operations Department within 30 days of the completed survey and is valid for one construction season. If nests are not found, further mitigation is not required.

If active raptor nests are found, construction activities shall not take place within 500 feet of the nest until the young have fledged. If active songbird nests are found, a 100-foot non-disturbance buffer shall be established. The non-disturbance buffers may be reduced if a smaller, sufficiently protective buffer is approved by the City after taking into consideration the natural history of the species of bird nesting, the proposed activity level adjacent to the nest, the nest occupants' habituation to existing or ongoing activity, and nest concealment (i.e., whether visual or acoustic barriers occur between the proposed activity and the nest). A qualified biologist may visit the nest, as needed, to determine when the young have fledged the nest and are independent of the site or the nest can be left undisturbed until the end of the nesting season.

If the nest buffer is reduced but construction activities cause a nesting bird to vocalize, make defensive flights at intruders, get up from a brooding position, or fly off the nest in a way that would be considered a result of construction activities, then the exclusionary buffer shall be increased such that activities are far enough from the nest to stop the agitated behavior. The revised non-disturbance buffer shall remain in place until the chicks have fledged or as otherwise determined by a qualified biologist in consultation with the City.

Construction activities may only resume within the non-disturbance buffer after a follow-up survey by the biologist has been conducted and a report has been prepared indicating that the nest (or nests) are not active any longer, and that new nests have not been identified.

4.4-12 Have a substantial adverse effect, either directly or through habitat modifications, on special-status roosting bats. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

As discussed above, pallid bat, silver-haired bat, and hoary bat are considered to have high potential to occur within the study area. The following discussion includes an analysis of potential impacts related to special-status roosting bats associated with the development of the Proposed Project and the BRPA. Because the Proposed Project

and the BRPA would both include components with potential to affect the species and their habitat, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

Pursuant to the BRA, pallid bat, silver-haired bat, and hoary bat all have high potential to occur within the study area. More specifically, the trees and the on-site remnants of the former rural residence within the study area provide habitat for the foregoing special-status bat species. Additional habitat for special-status bats occurs in areas that could be disturbed as part of potential future construction activities within the off-site Western and Eastern Program Study Areas. As such, if special-status bats are roosting in trees proposed for removal during construction of either the Proposed Project or BRPA, the bats could be injured or killed.

Based on the above, the Proposed Project and the BRPA could have a substantial adverse effect, either directly or through habitat modifications, on a bat species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. Thus, a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure is applicable to both the Proposed Project and the BRPA and would reduce the above potential impact to a *less-than-significant* level.

Proposed Project and Biological Resources Preservation Alternative

4.4-12 *A preconstruction roosting bat survey shall be conducted by a qualified biologist within 14 days prior to any tree or structure removal that would occur during the breeding season (April through August). A report summarizing the results of the preconstruction roosting bat survey shall be submitted for review and approval to the City of Davis Community Development Department and Public Works Utilities and Operations Department. If preconstruction surveys indicate that roosts of special-status bats are not present, or that roosts are inactive or potential habitat is unoccupied, further mitigation shall not be required. If roosting bats are found, exclusion shall be conducted by the qualified biologist in coordination with CDFW. Methods may include acoustic monitoring, evening emergence surveys, and the utilization of two-step tree removal supervised by the qualified biologist. Two-step tree removal involves removal of all branches that do not provide roosting habitat on the first day, and then the next day cutting down the remaining portion of the tree. Building exclusion methods may include such techniques as installation of passive one-way doors, or the installation of netting when the bats are not present to prevent their reoccupation. Once the bats have been excluded, tree or building removal may occur.*

4.4-13 Have a substantial adverse effect, either directly or through habitat modifications, on American badger. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

As discussed above, American badger is considered to have low potential to occur within the study area. The following discussion includes an analysis of potential impacts related to American badger associated with the development of the Proposed Project and the BRPA. Because the Proposed Project and the BRPA would both include components with potential to affect the species and its habitat, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

A small area of grassland within the study area is surrounded by development and has regular pedestrian traffic, which renders the area as unsuitable for American badger. Thus, suitable habitat for American badger does not occur within the project site/BRPA site. However, the species could use Channel A as a migration corridor between areas of suitable habitat. The Proposed Project and the BRPA would both involve extensive work in and around Channel A. If badgers are present within the work area, individuals could be directly impacted.

Based on the above, the Proposed Project and the BRPA could have a substantial adverse effect, either directly or through habitat modifications, on a wildlife species (American badger) identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. Thus, a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure is applicable to both the Proposed Project and the BRPA and would reduce the above potential impact to a *less-than-significant* level.

Proposed Project and Biological Resources Preservation Alternative

4.4-13 Within 48 hours prior to the commencement of construction, a preconstruction survey for American badger shall be conducted by a qualified biologist. A report summarizing the results of the preconstruction survey shall be submitted for review and approval to the City of Davis Community Development Department and Public Works Utilities and Operations Department. If American badger or burrows with American badger are found on-site during the preconstruction survey, consultation with CDFW shall occur prior to the initiation of any construction activities, to determine an appropriate burrow excavation and/or relocation method. If American badger is not found, further mitigation shall not be required.

4.4-14 Have a substantial adverse effect on any riparian habitat or other Sensitive Natural Community identified in local or regional plans, policies, regulations or by the CDFW or USFWS. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

The on-site alkali vernal pools (i.e., the seasonal wetlands within the Alkali Prairie land cover) are classified as a Sensitive Natural Community pursuant to the Yolo HCP/NCCP. Please see Impact 4.4-15 for a discussion of impacts related to on-site seasonal wetlands.

As previously discussed, an 8.3-acre strip of woody vegetation occurs along either side of Channel A within the study area, which although almost entirely comprised of non-native trees, is riparian in nature. As such, the foregoing area is classified as Valley Foothill Riparian land cover. Existing trees and vegetation within the vicinity of the rerouted and expanded portion of Channel A would be removed, and new plantings would be installed in the area as part of the Proposed Project and BRPA. The existing portion of Channel A to the west of the proposed detention basin would remain within a proposed greenbelt with a new multi-use pathway along the edge outside the limits of the existing vegetation and would serve as a high-flow channel for the enhanced drain. The following discussions include an analysis of potential impacts to riparian habitat or other Sensitive Natural Communities associated with both development of the Proposed Project, as well as the BRPA.

Proposed Project

Of the total 8.3 acres of Valley Foothill Riparian land cover within the study area, the BRA determined that 5.9 acres within the project site and 0.2-acre in the off-site Western Program Study Area could be permanently impacted by the Proposed Project (see Figure 4.4-8). Overall, a total of 6.1 acres of Valley Foothill Riparian land cover would be potentially impacted by the Proposed Project (see Table 4.4-5). The Proposed Project would be required to comply with Yolo HCP/NCCP AMM9, set forth by Mitigation Measure 4.4-14(a) below, which requires a 100-foot buffer from the Valley Foothill Riparian canopy drip-line, or if avoidance is infeasible, a lesser buffer or encroachment into the Sensitive Natural Community may be allowed if approved by the Yolo Habitat Conservancy and the wildlife agencies, based on the criteria listed in AMM1. According to AMM1, a lesser resource protection buffer than is stipulated may be approved by the agencies if they determine that the community is avoided to an extent that is consistent with the project purpose. For example, if the purpose of the project is to provide a stream crossing or replace a bridge, the project may encroach into the resource protection buffer and the natural community or species habitat to the extent that is necessary to fulfill the project purpose. Ultimately, the Conservancy and wildlife agencies will determine whether a buffer less than 100 feet from the on-site Valley Foothill Riparian land cover would be allowable. Depending on the determination, the amount of permanently impacted Valley Foothill Riparian habitat could be increased. Regardless, all project-related impacts to Valley Foothill Riparian habitat would be fully mitigated through compliance with the Yolo HCP/NCCP.

As discussed further under Impact 4.4-18 below, Covered Activities within the Yolo HCP/NCCP permit area are subject to land cover conversion fees established by the

Yolo HCP/NCCP. In addition, the Proposed Project would be required to comply with the regulations established by CFGC 1600 et seq. Specifically, CFGC Section 1602 requires notification to CDFW before a project commences "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." CDFW then reviews the proposed action(s). If CDFW determines that the proposed activity would substantially affect fish and wildlife resources, a LSAA containing measures to protect affected fish and wildlife resources would be required. The LSAA program is not integrated in the Yolo HCP/NCCP and must be applied for separately and apart from the Yolo HCP/NCCP. The LSAA would be comprised of the final mitigation measure(s) and condition(s) mutually agreed upon by CDFW and the project applicant. Additionally, projects that require a LSAA often additionally require a permit from the USACE under Section 404 of the CWA, which is discussed further under Impact 4.4-15. In such instances, the conditions of the Section 404 permit and the LSAA may overlap.

Because the Proposed Project would potentially result in disturbances to the Valley Foothill Riparian land cover within the project site and off-site Western Program Study Area, the Proposed Project would be required to comply with the provisions of CFGC Section 1600, et seq. Without compliance, a significant impact could occur.

Biological Resources Preservation Alternative

Of the total 8.3 Valley Foothill Riparian land cover acreage, the BRA determined that 5.9 acres within the BRPA site and 0.2-acre in the off-site Program Study Areas would be permanently impacted by the BRPA (see Figure 4.4-9). Overall, a total of 6.1 acres of Valley Foothill Riparian land cover would be potentially impacted by the BRPA (see Table 4.4-6). Conversion of Valley Foothill Riparian land cover would be subject to applicable land cover conversion fees established by the Yolo HCP/NCCP.

In addition, similar to the Proposed Project, the BRPA would be required to comply with Yolo HCP/NCCP AMM9 and the regulations established by CFGC 1600 et seq and may additionally require a permit from the USACE under Section 404 of the CWA. Without compliance, a significant impact could occur.

Conclusion

Based on the above, without compliance with the provisions of CFGC Section 1600, et seq., the Proposed Project and the BRPA could have a substantial adverse effect on riparian habitat identified in local or regional plans, policies, regulations or by the CDFW or USFWS, and a ***significant*** impact could occur under either development scenario.

Mitigation Measure(s)

Implementation of the following mitigation measure is applicable to both the Proposed Project and the BRPA and would reduce the above potential impact to a *less-than-significant* level.

Proposed Project and Biological Resources Preservation Alternative

4.4-14(a) *Yolo HCP/NCCP AMM9: The buffers for each sensitive natural community are as follows:*

- *Alkali prairie and vernal pools: The area necessary to provide the hydrologic conditions needed to support the wetlands within these natural communities (250 feet). Covered activities will avoid vernal pools or alkali seasonal wetlands by 250 feet, or other distance based on site specific topography to avoid indirect hydrologic effects. A buffer of less than 250 feet around vernal pools or alkali seasonal wetlands will be subject to wildlife agency concurrence that effects will be avoided. Considerations that may warrant a buffer of less than 250 feet may include topography (i.e., if the surrounding microwatershed extends less than 250 feet from the pool or wetland), intervening hydrologic barriers such as roads or canals, or other factors indicating that the proposed disturbance area does not contribute to the pool's hydrology. Other considerations may include temporary disturbance during the dry season where measures are implemented to avoid disturbance of the underlying claypan or hardpan, and the area is returned to pre-project conditions prior to the following rainy season.*
- *Valley foothill riparian: One hundred feet from canopy drip-line. If avoidance is infeasible, a lesser buffer or encroachment into the sensitive natural community may be allowed if approved by the Conservancy and the wildlife agencies, based on the criteria listed in AMM1. Transportation or utility crossings may encroach into this sensitive natural community provided effects are minimized and all other applicable AMMs are followed.*
- *Lacustrine and riverine: Outside urban planning units, 100 feet from the top of banks. Within urban planning units, 25 feet from the top of the banks.*
- *Fresh emergent wetland: Fifty feet from the edge of the natural community.*

4.4-14(b) *Prior to the commencement of ground-disturbing activities, the project proponent shall apply for a Section 1600 Lake or Streambed Alteration Agreement (LSAA) from CDFW. The information provided shall include a description of all the activities associated with the Proposed Project or BRPA, not just those closely associated with the drainages and/or riparian vegetation.*

Impacts shall be outlined in the application and shall be in substantial conformance with the impacts to biological resources outlined in the Biological Resources Assessment prepared for the Village Farms Davis Project by Madrone Ecological Consulting. Impacts for each activity shall be broken down by temporary and permanent impacts, and a description of the proposed mitigation for biological resource impacts shall be outlined per activity and then by temporary and permanent. Information regarding project-specific drainage and hydrology changes resulting from project implementation shall be provided, as well as a description of stormwater treatment methods.

Minimization and avoidance measures shall be proposed, as appropriate, and may include preconstruction species surveys and reporting, protective fencing around avoided biological resources, worker environmental awareness training, seeding disturbed areas adjacent to open space areas with native seed, and installation of project-specific stormwater best management practices (BMPs).

Mitigation for impacts to riparian vegetation may include restoration or enhancement of resources on- or off-site, purchase of off-site habitat credits from an agency-approved mitigation/conservation bank, working with a local land trust to preserve land, or any other method acceptable to CDFW. Mitigation shall result in no net loss of riparian vegetation. Written verification of the Section 1600 LSAA shall be submitted to the City of Davis Community Development Department and Public Works Utilities and Operations Department.

4.4-15 Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. Based on the analysis below and with implementation of mitigation, the BRPA's impact is *less than significant*. Even with implementation of mitigation, the Proposed Project's impact is *significant and unavoidable*.

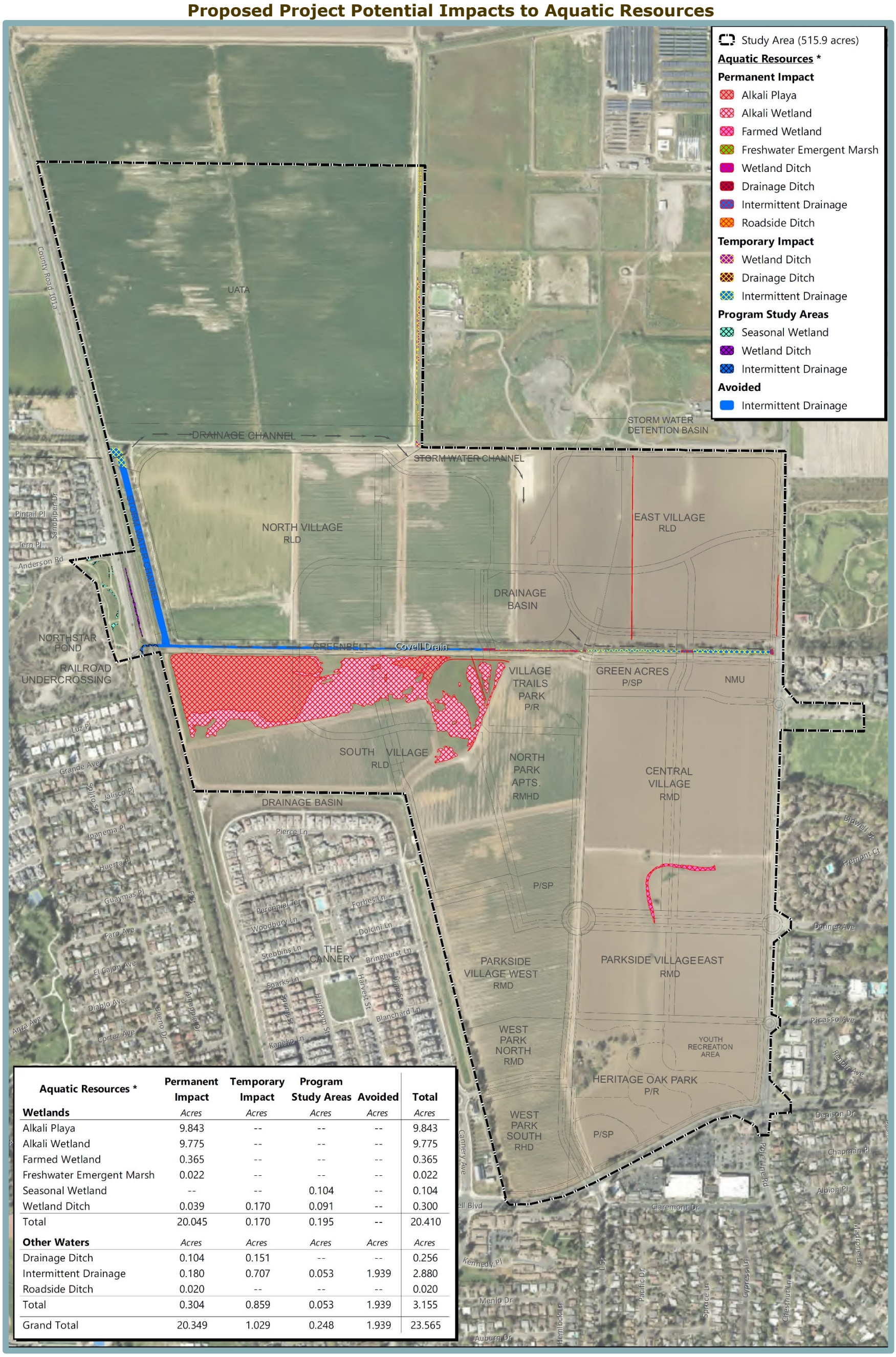
Wetlands are generally considered to be areas that are periodically or permanently inundated by surface or groundwater, and support vegetation adapted to life in saturated soil. Wetlands are recognized as important features on a regional and national level due to their high inherent value to fish and wildlife, use as storage areas for storm and flood waters, and water recharge, filtration, and purification functions. The following discussions include an analysis of potential impacts to State- or federally protected wetlands associated with both development of the Proposed Project, as well as the BRPA.

Proposed Project

Based on the ARD conducted as part of the BRA, approximately 23.565 total acres of aquatic resources occur within the study area (see Figure 4.4-10). As summarized in Figure 4.4-10 and Table 4.4-8, approximately 20.349 acres of aquatic resources would be permanently impacted by the Proposed Project, approximately 1.029 acres would be temporarily impacted, and 0.248-acre within the Western Program Study Area could be potentially impacted.

In order to avoid and minimize effects from Covered Activities on wetlands and waters of the U.S., the Yolo HCP/NCCP sets forth AMM10, which requires project proponents to adhere to stormwater management plans established through compliance with the NPDES permit program. In addition, the Proposed Project would be subject to land cover conversion fees established by the Yolo HCP/NCCP to address conversion of land cover acreages summarized in Table 4.4-5.

Figure 4.4-10
Proposed Project Potential Impacts to Aquatic Resources



Aquatic Resources *	Permanent Impact	Temporary Impact	Program Study Areas	Avoided	Total
Wetlands	*Acres*	*Acres*	*Acres*	*Acres*	*Acres*
Alkali Playa	9.843	--	--	--	9.843
Alkali Wetland	9.775	--	--	--	9.775
Farmed Wetland	0.365	--	--	--	0.365
Freshwater Emergent Marsh	0.022	--	--	--	0.022
Seasonal Wetland	--	--	0.104	--	0.104
Wetland Ditch	0.039	0.170	0.091	--	0.300
Total	20.045	0.170	0.195	--	20.410
Other Waters	*Acres*	*Acres*	*Acres*	*Acres*	*Acres*
Drainage Ditch	0.104	0.151	--	--	0.256
Intermittent Drainage	0.180	0.707	0.053	1.939	2.880
Roadside Ditch	0.020	--	--	--	0.020
Total	0.304	0.859	0.053	1.939	3.155
Grand Total	20.349	1.029	0.248	1.939	23.565

Table 4.4-8
Proposed Project Aquatic Resource Impacts

Aquatic Resource Type	Acres[1]				
	Permanent Impacts	Temporary Impacts	Program Study Areas	Avoided	Total
Wetlands					
Alkali Playa	9.843	--	--	--	9.843
Alkali Wetland	9.775	--	--	--	9.775
Farmed Wetland	0.365	--	--	--	0.365
Freshwater Emergent Marsh	0.022	--	--	--	0.022
Seasonal Wetland	--	--	0.104	--	0.104
Wetland Ditch	0.039	0.170	0.091	--	0.300
Other Waters					
Drainage Ditch	0.104	0.151	--	--	0.256
Intermittent Drainage – Channel A	0.180	0.707	0.053	1.939	2.880
Roadside Ditch	0.020	--	--	--	0.020
Total	**20.349**	**1.029**	**0.248**	**1.939**	**23.565**

[1] Summation errors may occur due to rounding.

Source: Madrone Ecological Consulting, 2024.

Finally, the USACE, RWQCB, and CDFW have jurisdiction over modifications to stream channels, river banks, lakes, and other wetland features. The USACE's jurisdiction is established through the provisions of Section 404 of the CWA, and the jurisdictional authority of the RWQCB is established pursuant to Section 401 of the CWA, which typically requires a water quality certification when an individual or nationwide permit is issued by the USACE.

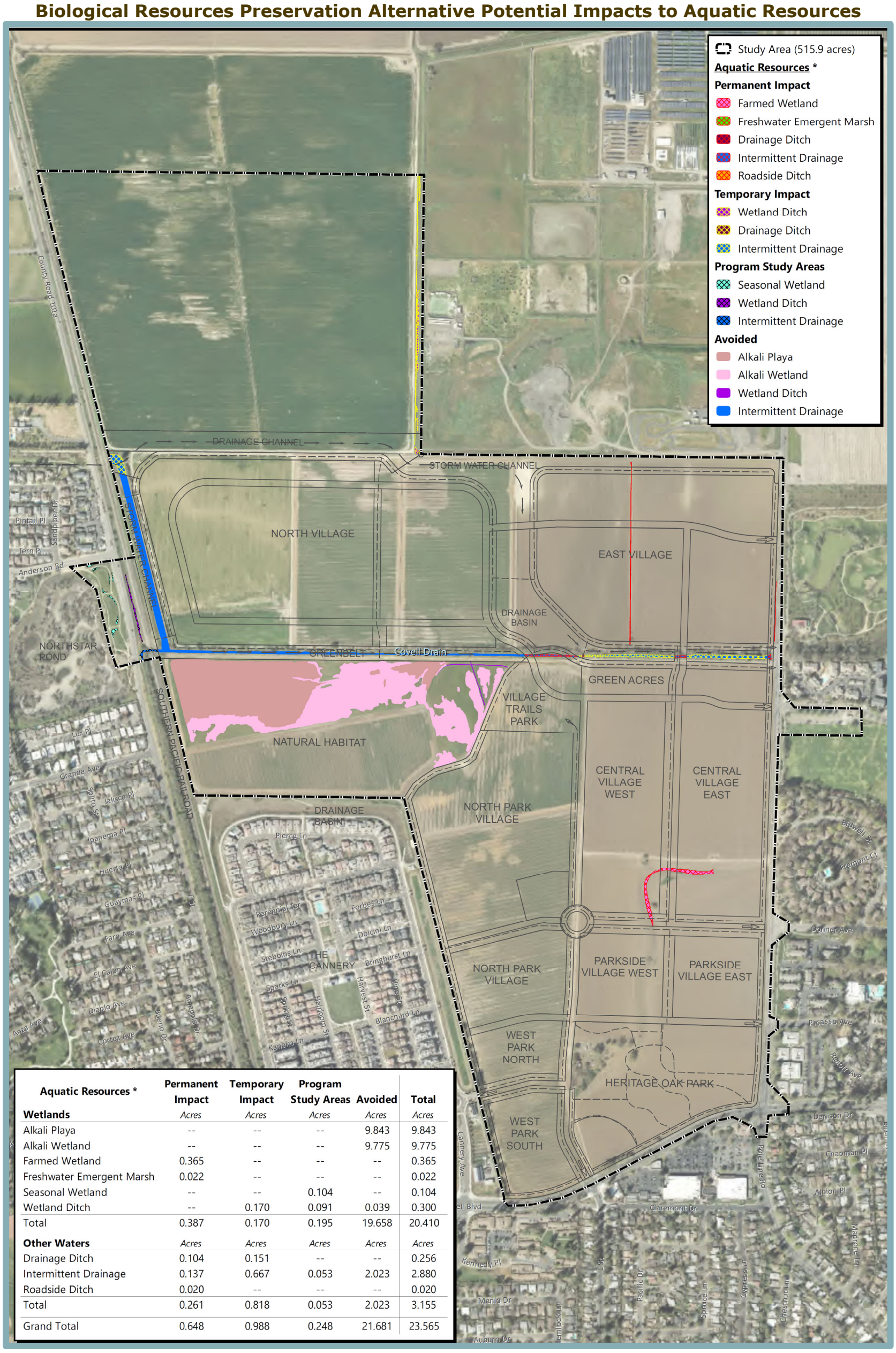
The RWQCB also has jurisdiction over waters of the State under the Porter-Cologne Water Quality Control Act. As such, the Proposed Project would be required to obtain a Section 404 permit from the USACE and a Section 401 permit from the RWQCB and would be subject to all the conditions set forth by said permits. As part of compliance with the Section 404 permit process, the protocol-level ARD of the study area would be subject to the USACE jurisdictional determination process. Additionally, as discussed further under Impact 4.4-14, the project would also be subject to the regulations set forth through CFGC Section 1600, et seq.

The Proposed Project would result in a significant impact related to federally or State-protected wetlands.

Biological Resources Preservation Alternative

As discussed above, approximately 23.565 total acres of aquatic resources occur within the study area. As shown in Figure 4.4-11 and summarized in Table 4.4-9, due to the inclusion of the 47.1-acre Natural Habitat Area (which contains the site's Alkali Prairie land cover), approximately 0.648-acre of aquatic resources would be permanently impacted by the BRPA.

Figure 4.4-11
Biological Resources Preservation Alternative Potential Impacts to Aquatic Resources



Aquatic Resources *	Permanent Impact	Temporary Impact	Program Study Areas	Avoided	Total
Wetlands	*Acres*	*Acres*	*Acres*	*Acres*	*Acres*
Alkali Playa	--	--	--	9.843	9.843
Alkali Wetland	--	--	--	9.775	9.775
Farmed Wetland	0.365	--	--	--	0.365
Freshwater Emergent Marsh	0.022	--	--	--	0.022
Seasonal Wetland	--	--	0.104	--	0.104
Wetland Ditch	--	0.170	0.091	0.039	0.300
Total	0.387	0.170	0.195	19.658	20.410
Other Waters	*Acres*	*Acres*	*Acres*	*Acres*	*Acres*
Drainage Ditch	0.104	0.151	--	--	0.256
Intermittent Drainage	0.137	0.667	0.053	2.023	2.880
Roadside Ditch	0.020	--	--	--	0.020
Total	0.261	0.818	0.053	2.023	3.155
Grand Total	0.648	0.988	0.248	21.681	23.565

Table 4.4-9
Biological Resources Preservation Alternative
Aquatic Resource Impacts

Aquatic Resource Type	Acres[1]				
	Permanent Impacts	Temporary Impacts	Program Study Areas	Avoided	Total
Wetlands					
Alkali Playa	--	--	--	9.843	9.843
Alkali Wetland	--	--	--	9.775	9.775
Farmed Wetland	0.365	--	--	--	0.365
Freshwater Emergent Marsh	0.022	--	--	--	0.022
Seasonal Wetland	--	--	0.104	--	0.104
Wetland Ditch	--	0.170	0.091	0.039	0.300
Other Waters					
Drainage Ditch	0.104	0.151	--	--	0.256
Intermittent Drainage – Channel A	0.137	0.667	0.053	2.023	2.880
Roadside Ditch	0.020	--	--	--	0.020
Total	**0.648**	**0.988**	**0.248**	**21.681**	**23.565**

[1] Summation errors may occur due to rounding.

Source: Madrone Ecological Consulting, 2024.

Approximately 0.988-acre would be temporarily impacted, and 0.248-acre within the Western Program Study Area could be potentially impacted. Compared to the Proposed Project, the BRPA would result in fewer permanent impacts of 19.701 acres, fewer temporary impacts of 0.041 acres, and similar potential impacts in the Western Program Study Area.

As discussed above, the BRPA would be subject to Yolo HCP/NCCP AMM9, which requires a 250-foot buffer from vernal pools or alkali seasonal wetlands, or other distance based on site specific topography to avoid indirect hydrologic effects. A buffer of less than 250 feet around vernal pools or alkali seasonal wetlands would be subject to wildlife agency concurrence that effects would be avoided. As stated in AMM9, considerations that may warrant a buffer of less than 250 feet may include topography, intervening hydrologic barriers such as roads or canals, or other factors indicating that the proposed disturbance area does not contribute to the pool's hydrology.

The BRPA would not result in disturbance to the south or to the west of the alkali playa/alkali wetland area that would be avoided under the BRPA. The alkali playa/alkali wetlands are bounded along the north side by a constructed levee that runs along the southern edge of Channel A. The levee and Channel A would be left in place, and the only work proposed within 250 feet of Channel A would consist of minor upgrades to the existing dirt road along the top of the levee to convert the levee into a trail. These minor upgrades are not expected to affect the hydrology of the wetlands, and indirect impacts are not expected along the northern edge (with the exception of the Yolo HCP/NCCP standard 50 foot indirect impact buffer that applies to all natural land covers). Along the eastern edge, the edge of the mapped alkali wetlands are

defined by a farm road with a raised berm. Disturbance would occur approximately five to 10 feet from the edge of the wetlands, including installation of a recreational trail along the edge of the buffer area. A park/open space and residential development would occur to the east of the trail. The farm road may form a hydrologic break, but detailed topographic surveys would be conducted to determine whether or not indirect impacts associated with the development proposed along the eastern edge of the wetland would occur. The Yolo Habitat Conservancy and wildlife agencies would ultimately determine whether indirect impacts would occur to the alkali wetlands as a result of the BRPA, and applicable Yolo HCP/NCCP fees would be assigned accordingly.

Similar to the Proposed Project, the BRPA would also be subject to Yolo HCP/NCCP AMM10, which requires project proponents to adhere to stormwater management plans established through compliance with the NPDES permit program. In addition, the BRPA would be subject to land cover conversion fees established by the Yolo HCP/NCCP to address conversion of land cover acreages summarized in Table 4.4-9.

Similar to the Proposed Project, the BRPA would also be required to obtain a Section 404 permit from the USACE and a Section 401 permit from the RWQCB and would be subject to all the conditions set forth by said permit.

As part of compliance with the Section 404 permit process, the protocol-level ARD of the study area would be subject to the USACE jurisdictional determination process. The BRPA would also be subject to the regulations set forth through CFGC Section 1600, et seq. Without compliance with the applicable provisions of the CWA, CFGC, and RWQCB, the BRPA could result in a significant impact related to federally or State-protected wetlands.

Conclusion

Based on the above, without compliance with the Yolo HCP/NCCP or Section 404 and 401 of the CWA, the BRPA could have a substantial adverse effect on State- or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. The Proposed Project would result in a greater significant impact to wetlands due to the removal of the alkali wetlands. Therefore, a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above potential impact related to the BRPA to a *less-than-significant* level through incorporation of alkali wetland buffers, as determined by the resource agencies through AMM compliance, and providing replacement habitat for the limited wetland and other waters impacts. However, unlike the BRPA, the Proposed Project would remove the on-site alkali wetlands. Protocol-level wet- and dry-season surveys for vernal pool tadpole shrimp were conducted in all suitable habitat within the study area, and vernal pool tadpole shrimp were documented in the alkali playa/alkali wetland complex (see Figure 4.4-6). According to the Yolo HCP/NCCP, the alkali prairie natural community consists of 312 acres, which is less than one percent of the Yolo HCP/NCCP Plan Area (Yolo HCP/NCCP, pg. 2-41), though it is noted that the 312 acres does not

include the on-site alkali playa/alkali wetland complex. Given the limited extent of this habitat within the region and the habitat value for the federally endangered vernal pool tadpole shrimp, the loss of approximately 19.6 acres of alkali playa/alkali wetland complex, would be considered significant. Further, while Mitigation Measure 4.4-15(c) requires no-net loss replacement or rehabilitation of federally jurisdictional waters, creation of net new habitat would not occur (e.g., 2:1 or greater). As a result, the Proposed Project's impact to wetlands would be *significant and unavoidable*.

The Proposed Project and the BRPA would be subject to Yolo HCP/NCCP AMM9, set forth by Mitigation Measure 4.4-15(a), and AMM10, which requires compliance with NPDES permit requirements, set forth by Mitigation Measure 4.4-15(b). Additionally, in order to ensure compliance with the CWA, both the Proposed Project and the BRPA would be subject to Mitigation Measures 4.4-15(c) and (d), which require the project proponent to obtain a Section 404 permit from the USACE and a Section 401 permit from the RWQCB and subjects the Proposed Project and BRPA to all conditions set forth in said permits.

Proposed Project and Biological Resources Preservation Alternative

4.4-15(a) *Implement Mitigation Measure 4.4-14(a).*

4.4-15(b) *<u>Yolo HCP/NCCP AMM10</u>: Project proponents will comply with stormwater management plans that regulate development as part of compliance with regulations under National Pollutant Discharge Elimination System (NPDES) permit requirements. Covered activities that result in any fill of waters or wetlands will also comply with requirements under Section 404 of the Clean Water Act, State Water Resources Control Board (State Board), Fish and Game Code Section 1602, and Regional Board regulations. Other than requirements for buffers, minimizing project footprint, and species-specific measures for wetland-dependent covered species, this HCP/NCCP does not include specific best management practices for protecting wetlands and waters because they may conflict with measures required by the USACE, State Board, Regional Board, and CDFW.*

4.4-15(c) *Prior to the commencement of construction, the project proponent shall apply for a Section 404 permit from the U.S. Army Corps of Engineers (USACE). Waters that will be impacted shall be replaced or rehabilitated on a "no-net-loss" basis. Habitat restoration, rehabilitation, and/or replacement shall be at a location and by methods acceptable to the USACE. Written verification of the Section 404 permit shall be submitted to the City of Davis Community Development Department and Public Works Utilities and Operations Department.*

4.4-15(d) *Prior to the commencement of construction, the project proponent shall apply for a Section 401 water quality certification/waste discharge requirement from the Regional Water Quality Control Board (RWQCB), and adhere to the certification conditions. Written verification of the Section 401 permit shall be submitted to the City of Davis Community*

Development Department and Public Works Utilities and Operations Department.

4.4-16 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. Based on the analysis below, the impact is *less than significant*.

The following discussion includes an analysis of potential impacts related to the movement of any native resident or migratory fish or wildlife species or interference with established native resident, migratory wildlife corridors, or the use of native wildlife nursery sites associated with the development of the Proposed Project and the BRPA. Because the Proposed Project and the BRPA would both include components with potential to affect migratory corridors, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

Wildlife corridors link areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife habitat. Fragmentation also occurs when a portion of one or more habitats is converted into another habitat, such as when woodland or scrub habitat is altered or converted into grasslands after a disturbance, such as fire, mudslide, or grading activities. Wildlife corridors mitigate the effects of fragmentation by (1) allowing animals to move between remaining habitats, thereby permitting depleted populations to be replenished and promoting genetic exchange; (2) providing escape routes from fire, predators, and human disturbances, thereby reducing the risk of catastrophic events (such as fire or disease) on population or local species extinction; and (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs.

The majority of the project site/BRPA site is currently comprised of active agricultural fields, which prevent use of the majority of the site as a migratory wildlife corridor or native wildlife nursery site. The only feature within the project site/BRPA site that could currently serve as a wildlife corridor is the Valley Foothill Riparian land cover corridor along Channel A. Under both the Proposed Project Alternative and the BRPA, although the existing trees may be removed, an approximately 100-foot-wide greenbelt would be established along Channel A and its adjacent riparian corridor in the western portion of the project site/BRPA site. The western greenbelt area would be approximately 10 feet wider than the existing riparian corridor and adjacent roadways and, therefore, is expected to maintain or enhance wildlife passage. The eastern portion of the Channel A corridor would be removed and replaced with a new wider drainageway that includes extensive native riparian plantings. The new drainageway is anticipated to provide better wildlife cover, a much wider swathe of habitat, and eventually water for a longer period into the summer. Additionally, two vehicular bridges would cross the new drainageway that would be sized large enough to allow the passage of large mammals such as coyote and deer.

Based on the above, the Proposed Project and the BRPA would not 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. Therefore, a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

4.4-17 Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, or have a substantial adverse effect on the environment by converting oak woodlands or impacting individual trees. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

The following discussion includes an analysis of potential impacts related to conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, associated with the development of the Proposed Project and the BRPA. Because the Proposed Project and the BRPA would both include components with potential to impact protected trees, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

Approximately 1,266 trees are present within the project site/BRPA site. Under both the Proposed Project and the BRPA, approximately 952 trees would be removed and approximately 285 trees in avoidance areas along Channel A and in the new Heritage Oak Park would be avoided. Table 4.4-10 summarizes potential impacts to trees within the project site/BRPA site.

Additionally, indirect effects from construction could occur to any trees that are avoided. Indirect effects could include compaction from adjacent construction, altered hydrology, or exposure to fungi or other pathogens.

New trees would be planted as part of the Proposed Project and the BRPA, particularly along the enhanced Channel A. However, new trees would take time to mature and provide quality wildlife habitat, therefore resulting in a temporary loss of potential habitat.

To address potential impacts to the existing trees within the study area, the Proposed Project and BRPA would be required to comply with the applicable provisions of Davis Municipal Code Chapter 37. As previously discussed, the City's Tree Ordinance protects various types of trees, including street trees, City trees, and trees of significance/private trees. Compliance with the City's Tree Ordinance would include a combination of preserving the existing healthy trees into the project design, planting of new trees to replace those removed, planting of new trees off-site in City-owned property, and/or payment of in-lieu fees into the City's Preservation Fund. Without compliance, a significant impact would occur.

Table 4.4-10
Proposed Project and Biological Resources Preservation Alternative Tree Impacts

Tree Species	Number of Trees		
	Permanently Impacted	Avoided	Total
Aleppo pine (*Pinus halepensis*)	2	1	3
Almond (*Prunus dulcis*)	0	2	2
American sycamore (*Platanus occidentalis*)	2	0	2
Arizona ash (*Fraxinus velutina*)	370	116	486
Australian blackwood (*Acacia melanoxylon*)	0	12	12
Bald cypress (*Taxodium distichum*)	1	0	1
Black willow (*Salix gooddingii*)[1]	2	0	2
Boxelder (*Acer negundo*)[1]	38	4	42
Bradford pear (*Pyrus calleryana*)	4	0	4
Cherry plum (*Prunus cerasifera*)	1	0	1
Chinese elm (*Ulmus parvifolia*)	32	16	48
Chinese hackberry (*Celtis sinensis*)	8	0	8
Chinese pistache (*Pistacia chinensis*)	2	5	7
Chinese tallowtree (*Triadica sebifera*)	41	6	47
Chinese wingnut (*Pterocarya stenoptera*)	317	35	352
Cigar tree (*Catalpa bignonioides*)	21	6	27
Coast live oak (*Quercus agrifolia*)[1]	2	3	5
Cork oak (*Quercus suber*)	18	2	20
English walnut (*Juglans regia*)	1	0	1
Japanese privet (*Ligusticum japonicum*)	7	1	8
Kentucky coffeetree (*Gymnocladus dioicus*)	1	0	1
London planetree (*Platanus x acerifolia*)	6	9	15
Mexican fan palm (*Washingtonia robusta*)	0	2	2
Narrow-leaved ash (*Fraxinus angustifolia*)	1	0	1
Northern California black walnut (*Juglans hindsii*)[1]	14	1	15
Olive (*Olea europaea*)	0	1	1
Pecan (*Carya illinoinensis*)	1	0	1
Persian silk tree (*Albizia julibrissin*)	1	0	1
Queen's crepe-myrtle (*Lagerstroemia speciosa*)	4	0	4
Red willow (*Salix laevigata*)[1]	3	1	4
Redwood (*Sequoia sempervirens*)	2	0	2
Siberian elm (*Ulmus pumila*)	40	8	48
Silver maple (*Acer saccharum*)	2	0	2
Sour cherry (*Prunus cerasus*)	1	0	1
Valley oak (*Quercus lobata*)[1]	8	55	70
Total	**952**	**285**	**1,237**

[1] Native species.

Source: Madrone Ecological Consulting, 2024.

Based on the above, without compliance with the City of Davis Tree Ordinance, the Proposed Project and the BRPA could conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. Therefore, a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure is applicable to both the Proposed Project and the BRPA and would reduce the above potential impact to a *less-than-significant* level.

Proposed Project and Biological Resources Preservation Alternative

4.4-17 *Prior to the commencement of construction, the project proponent shall retain a certified arborist to conduct a tree inventory throughout the study area, the results of which shall be submitted for review and approval to the City of Davis Community Development Department and Public Works Utilities and Operations Department.*

If the project would result in impacts to city trees, street trees, and/or trees of significance, as defined by Davis Municipal Code Chapter 37, the potential impacts to such trees shall be mitigated in accordance with the City's Tree Ordinance. Final mitigation requirements shall be determined by the City of Davis and may include the following options:

- *Incorporation of existing healthy trees into the design of the project;*
- *Replanting of trees on-site;*
- *Replanting of trees off-site in City-owned open space or park; and/or*
- *Payment to the City's Tree Preservation Fund in lieu of replacement.*

4.4-18 Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

The following discussion includes an analysis of potential impacts related to conflicts with the Yolo HCP/NCCP associated with the development of the Proposed Project and the BRPA. Because the components of the Proposed Project and the BRPA would both include components with potential to conflict with the provisions of the Yolo HCP/NCCP, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

Applicants of development projects within the Yolo HCP/NCCP permit area are required to complete a Yolo HCP/NCCP application package, which includes an application form, a project description, land cover mapping and planning-level surveys, verification of land cover impacts, an AMM plan, and fees or equivalent mitigation.

Land cover conversion fees, in effect at time of payment, would be applied for the land cover impacts associated with either the Proposed Project or BRPA, in accordance with Yolo HCP/NCCP guidelines. Payment of land cover impact fees would support the regional preservation of foraging habitat for special-status species under the Yolo HCP/NCCP.

In addition, pursuant to Yolo HCP/NCCP Chapter 4, the Yolo HCP/NCCP AMMs are intended to ensure that adverse effects on Covered Species and natural communities are avoided and minimized. As previously discussed in this chapter in the species-specific analyses of potential impacts that could occur to Yolo HCP/NCCP Covered Species, the Proposed Project and BRPA would be subject to the applicable Yolo HCP/NCCP AMMs. However, without compliance with the aforementioned provisions of the Yolo HCP/NCCP, the project would result in a significant impact.

Based on the above, without compliance with all applicable AMMs set forth by the Yolo HCP/NCCP, the Proposed Project and the BRPA could conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or State habitat conservation plan, and a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measures are applicable to both the Proposed Project and the BRPA and would reduce the above potential impact to a *less-than-significant* level.

Proposed Project and Biological Resources Preservation Alternative

4.4-18(a) *Yolo HCP/NCCP AMM3: Where natural communities and covered species habitat are present, workers will confine land clearing to the minimum area necessary to facilitate construction activities. Workers will restrict movement of heavy equipment to and from the project site to established roadways to minimize natural community and covered species habitat disturbance. The project proponent will clearly identify boundaries of work areas using temporary fencing or equivalent and will identify areas designated as environmentally sensitive. All construction vehicles, other equipment, and personnel will avoid these designated areas.*

4.4-18(b) *Yolo HCP/NCCP AMM4: To prevent injury and mortality of giant garter snake, western pond turtle, and California tiger salamander, workers will cover open trenches and holes associated with implementation of covered activities that affect habitat for these species or design the trenches and holes with escape ramps that can be used during non-working hours. The construction contractor will inspect open trenches and holes prior to filling and contact a qualified biologist to remove or release any trapped wildlife found in the trenches or holes.*

4.4-18(c) *Yolo HCP/NCCP AMM5: Workers will minimize the spread of dust from work sites to natural communities or covered species habitats on adjacent lands.*

4.4-18(d) *Yolo HCP/NCCP AMM6: All construction personnel will participate in a worker environmental training program approved/authorized by the Conservancy and administered by a qualified biologist. The training will provide education regarding sensitive natural communities and covered species and their habitats, the need to avoid adverse effects, state and federal protection, and the legal implications of violating the FESA and NCCPA Permits. A pre-recorded video presentation by a qualified biologist shown to construction personnel may fulfill the training requirement.*

4.4-18(e) *Yolo HCP/NCCP AMM7: Workers will direct all lights for nighttime lighting of project construction sites into the project construction area and minimize the lighting of natural habitat areas adjacent to the project construction area.*

4.4-18(f) *Yolo HCP/NCCP AMM8: Project proponents should locate construction staging and other temporary work areas for covered activities in areas that will ultimately be a part of the permanent project development footprint. If construction staging and other temporary work areas must be located outside of permanent project footprints, they will be located either in areas that do not support habitat for covered species or are easily restored to prior or improved ecological functions (e.g., grassland and agricultural land). Construction staging and other temporary work areas located outside of project footprints will be sited in areas that avoid adverse effects on the following:*

- *Serpentine, valley oak woodland, alkali prairie, vernal pool complex, valley foothill riparian, and fresh emergent wetland land cover types.*
- *Occupied western burrowing owl burrows. [Occupied for the purpose of AMM8 means at least one burrowing owl has been observed occupying the burrow within the last three years. Occupancy of a burrow may also be indicated by owl sign at the burrow entrance, including molted feathers, cast pellets, prey remains, eggshell fragments, or excrement at or near a burrow entrance or perch site]*
- *Nest sites for covered bird species and all raptors, including noncovered raptors, during the breeding season.*

Project proponents will follow specific AMMs for sensitive natural communities (Section 4.3.3, Sensitive Natural Communities) and covered species (Section 4.3.4, Covered Species) in temporary staging and work areas. For establishment of temporary work areas outside of the project footprint, project proponents will conduct surveys to determine if any of the biological resources listed above are present. Within one year following removal of land cover, project proponents will restore temporary work and staging areas to a condition equal to or greater than the covered species habitat function of the affected habitat. Restoration of vegetation in temporary work and staging areas

will use clean, native seed mixes approved by the Conservancy that are free of noxious plant species seeds.

4.4-18(g) Implement Mitigation Measures 4.4-1(c), 4.4-5, 4.4-7, 4.4-9, 4.4-10, 4.4-11, 4.4-14(a), and 4.4-15(b).

Cumulative Impacts and Mitigation Measures

As defined in Section 15355 of the CEQA Guidelines, "cumulative impacts" refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.

The geographic scope for the cumulative biological resources analysis generally includes buildout of the Proposed Project or BRPA in conjunction with buildout of the Davis General Plan planning area, as well as a list of present and probable future projects. For more details regarding the cumulative setting, refer to Chapter 6, Statutorily Required Sections, of this EIR.

4.4-19 Cumulative loss of habitat for special-status species. Based on the analysis below, the BRPA's incremental contribution to the significant cumulative impact is *less than cumulatively considerable*, and the Proposed Project's incremental contribution to the significant cumulative impact is *cumulatively considerable* and *significant and unavoidable*.

The following discussion includes an analysis of potential cumulative impacts related to special-status species associated with the development of the Proposed Project and the BRPA. Because the Proposed Project and the BRPA would both include components with potential to impact species and their habitats, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

The cumulative analysis in this EIR is based upon development of either the Proposed Project or the BRPA, in conjunction with buildout of the Davis General Plan planning area, as well as a list of present and probable future projects. In addition to the Proposed Project/BRPA, Shriners Property, a 234-acre residential subdivision project located north of the East Covell Boulevard/Alhambra Drive intersection, is currently under review by the City. Just west of Shriners Property, which is currently used for agricultural uses, north of the East Covell Boulevard/Monarch Lane intersection, is the Palomino Place Project, which is proposed on a 25-acre site and would include single- and multi-family housing, as well as health and training facilities. Other development projects undergoing planning review are located in the southern portion of the City, including two new multi-family residential apartment buildings, a new commercial hotel building, and a 700-unit residential neighborhood located on the 46.9-acre agricultural site formerly known as the Nishi Housing Site. The Bretton Woods University Retirement Community project, located northwest of the West Covell Boulevard/Risling Place intersection, is currently under review by the City of Davis.

Finally, the City of Davis previously approved the Davis Innovation and Sustainability Campus (DiSC) 2022 Project, which was proposed for a 102-acre site currently used for agricultural uses (plus the 16.5-acre Mace Triangle property) located immediately to the east of Mace Boulevard and to the north of CR 32A, northeast of the City limits. Buildout of the Proposed Project or BRPA, in combination with the foregoing development projects and other development within the City of Davis, would result in a significant cumulative impact related to the loss of special-status species habitat.

As discussed above, the study area contains a variety of Yolo County HCP/NCCP land covers, including Alkali Prairie, Barren-Anthropogenic, California Annual Grassland Alliance, Fresh Emergent Wetland, Grain and Hay Crops, Semiagricultural, Truck Crops, Urban, Urban Ruderal, Valley Foothill Riparian, and Vegetated Corridor land covers. In addition, the study area is comprised of various aquatic resources, including alkali playa, alkali wetland, farmed wetland, fresh emergent marsh, seasonal wetland, wetland ditch, drainage ditch, Channel A, and roadside ditch. As discussed throughout this chapter, the above areas represent potential habitat for various special-status species listed in Table 4.4-3.

This chapter provides a wide range of mitigation to minimize potential adverse effects associated with the Proposed Project and BRPA to habitat for special-status species. For example, mitigation measures have been set forth in this chapter to ensure that the Proposed Project and BRPA complies with all applicable Yolo HCP/NCCP AMMs, including, but not limited to, AMMs to address potential impacts to Yolo HCP/NCCP Covered Species, such as palmate-bracted bird's beak, VELB, northwestern pond turtle, Swainson's hawk, and burrowing owl, as well as AMMs for potential impacts to natural communities and on-site wetlands. For example, the Yolo HCP/NCCP AMMs require planning-planning surveys for Covered Species, and if detected, implementation of construction-free buffers, and monitoring during construction. Additionally, the Proposed Project and BRPA would be required to pay land cover conversion fees and wetland fees to the Yolo Habitat Conservancy.

In addition, while either development scenario would result in the loss of a portion of the existing on-site habitat, the proposed parks, greenbelts, Urban Agricultural Transition Area (UATA), and trail components would include a total of approximately 186.0 acres of green space preserved on-site under both the Proposed Project and BRPA, with the BRPA additionally preserving the 47.1-acre Natural Habitat Area, which is comprised of Alkali Prairie land cover and associated watershed.

The Yolo HCP/NCCP requires the Yolo Habitat Conservancy to protect approximately 33,300 acres over 50 years, primarily through the acquisition of habitat conservation easements on agricultural land funded with development fees paid by project proponents. The Yolo HCP/NCCP coordinates conservation efforts to ensure that the lands are selected consistent with a conservation strategy based on biological criteria, including the selection of lands that provide habitat to multiple species and are located near existing protected lands and riparian areas. The Yolo Habitat Conservancy regularly consults with the CDFW and the USFWS to ensure that the Yolo HCP/NCCP is successfully and sustainably implemented. As such, the Yolo HCP/NCCP functions as the regional strategy for preserving natural habitat, and compliance with the Yolo HCP/NCCP would prevent cumulative impacts. Projects within the City limits, including projects associated with buildout of the Davis General Plan planning area, as well as

the list of present and probable future projects, would all be required to comply with the Yolo HCP/NCCP. The Yolo HCP/NCCP EIR concluded that cumulative impacts related to biological resources would be less than significant with implementation of the Yolo HCP/NCCP given the regional benefits to biological resources.

Overall, with incorporation of the mitigation measures set forth herein, the BRPA would be required to comply with all applicable Yolo HCP/NCCP AMMs and pay all applicable land cover conversion fees to address Covered Activities within the study area. The mitigation measures set forth herein additionally address potential impacts to biological resources that are not covered under the Yolo HCP/NCCP. The BRPA would also avoid the on-site alkali wetlands, which are limited in extent in the HCP/NCCP area. As such, the BRPA would not result in substantial adverse effects to biological resources protected by CEQA.

However, with respect to the Proposed Project, as discussed above, the on-site alkali playa/alkali wetland complex, within which vernal pool tadpole shrimp have been detected (see Figure 4.4-6), would be removed. According to the Yolo HCP/NCCP, the alkali prairie natural community consists of 312 acres, which is less than one percent of the Yolo HCP Plan Area (Yolo HCP, pg. 2-41), though it is noted that the 312 acres does not include the on-site alkali playa/alkali wetland complex. Given the limited extent of this habitat with the region and the habitat value for the federally endangered vernal pool tadpole shrimp, the loss of approximately 19.6 acres of alkali playa/alkali wetland complex, would be considered significant. Further, while Mitigation Measure 4.4-15(c) requires no-net loss replacement or rehabilitation of federally jurisdictional waters, creation of net new habitat would not occur. While known alkali playa/alkali wetland does not occur on the sites of the aforementioned planned and future projects, wetlands and other waters are present. Therefore, the effects of the Proposed Project and other planned development would combine to significantly impact wetlands and other waters in the City of Davis planning area that provide valuable habitat to protected species.

Based on the above, cumulative buildout of the City of Davis would result in a significant cumulative impact related to the loss of special-status species habitat, and the contribution to the significant impact under the Proposed Project, even with incorporation of the mitigation measures set forth herein, would be *cumulatively considerable*. With incorporation of the mitigation measures set forth herein, the BRPA's contribution to the cumulative significant impact would be *less than cumulatively considerable*.

Mitigation Measure(s)

As discussed under Impact 4.4-15 above, because the Proposed Project would result in the loss of approximately 19.6 acres of alkali playa/alkali wetland complex and the creation of net new habitat would not occur, the Proposed Project's incremental contribution to the significant cumulative effect would remain *cumulatively considerable* and *significant and unavoidable*. With incorporation of the mitigation measures set forth herein, the BRPA's contribution to the cumulative significant impact would be *less than cumulatively considerable*.

Proposed Project and Biological Resources Preservation Alternative

4.4-19 Implement Mitigation Measures 4.4-14(a), 4.4-14(b), 4.4-15(a), 4.4-15(b), 4.4-15(c), and 4.4-15(d).

4.5. Cultural and Tribal Cultural Resources

4.5 CULTURAL AND TRIBAL CULTURAL RESOURCES

4.5.1 INTRODUCTION

The Cultural and Tribal Cultural Resources chapter of the EIR addresses known historic and precontact-era cultural resources, including tribal cultural resources, in the site vicinity, as well as the potential for previously unknown resources to occur within the project site/Biological Resources Preservation Alternative (BRPA) site. Precontact resources are those sites and artifacts of or related to a time period, generally prior to contact with people of European descent. Historic resources include structures, features, artifacts, and sites that date from Euroamerican settlement of the region. The chapter summarizes the existing setting with respect to cultural and tribal cultural resources, identifies thresholds of significance, evaluates potential impacts to such resources, and sets forth mitigation measures, as necessary. The information presented in this chapter is primarily drawn from the Cultural Resources Study prepared for the Proposed Project by Tom Origer & Associates (Origer),[1] as well as the City of Davis General Plan[2] and the associated General Plan EIR.[3]

4.5.2 EXISTING ENVIRONMENTAL SETTING

According to the City of Davis General Plan, 12 known precontact-era archaeological resource sites are located in the City's General Plan planning area. Historic archaeological sites have not been recorded in the Davis planning area. However, less than 10 percent of the total planning area has been archaeologically surveyed. In addition, the City of Davis General Plan notes that seven historic sites within the planning area are listed on the National Register of Historic Places (NRHP) and seven are listed on the California Register of Historical Resources (CRHR). The City also has an inventory of 31 historic landmarks, notable entries of which include the Jerome and Mary Chiles Davis Homestead at University of California, Davis (UC Davis), the Davis Junction train station of the California Pacific Railroad, and the Richards Underpass.

The following sections provide further details regarding the precontact overview, ethnographic overview, and historic overview of the project area, as well as a description of any identified cultural or tribal cultural resources associated with the project site/BRPA site.

Prehistoric Overview

The concept of history prior to contact with people of European descent refers to the period of time before events were recorded in writing, and varies worldwide. Because a written record does not exist, the current understanding of precontact California relies on archaeological materials and oral histories passed down through generations. Early archaeological research began with Max Uhle, who is credited with the first scientific excavation in California at the Emeryville Shellmound in 1902, and Nels Nelson, who surveyed the San Francisco Bay margins and California coast for archaeological sites from 1906 to 1908.

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1 Tom Origer & Associates. *Cultural Resources Study for the Village Farms Davis Project, Davis, Yolo County, California*. March 20, 2024.
2 City of Davis. *City of Davis General Plan.* Adopted May 2001, Amended January 2007.
3 City of Davis. *Final Program EIR for the City of Davis General Plan Update and Final Project EIR for Establishment of a New Junior High School.* Certified May 2001.

In the 1930s, archaeologists began piecing together a sequence of cultures primarily based on burial patterns and ornamental artifacts from sites in the lower Sacramento Valley. The resulting cultural sequence became known as the Central California Taxonomic System (CCTS), which identified three periods known as the Early, Middle, and Late Horizons, which did not feature specific date ranges. Refinement of the CCTS became a chief concern of archaeologists as the century progressed.

In 1973, David Fredrickson synthesized prior work in combination with his own research to develop a chronology still used today, albeit modified for locality-specific circumstances. Fredrickson's scheme shows that Native Americans have occupied Central California for over 11,000 years and outlines the social, political, and ideological shifts that took place over time. In addition, Fredrickson defined cultural patterns pertinent to the Central Valley, known as the Windmiller, Berkeley, and Augustine patterns.

Obsidian hydration as a dating tool for archaeologists was first published in 1960 and showed that temperature and the chemical composition of the obsidian affected the hydration process. Research into this dating method was not conducted until the 1980s, though the focus of the study was on obsidian from the North Bay Area (which features four major obsidian sources). In 1987, Thomas Origer devised a hydration chronology for the North Bay Area by pairing micron readings taken from obsidian specimens with radiocarbon-dated artifacts and features. As a result of his study, Origer was able to develop a hydration rate for the Annadel and Napa Valley obsidian sources. In the following years, Tremaine was able to develop comparison constants among the four primary obsidian sources in the North Bay Area, which allowed for the calculation of dates for obsidian specimens from sources with unknown hydration rates. Since the studies of the 1980s and 1990s, much work has been done to evaluate obsidian sourced from other parts of California.

Overall, the development of obsidian hydration rates for Central California obsidian sources has provided archaeologists the ability to obtain dates from sites that could not previously be dated, due to a lack of artifacts or organic material suitable for radiocarbon dating. Origer was able to support and refine Fredrickson's chronology dating tools diagnostic of certain periods.

Precontact archaeological site indicators expected to be found in the region include but are not limited to the following: obsidian and chert flakes; chipped stone tools; grinding and mashing implements, such as slabs and hand-stones; mortars and pestles; fragments of bone or shellfish; fire-affected stones; and locally darkened midden soils containing any of the previously listed items. Archaeological sites within the Central Valley are typically found on high spots on the landscape that would be unaffected by the seasonal flooding that was prevalent throughout the region prior to land reclamation efforts.

Ethnographic Overview

Linguists and ethnographers tracing the evolution of languages have found that most of the indigenous languages of the California region belong to one of five widespread North American language groups: the Hokan and Penutian phyla, and the Uto-Aztecan, Algic, and Athabaskan language families. Only languages of the Hokan phylum can plausibly be traced back to populations inhabiting parts of this core region of California during the Archaic period. In addition, there are hints of connections between certain branches of Hokan, such as between Salinan and Seri, that suggest some of the Hokan languages could have been brought into California by later immigrants from the American Southwest and northwestern Mexico. The distribution and internal diversity of the remaining four groups suggest that their original centers of dispersal were outside,

or peripheral to, the Central Valley, Sierra Nevada, Coast Range, and the Southern California coast and islands.

Linguistic evidence shows that, between 10,000 and 8,000 years ago, native inhabitants in the area were pre-Yukian speakers. By 6,000 years ago, Yukian languages had developed in the northern San Francisco Bay Area. Between 4,000 and 2,000 years ago, Penutian (proto-Miwok) speakers are hypothesized to have begun migrating into the area from the lower Sacramento Valley. Ancient Wintuans may have also entered the Sacramento Valley from the north about 1,500 years ago, reaching the lower Sacramento Valley approximately 1,300 years ago, leading the Patwin spreading westward toward the North Coast Ranges about 1,000 years ago. By the time Europeans arrived in California, Penutian speakers made up the majority of the State.

At the time of European settlement, the area that is now the City of Davis was included in the southwestern-most portion of the territory controlled by the Patwin, who were hunter-gatherers living in rich environments that allowed for dense populations with complex social structures. The Patwin settled in large, permanent villages with seasonal camps and task-specific sites scattered in the immediate area. Primary village sites were occupied throughout the year, while the other sites were visited in order to procure particular resources that were only available or especially abundant during certain seasons. Such sites often were situated near freshwater sources and in areas where plant and animal life were both diverse and abundant.

The Rumsey Indian Rancheria was established in eastern Yolo County in 1907 and hosts the Yocha Dehe Wintun Nation. In 1982, the Bureau of Indian Affairs expanded the rancheria to 260 acres. Members of the Rumsey Indian Reservation established agricultural farms, a grocery store, a gas station, and a bingo casino over the years. The bingo casino was built in 1985 and was renovated and expanded into a destination resort in 2002. The combined revenue from agricultural pursuits, commercial pursuits, and casino revenues currently supports the Yocha Dehe Wintun Nation.

Historic Overview

The City of Davis and the surrounding area, including the project site/BRPA site, were historically part of a Mexican land grant given to Victor Prudon and Marcos Vaca in 1845 known as the Rancho Laguna de Santo Calle.

In the early 1850s, a man named Jerome C. Davis settled and operated a ranch in the modern-day City of Davis. His house was leased to William Dresbach in 1867, who turned the house into a hotel called the Yolo House. As the settlement grew, Dresbach named the growing area Davisville, which temporarily thrived as a grain-shipping point with the arrival of the railroad. However, Davisville's importance as a trade center was short lived once the railroad was extended. Meanwhile, the surrounding farmlands continued to be developed.

The University Farm was established in 1905, offering courses for adult farmers and, soon thereafter, a farm school for young men and boys. Around this time, the name of the local post office was shortened to Davis. In 1922, the University Farm was officially recognized as a branch of the agriculture college at the University of California. As the years passed, the school grew and shifted focus, ultimately becoming a general campus of the University of California in 1959.

Like many places in California, population and construction experienced a boom in Davis during the post-World War II era; however, unlike other communities, the City's leaders sought to keep

a core city center and avoid the growth of shopping centers. Though the town continued to grow and develop, modern-day Davis remains surrounded by land dedicated to agricultural pursuits.

Historic-period site indicators generally include the following: fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains, such as building foundations and discrete trash deposits (e.g., wells, privy pits, dumps).

Project Site History and Current Uses

The approximately 497.6-acre project site/BRPA site is located north of East Covell Boulevard, east of F Street, and west of Pole Line Road in a currently unincorporated portion of Yolo County, north of the Davis City limits. The project site/BRPA site consists of generally flat, agricultural land with one agricultural structure located in the southern portion of the site. The site is bisected by a north-to-south private access road that pivots to proceed in an east-to-west direction through a portion of the site. A City of Davis drainage course (Channel A) also flows east to west through the site. Additionally, a Pacific Gas and Electric Company (PG&E) easement occurs along the western and northern site boundaries.

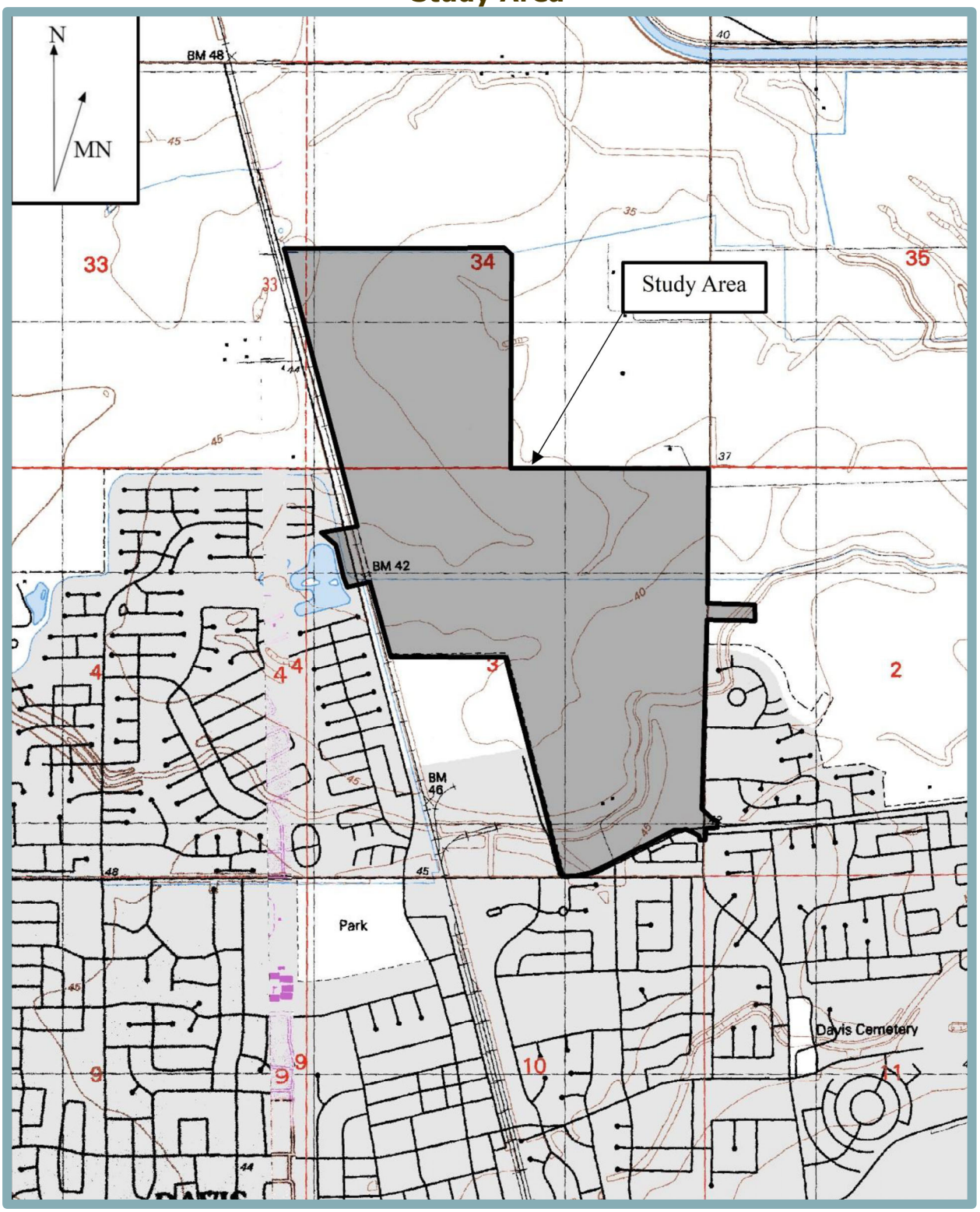
The area evaluated within the Cultural Resources Study (i.e., the study area) encompasses the entire project site/BRPA site, as well as three extensions of the site boundaries included in the study area to accommodate the conceptual landing area for a future grade-separated crossing west of the project site, a proposed undercrossing east of the project site, and the potential intersection improvements at East Covell Boulevard and Pole Line Road (see Figure 4.5-1). The study area consists of approximately 553 acres situated on level land with a slope of less than one percent.

County maps show that the project site/BRPA site was owned by Frank Mires and R. S. Carey in 1879. Subsequent maps show that the portion of the project site/BRPA owned by Mires (also spelled Meyers or Meyer) remained in the family through 1939. Carey sold their land to H.P. Merritt by 1891, and the eastern portion of the property remained in the Merrit family through 1926. Merritt sold the western portion to Florence Gardner by 1900, which she retained through 1926. By 1939, J.A. Harby acquired the lands of both Merritt and Gardner. In general, according to Census records, most people historically associated with the site were farmers.

The study area is located within the southern portion of the Sacramento Valley, which is located in the northern portion of the Central Valley. The Central Valley is drained by the San Joaquin River and the Sacramento River, the latter of which is located approximately 14.5 miles east of the project site/BRPA site. Prior to European contact, freshwater lakes, rivers, marshes, riparian forests, and grasslands speckled with vernal pools in the Sacramento Valley provided a diverse and rich landscape that supported large populations of fish, birds, and mammals. After European contact, the Sacramento Valley floor was transformed into a mosaic of irrigated agriculture, wetlands, and riparian habitats.

Upon annexation of the State into the U.S., the Swamp and Overflowed Land Act of 1850 was applied to the vast wetlands of the Sacramento-San Joaquin River Delta and associated tributaries. “Swamp and overflowed land” was a legal term used to identify land too wet to cultivate. The Swamp and Overflowed Land Act gave states the power to sell such land to encourage development. A review of historical maps shows that most of the site was historically classified as swamp and overflowed land and, thus, would likely have been inundated at times. The nearest freshwater source is a seasonal creek in the southern portion of the study area.

Figure 4.5-1
Study Area



A review of 19th and 20th century maps and aerial photos shows a segment of the California Pacific Railroad through a small portion of the study area as early as 1907. Also shown on the 1907 U.S. Geological Survey (USGS) map is a bridge or trestle and a single creek flowing through the southeast portion of the study area. In addition, a house and outbuilding are shown in the 1949 aerial photo, and a windmill appears in the northwest portion of the study area from 1952 to 1981.

Known Historic and Archaeological Resources

As part of the Cultural Resources Study conducted for the Proposed Project, a review of the archaeological site base maps and records, survey reports, and other materials on file at the Northwest Information Center (NWIC) was completed for the study area on October 12, 2023 (NWIC File No. 23-0479). Further details on the records search are provided in the Method of Analysis section below.

Archival research found that approximately 70 percent of the study area was included in six previous cultural resources studies conducted between 1990 and 2015, and four studies were conducted within 0.25-mile of the study area in 2002, 2003, and 2005. Based on the findings of the 10 previously conducted studies, two resources have been documented within the study area.

The first previously documented historic resource consists of a building complex located in the southern portion of the project site/BRPA site. The complex includes a residence, barn, tank house, chicken house, and a nearby concrete monument (P-57-000199). As discussed in the Cultural Resources Study, the complex was originally recommended ineligible for inclusion on the CRHR in a previous study conducted by Jones and Stokes Associates, Inc. in 1996, a conclusion which was reiterated in a subsequent study conducted by Peak and Associates, Inc. in 2004. It should be noted that nearly all major buildings on-site were demolished between 2014 and 2015, including the windmill shown on maps reviewed as part of the Cultural Resources Study. The tank house is the only remaining building. According to the Cultural Resources Study, the now-demolished building complex does not appear on maps or aerial photos until the mid-20th century, based on a lack of buildings shown in a 1937 aerial photograph. The concrete monument is a relatively late construction, though the exact date and purpose is unknown. While considered unlikely to mark a human grave, the previous studies recommended that preconstruction excavation occur in and around the area of the monument to confirm. The monument is located at the bottom of a former creek bed that runs through the southern portion of the project site/BRPA site in a generally southwest to northeast direction (see Figure 4.5-2).

The second resource is a segment of the California Pacific Railroad Route through Yolo County (P-57-000977). A review of historic maps and aerial photos shows the segment of the California Pacific Railroad is located in a small portion of the study area just outside the project/BRPA site boundaries, within a portion of the railroad segment located within the conceptual landing footprint of the western grade-separated crossing. The California Pacific Railroad segment was identified on historic maps as early as 1907, although it should be noted the railroad was constructed in 1869. The railroad line was recommended as eligible for inclusion on the CRHR in a previous study conducted in 2015. In addition, the 1907 USGS map also shows a bridge or trestle structure located in the southeast portion of the study area.

An intensive field survey of the project site/BRPA site was completed on December 4, 5, and 6, 2023, as well as on February 2, 2024, as part of the Cultural Resources Study, the details of which are provided in the Method of Analysis section below. When the Central Pacific Railroad segment was examined, a trestle and rails were present (see Figure 4.5-2). The line is still actively used.

Figure 4.5-2
Trestle and Former Creek Location

View of a portion of the study area on the 1907 USGS map showing a trestle and a creek.

The field survey also found two obsidian isolates on-site, consisting of a biface fragment and a flake. Both were made from Napa Valley obsidian and showed wear from water tumbling.

Tribal Cultural Resources

Origer contacted the Native American Heritage Commission (NAHC) requesting a search of the Sacred Lands File (SLF) for Native American cultural resources within or near the study area. The NAHC returned the results on November 13, 2023, and indicated that known Native American cultural resources are not present within the study area.

Pursuant to Assembly Bill (AB) 52 and Senate Bill (SB) 18, invitations to consult were sent to tribes who requested notification of proposed projects within the geographic area of the project site/BRPA site on November 1, 2023. Further details on the tribal notification letters are provided in the Methods of Analysis section of this chapter.

4.5.3 REGULATORY CONTEXT

Federal, State, and local governments have developed laws and regulations designed to protect significant cultural and tribal cultural resources that may be affected by actions that they undertake or regulate. The following section contains a summary of basic federal and State laws governing preservation of historic, archaeological, and tribal cultural resources of national, State, and local significance.

Federal Regulations

The following are the federal environmental laws and policies relevant to cultural and tribal cultural resources.

Section 106 for the National Historical Preservation Act of 1966

Federal regulations for cultural resources are governed primarily by Section 106 of the National Historic Preservation Act (NHPA) of 1966. Section 106 of NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and affords the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. The Council's implementing regulations, "Protection of Historic Properties," are found in Title 36 of the Code of Federal Regulations (CFR) Part 800. The goal of the Section 106 review process is to offer a measure of protection to sites, which are determined eligible for listing on the NRHP. The criteria for determining NRHP eligibility are found in 36 CFR Part 60. Amendments to the NHPA (1986 and 1992) and subsequent revisions to the implementing regulations have, among other things, strengthened the provisions for Native American consultation and participation in the Section 106 review process. While federal agencies must follow federal regulations, most projects by private developers and landowners do not require this level of compliance. Federal regulations only come into play in the private sector if a project requires a federal permit or uses federal funding.

National Register of Historic Places

The NRHP is the nation's master inventory of known historic resources. The NRHP includes listings of resources, including buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, or cultural significance at the national, State, or local level. Resources over 50 years of age can be listed on the NRHP. However, properties under 50 years of age that are of exceptional significance or are contributors to a district can also be included on the NRHP. Four criteria are used to determine if a potential resource may be considered significant and eligible for listing on the NRHP. The criteria include resources that:

A. Are associated with events that have made a significant contribution to the broad patterns of history; or
B. Are associated with the lives of persons significant in our past; or
C. 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. Have yielded or may likely yield information important in prehistory or history.

A resource can be individually eligible for listing on the NRHP under any of the above four criteria, or can be listed as contributing to a group of resources that are listed on the NRHP. A resource can be considered significant in American history, architecture, archaeology, engineering, or culture. Once a resource has been identified as significant and potentially eligible for the NRHP, the resource's historic integrity must be evaluated. Integrity is a function of seven factors: location, design, setting, materials, workmanship, feeling, and association. The factors closely relate to the resource's significance and must be intact for NRHP eligibility.

Historical buildings, structures, and objects are usually eligible under Criteria A, B, and C based on historical research and architectural or engineering characteristics. Archaeological sites are usually eligible under Criterion D, the potential to yield information important in prehistory or history. An archaeological test program may be necessary to determine whether the site has the potential to yield important data. The lead federal agency makes the determination of eligibility based on the results of the test program and seeks concurrence from the State Historic Preservation Officer (SHPO).

Effects to NRHP-eligible resources (historic properties) are adverse if the project may alter, directly or indirectly, any of the characteristics of an historic property that qualify the property for inclusion on the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.

State Regulations

The following are the State environmental laws and policies relevant to cultural and tribal cultural resources.

California Environmental Quality Act and California Register of Historical Places

Applicable State historic preservation regulations to the Proposed Project and BRPA include the statutes and guidelines contained in CEQA (Public Resources Code [PRC] Sections 21083.2 and 21084.1 and Sections 15064.5 and 15126.4[b] of the CEQA Guidelines). CEQA requires lead agencies to consider the potential effects of a project on historic resources and unique archaeological resources. A "historic resource" includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript that is historically or archaeologically significant (PRC Section 5020.1). Under Section 15064.5 of the CEQA Guidelines, a resource is considered "historically significant" if one or more of the following CRHR criteria have been met:

1) The resource is associated with events that have made a significant contribution to the broad patterns of California history;
2) The resource is associated with the lives of important persons from our past;

3) The resource 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 values; or
4) The resource has yielded, or may be likely to yield, important information in prehistory or history.

In addition, the resource must retain integrity. Cultural resources determined eligible for the NRHP by a federal agency are automatically eligible for the CRHR.

CEQA requires preparation of an EIR if a proposed project would cause a "substantial adverse change" in the significance of a historical resource. A "substantial adverse change" would occur if a proposed project would result in physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired (CEQA Guidelines Section 15064.5[b][1]).

In addition to historically significant resources, which can include archeological resources that meet the criteria listed above, CEQA also requires consideration of "unique archaeological resources." If a site meets the definition of a unique archaeological resource, the site must be treated in accordance with the provisions of PRC Section 21083.2. Under PRC Section 20183.2(g), an archaeological resource is considered "unique" if it:

1) Is associated with an event or person of recognized significance in California or American history or recognized scientific importance in prehistory;
2) Can provide information that is of demonstrable public interest and is useful in addressing scientifically consequential and reasonable research questions;
3) Has a special kind or particular quality such as oldest, best example, largest, or last surviving example of its kind;
4) Is at least 100 years old and possesses substantial stratigraphic integrity; or
5) Involves important research questions that can be answered only with archaeological methods.

CEQA also includes specific guidance regarding the accidental discovery of human remains. Specifically, CEQA Guidelines Section 15064.5(e) requires that if human remains are uncovered, excavation activities must be stopped and the county coroner be contacted. If the county coroner determines that the remains are Native American, the coroner must contact the NAHC within 24 hours. The NAHC identifies the most likely descendant, and that individual or individuals can make recommendations for treatment of the human remains under the procedures set forth in CEQA Guidelines Section 15064.5.

The SHPO maintains the CRHR. Properties that are listed on the NRHP are automatically listed on the CRHR, along with State Landmarks and Points of Interest. The CRHR can also include properties designated under local ordinances or identified through local historical resource surveys.

Assembly Bill 52

AB 52 adds tribal cultural resources to the categories of cultural resources in CEQA, which had formerly been limited to historic, archaeological, and paleontological resources. "Tribal cultural resources," pursuant to PRC Section 21074(a), are defined as either:

(1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

(A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.
(B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

(2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Under AB 52, a project that may cause a substantial adverse change in the significance of a tribal cultural resource is defined as a project that may have a significant effect on the environment. Where a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document must discuss the impact and whether feasible alternatives or mitigation measures could avoid or substantially lessen the impact. AB 52 (PRC Section 21080.3.1) requires lead agencies to provide notice to tribes that are traditionally and culturally affiliated with the geographic area of a proposed project if they have requested notice of projects proposed within that area. If the tribe(s) requests consultation within 30 days upon receipt of the notice, the lead agency must consult with the tribe(s). Consultation may include discussing the type of environmental review necessary, the significance of tribal cultural resources, the significance of the project's impacts on the tribal cultural resources, and alternatives and mitigation measures recommended by the tribe(s).

Senate Bill 18

Signed in September 2004, SB 18 amended Section 815.3 of the Civil Code, amended Sections 65040.2, 65092, 65351, 65352, and 65560 of the PRC, and added to Sections 65352.3, 65352.4, and 65562.5 of the Government Code, relating to traditional tribal cultural places. SB 18 requires local (city and county) governments to consult with California Native American tribes, when amending or adopting a general plan or specific plan, or designating land as open space, in order to aid in the protection of traditional tribal cultural places ("cultural places"). The intent of SB 18 is to provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places. The consultation and notice requirements apply to adoption and amendment of both general plans (defined in Government Code Section 65300 et seq.) and specific plans (defined in Government Code Section 65450 et seq.). Because the Proposed Project and BRPA requires City approval of a General Plan Amendment, each development scenario is subject to SB 18 consultation requirements.

Local Regulations

The following are the local environmental laws and policies relevant to cultural and tribal cultural resources.

City of Davis General Plan

The relevant goals, policies, and actions from the adopted City of Davis General Plan related to cultural and tribal cultural resources are presented below.

Historic and Archaeological Resources Chapter

Goal HIS 1 Designate, preserve, and protect the archaeological and historic resources within the Davis community.

Policy HIS 1.2 Incorporate measures to protect and preserve historic and archaeological resources into all planning and development.

Policy HIS 1.3 Assist and encourage property owners and tenants to maintain the integrity and character of historic resources, and to restore and reuse historic resources in a manner compatible with their historic character.

4.5.4 IMPACTS AND MITIGATION MEASURES

The following section describes the standards of significance and methodology used to analyze and determine the potential impacts of the Proposed Project and BRPA related to cultural and tribal cultural resources. In addition, a discussion of the impacts associated with the Proposed Project and BRPA, as well as mitigation measures where necessary, is also presented.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines, a significant impact related to cultural or tribal cultural resources would occur if the Proposed Project or the BRPA would result in any of the following:

- Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5;
- Disturb any human remains, including those interred outside of dedicated cemeteries;
- Cause a substantial adverse change in the significance of a tribal cultural resource as defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
  - (a) Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC Section 5020.1(k); or
  - (b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Method of Analysis

The impact analysis contained in this chapter is primarily based on the Cultural Resources Study prepared by Origer. The Cultural Resources Study included archival research, a field survey, and consultation with the NAHC. The methodology of the Cultural Resources Study is discussed further below, as well as a discussion of the tribal consultation efforts conducted by the City, pursuant to AB 52 and SB 18.

Archival Research

A cultural resources records search for the study area was completed at the NWIC on October 12, 2023. The records search was conducted to determine the extent of previous surveys within 0.25-mile radius of the project site/BRPA site, and whether previously documented precontact or historic archaeological sites, architectural resources, or traditional cultural properties exist within the area. As previously discussed, according to records from the NWIC, approximately 70 percent of the study area was subjected to previous cultural resources studies conducted between 1990 and 2015. Several additional investigations have been conducted within 0.25-mile of the project site.

The archival searches of archaeological and historical records, national and State databases, and historic maps included review of the NRHP, California Historical Landmarks, CRHR, and California Points of Historical Interest. Archival research found that approximately 70 percent of the study area has been previously subjected to a cultural resources study and four studies have been conducted within 0.25-mile of the study area (see Table 4.5-1).

Table 4.5-1
Previous Studies Within and Near the Study Area

Previous Studies within Study Area		
Author	**Date**	**S#**
Anderson and Baxter	2014	46673
Crull	2015	46943
Derr	1990	12219
Jones and Stokes Associates, Inc.	1996	18788
Peak and Associates, Inc.	2004	29706
Wohlgemuth	1992	20867
Previous Studies within 0.25-Mile of Study Area		
Billat	2005	29661
Derr and Brown	2002	25674
Dice	2003	27964
Losee	2003	26573

Source: Tom Origer and Associates, March 2024.

In addition, as the Office of Historic Preservation (OHP) has determined that structures in excess of 45 years of age could be important historical resources and former building and structure locations could be important archaeological sites, archival research also included an examination of 19th and 20th century maps and aerial photographs to gain insight into the nature and extent of historical development in the general project vicinity and within the study area.

Finally, a modeling for predicting a location's sensitivity for buried archaeological sites was formulated by Byrd et al. based on the age of the landform, slope, and proximity to water. A location is considered to have the highest sensitivity if the landform dates to the Holocene, has a slope of five percent or less, is within 150 meters of fresh water (492.1 feet), and 150 meters of confluence. The Holocene Epoch is the current period of geologic time, which began approximately 11,700 years ago, and coincides with the emergence of human occupation of the area. A basic premise of the model is that archaeological deposits will not be buried within landforms that predate human colonization of the area. Calculating such factors using the buried site model, a location's sensitivity is scored on a scale of 1 to 10 and classified, as follows: lowest (<1), low (1 to 3), moderate (3 to 5.5), high (5.5 to 7.5), highest (>7.5).

Field Survey

An intensive field survey of the project site/BRPA site was completed by Origer on December 4, 5, and 6, 2023, as well as a follow-up survey on February 2, 2024. Approximately 69 hours were spent in the field, and field conditions were cool and sunny to partly sunny. Surface examination consisted of walking in corridors spaced 15 meters (49.2 feet) apart. Ground visibility was excellent for the majority of the study area, as the site had been recently disced. Vegetation was still present in a few places, but visibility remained very good. The visibility of the adjacent off-site locations was generally poor due to the amount of development that has taken place.

Native American Heritage Commission Consultation

Origer contacted the NAHC to request a search of the SLF to determine whether known tribal cultural resources are located within or near the project site/BRPA site. The NAHC returned the results on November 13, 2023, which were negative, indicating that known tribal cultural resources are not present within the study area.

Assembly Bill 52 and Senate Bill 18 Tribal Consultation

In compliance with AB 52 (PRC Section 21080.3.1) and SB 18, project notification letters were distributed by the City on November 1, 2023 to the applicable tribes who had previously requested notification of new development projects within the study area. Specifically, project notification letters were sent to representatives of the Ione Band of Miwok Indians, the Yocha Dehe Wintun Nation, and the Cortina Band of Indians. A request for consultation was received from the Yocha Dehe Wintun Nation on January 2, 2024. In response, the City sent a copy of the Cultural Resources Study to the tribe. The City also met with a representative of the Yocha Dehe Wintun Nation on May 3, 2024, to commence the requested consultation. When following up with the City after the meeting, the tribe provided written correspondence which recommended monitoring during ground-disturbing activities. The tribe also requested that the Yocha Dehe Wintun Nation's Treatment Protocol be incorporated into the mitigation measures for the proposed project, and the mitigation measures be submitted to the tribe's Cultural Resources Department once completed. The City did not receive additional responses from the aforementioned tribes in response to the notification letters.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts is based on implementation of the Proposed Project or the BRPA in comparison with the standards of significance identified above.

4.5-1 Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines, Section 15064.5. Based on the analysis below, and with implementation of mitigation, the impact is *less than significant*.

The following discussion includes an analysis of potential impacts to historical resources associated with development of the Proposed Project and the BRPA. Because the Proposed Project and BRPA would be developed within the same overall site boundaries and would have similar potential to impact such resources, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

Historical resources are features that are associated with the lives of historically important persons and/or historically significant events, that embody the distinctive characteristics of a type, period, region or method of construction, or that have yielded, or may be likely to yield, information important to the pre-history or history of the local area, California, or the nation. Examples of typical historical resources include, but are not limited to, buildings, farmsteads, rail lines, bridges, and trash scatters containing objects such as colored glass and ceramics. Cultural resources determined eligible for the NRHP by a federal agency are automatically eligible for the CRHR.

The previously documented building complex (P-57-000199) has been largely demolished. The tank house is the only remaining on-site building. According to the Cultural Resources Study, the complex, including the concrete monument, has been recommended as ineligible for inclusion on the CRHR. The concrete monument is discussed in further detail below under Impact 4.5-3.

In addition, Channel A, which was created within the study area between 1957 and 1968, is part of water runoff management instead of a major infrastructure project. As such, the channel would not meet Criterion 1 of the CRHR criteria. The ranch complex was also found ineligible; therefore, the channel as a structure related to the ranch would not meet the standard for inclusion under Criterion 2, given that the people associated with the ranch were not historically important. The channel does not embody distinctive characteristics of a type, period, region, or method of construction and, thus, does not meet Criterion 3. Finally, Criterion 4 applies to archaeological sites and to resources where the study of physical construction could yield important analytical data. According to the Cultural Resources Study, the channel does not meet Criterion 4 of the CRHR.

Finally, as previously discussed, a segment of the California Pacific Railroad (P-57-000977) is located in a small portion of the study area, along the northern portion of the western project site/BRPA site boundary. According to the Cultural Resources Study, a previous cultural resources study prepared in 2015 by S. Crull concluded that the railroad segment was eligible for inclusion on the CRHR. During the field survey conducted for the Cultural Resources Study, the segment of railroad line was confirmed to be active. In addition, the field survey confirmed the presence of the existing trestle first identified on a 1907 USGS map within the foot print of the conceptual landing area for the future potential grade-separated crossing that would traverse F Street at the location of the trestle. As discussed further in Chapter 3, Project Description, of this EIR, a grade-separated crossing is not a component of the Proposed Project or BRPA, but rather, this EIR evaluates the landing area for the crossing should it be developed in the future. According to the Cultural Resources Study, the integrity of the California Pacific Railroad segment should be considered by an architectural historian when off-site improvements are proposed.

Based on the above, with regard to P-57-000977, development of the Proposed Project and BRPA could cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5. Thus, a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure is applicable to both the Proposed Project and the BRPA and would reduce the above potential impact to a *less-than-significant* level.

Proposed Project, Biological Resources Preservation Alternative

4.5-1 Prior to construction of any off-site improvements that could alter the railroad segment (P-57-000977), improvement plans shall be reviewed by an architectural historian to ensure that the improvements are designed consistent with the guidelines outlined in The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings. Proof of compliance with the aforementioned standards shall be submitted to the City of Davis Department of Community Development for review and approval.

4.5-2 Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to CEQA Guidelines, Section 15064.5. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

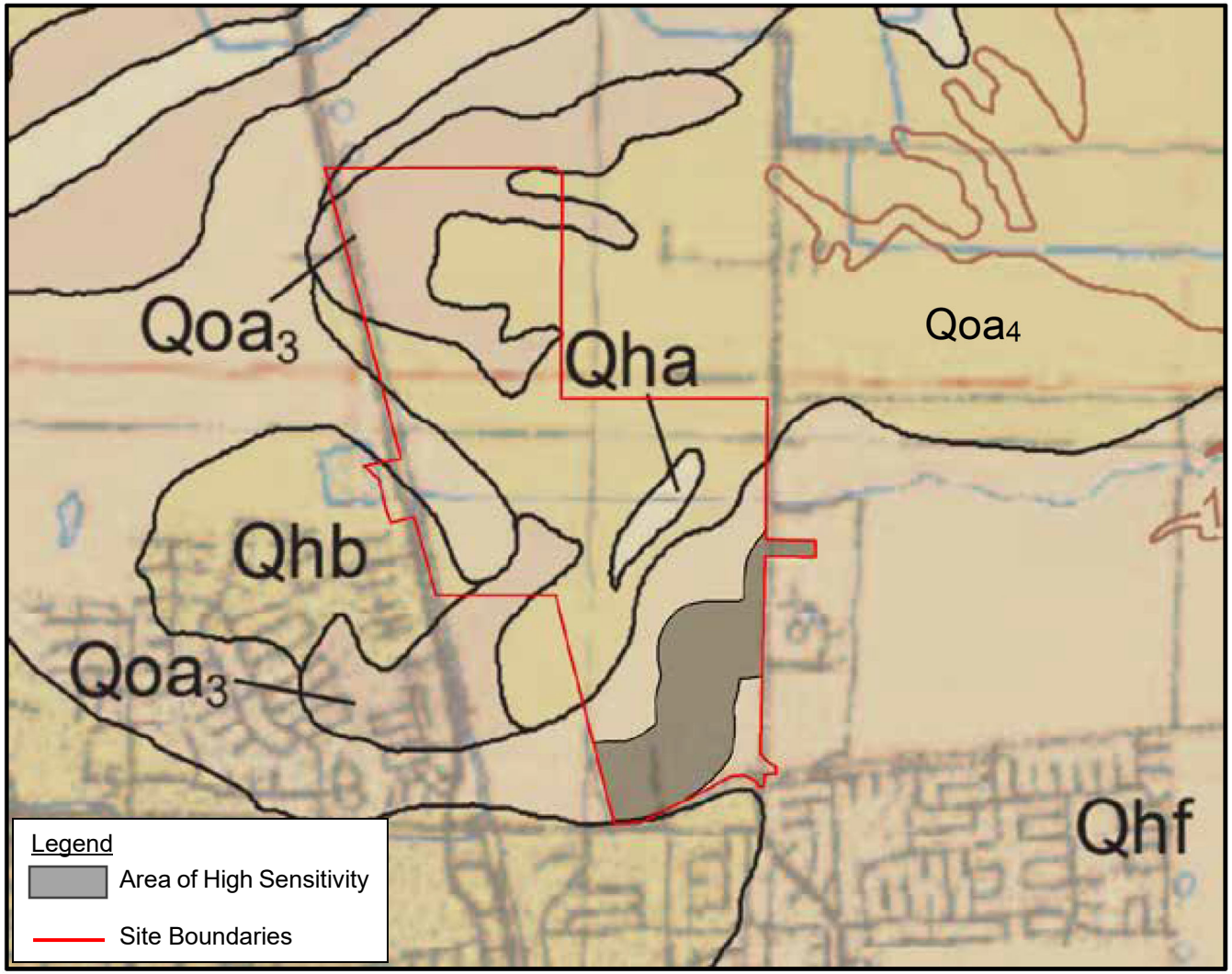
The following discussion includes an analysis of potential impacts to unique archaeological resources associated with development of the Proposed Project and the BRPA. Because the Proposed Project and BRPA would be developed within the same overall site boundaries and would have similar potential to impact such resources, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

During the field survey, two obsidian isolates were found. As previously noted, one was a biface fragment, and the other was a flake. Both isolates were made from Napa Valley obsidian and showed wear from water tumbling. Isolated finds can contribute some information about precontact land use and hunting patterns. However, according to the Cultural Resources Study, once the presence of such isolates is documented, further work is not warranted. In addition, because the finds were isolated items, neither isolate meets the applicable CRHR criteria.

Based on landform age, the existing setting, and an analysis of sensitivity for buried archaeological site indicators, the Cultural Resources Study concluded that the study area has variable potential for buried sites, with portions of the site identified as having low potential and others as having high potential. Based on the Byrd et al. modeling for predicting a location's sensitivity for buried archaeological sites, which is discussed further in the Method of Analysis section of this chapter, the sensitivity of the study area ranges from the lowest (0.5) to high (6.6). The high-sensitivity area within the study area includes the building complex located in the southern portion of the project site/BRPA site and the nearby on-site channel, which runs in a generally east-to-west direction (see Figure 4.5-3).

Figure 4.5-3
High Sensitivity Areas Within Study Area



Because the Proposed Project and BRPA include development of the West Park South residential village, as well as portions of the West Park North, Parkside Village East, and Central Village within the high sensitivity area, ground-disturbing activities associated with construction of the Proposed Project or the BRPA could uncover unknown archaeological resources.

Overall, with the exception of two obsidian isolates, which were not determined to be eligible on the CRHR, the Cultural Resources Study did not identify known archaeological resources within the study area. However, given the high sensitivity of portions of the project site/BRPA site, unknown archaeological resources could exist beneath the ground surface. In the event that on-site ground-disturbing activities encounter such resources during development of the Proposed Project or BRPA, a substantial adverse effect could occur.

It should be noted that the BRPA would have a reduced potential (relative to that of the Proposed Project) to inadvertently impact unknown archaeological resources due to the preservation of the 47.1-acre Natural Habitat Area. It should be noted that the Natural Habitat Area is located outside the area of high sensitivity identified by the Cultural Resources Study.

Based on the above, the Proposed Project and BRPA could cause a substantial adverse change in the significance of a unique archaeological resource pursuant to CEQA Guidelines Section 15064.5. Therefore, a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure is applicable to both the Proposed Project and the BRPA and would reduce the above potential impact to a *less-than-significant* level.

Proposed Project, Biological Resources Preservation Alternative

4.5-2 *If archaeological resources are encountered during subsurface excavation activities, the City and Yocha Dehe Wintun Nation (Tribe) shall be notified immediately and all construction activities within a 100-foot radius of the resource shall cease. In accordance with the Tribe's Treatment Protocol for Handling Human Remains and Cultural Items Affiliated with the Yocha Dehe Wintun Nation, treatment of all cultural items, including ceremonial items and archeological items shall reflect the religious beliefs, customs, and practices of the Tribe. All cultural items, including ceremonial items and archeological items, which may be found at the project site shall be turned over to the Tribe for appropriate treatment, unless otherwise ordered by a court or agency of competent jurisdiction. The project proponent shall waive any and all claims to ownership of tribal ceremonial and cultural items, including archeological items, which may be found on the project site, in favor of the Tribe. If any intermediary is necessary (for example, an archaeologist retained by the project proponent), said entity or individual shall not possess those items for longer than is reasonably necessary, as determined solely by the Tribe.*

If additional significant sites or sites not identified as significant in the project environmental review process, but later determined to be significant, are located within the project impact area, such sites shall be subjected to further archeological and cultural significance evaluation by the project proponent, the City of Davis, and the Tribe to determine if additional mitigation measures are necessary to treat sites in a culturally appropriate manner, consistent with CEQA requirements for mitigation of impacts to cultural resources. If human remains are present that have been identified as Native American, all work shall cease for a period of up to 30 days in accordance with federal Law.

The City shall require that the applicant include a standard inadvertent discovery clause in every construction contract to inform contractors of the foregoing requirements. Any previously undiscovered resources found during construction shall be recorded on appropriate California Department of Parks and Recreation forms and evaluated for significance in terms of California Environmental Quality Act criteria by a qualified cultural resources specialist and Native American Representative from the Tribe. If the resource is determined to be significant under CEQA, the City and Native American Representative from the Tribe shall determine whether preservation in place is feasible. Such preservation in place is the preferred mitigation. If such preservation is infeasible, the Native American Representative from the Tribe shall prepare and implement a research design and archaeological data recovery plan for the resource. The Native American Representative from the Tribe shall also conduct appropriate technical analyses, prepare a comprehensive written report and file it with the appropriate information center (California Historical Resources Information System), and provide for the permanent curation of the recovered materials.

4.5-3 Disturb any human remains, including those interred outside of dedicated cemeteries. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

The following discussion includes an analysis of potential impacts to human remains associated with development of the Proposed Project and the BRPA. Because the Proposed Project and BRPA would be developed within the same overall site boundaries and would have similar potential to impact such resources, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

As previously discussed, the Proposed Project and the BRPA would include ground-disturbing activities within the high sensitivity area identified by the Cultural Resources Study, including excavation associated with the new residences and trenching for new utility lines. In addition, the concrete monument identified by the Cultural Resources Study is located within the high sensitivity area, as the monument is associated with the former building complex. Although the exact date and purpose of the monument is

unknown, the concrete monument is a relatively late construction. Based on the location at the bottom of the former creek bed, which still collects water that would interfere with a gravesite, the Cultural Resources Study concluded that the monument is unlikely to mark a human grave. In addition, given the concrete monument's modern appearance, the monument would have been established after laws regarding the treatment of human remains were adopted. Such laws required humans to be buried in a designated cemetery or treated through other authorized means, further reducing the potential for the concrete monument to mark a grave.

Furthermore, the monument is located in a portion of the project site/BRPA site planned for Heritage Oak Park, and would not be disturbed by residential or other development included as part of the Proposed Project or the BRPA. Additionally, because neither development scenario would include construction near the concrete monument, physical changes to the monument or the ground beneath the monument would not occur. Finally, according to the Cultural Resources Study, previous cultural resource studies that included the project site/BRPA site did not identify human remains within the site or its vicinity.

Nevertheless, the project site/BRPA site contains areas that are highly sensitive for buried archaeological site indicators, including those associated with the Native American peoples whose territory encompassed the project site. Precontact sites often contain human remains. Given the known precontact occupation of the project vicinity by Native American tribes, the potential for human remains to be discovered during construction cannot be eliminated. Thus, ground-disturbing activities associated with the Proposed Project or BRPA could encounter human remains, including those interred outside of formal cemeteries. It should be noted that the BRPA would have a reduced potential (relative to that of the Proposed Project) to inadvertently impact human remains due to the preservation of the Natural Habitat Area.

Based on the above, the Proposed Project and BRPA could disturb human remains, including those interred outside of dedicated cemeteries, and a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure is applicable to both the Proposed Project and the BRPA and would reduce the above potential impact to a *less-than-significant* level.

Proposed Project, Biological Resources Preservation Alternative

4.5-3 *In accordance with the Tribe's Treatment Protocol for Handling Human Remains and Cultural Items Affiliated with the Yocha Dehe Wintun Nation, if Native American human remains are found during the course of the proposed Project, the determination of Most Likely Descendant ("MLD") under California PRC Section 5097.98 shall be made by the Native American Heritage Commission ("NAHC"), upon notification to the NAHC of the discovery of said remains at the project site. If the location of the site and the history and prehistory of the area is culturally-affiliated with the Tribe, the NAHC shall contact the Tribe. A tribal member shall be designated by the Tribe to consult with the*

landowner and/or project proponents. Should the NAHC determine that a member of an Indian tribe other than Yocha Dehe Wintun Nation is the MLD, and the Tribe is in agreement with this determination, the terms of this protocol relating to the treatment of such Native American human remains shall not be applicable; however, that situation is very unlikely.

In the event that Native American human remains are found during development of the proposed project and the Tribe or a member of the Tribe is determined to be MLD pursuant to the above requirements of the Protocol, the following provisions shall apply. The Medical Examiner shall immediately be notified, ground-disturbing activities in that location shall cease, and the Tribe shall be allowed, pursuant to California PRC Section 5097.98(a), to (1) inspect the site of the discovery and (2) make determinations as to how the human remains and grave goods should be treated and disposed of with appropriate dignity.

The Tribe shall complete its inspection and make its MLD recommendation within 48 hours of getting access to the site. The Tribe shall have the final determination as to the disposition and treatment of human remains and grave goods. Said determination may include avoidance of the human remains, reburial on-site, or reburial on tribal or other lands that will not be disturbed in the future.

The Tribe may wish to rebury said human remains and grave goods or ceremonial and cultural items on or near the site of their discovery, in an area which will not be subject to future disturbances over a prolonged period of time. Reburial of human remains shall be accomplished in compliance with the California PRC Sections 5097.98(a) and (b).

The term "human remains" encompasses more than human bones because the Tribe's traditions call for the burial of associated cultural items with the deceased (funerary objects), and/or the ceremonial burning of Native American human remains, funerary objects, grave goods, and animals. Ashes, soils and other remnants of these burning ceremonies, as well as associated funerary objects and unassociated funerary objects buried with or found near the Native American remains are to be treated in the same manner as bones or bone fragments that remain intact.

4.5-4 Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

The following discussion includes an analysis of potential impacts to tribal cultural resources, as defined in PRC Section 21074, associated with development of the

Proposed Project and the BRPA. Because the Proposed Project and BRPA would be developed within the same overall site boundaries and would have similar potential to impact such resources, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

A search of the SLF conducted by the NAHC for Native American cultural resources within the study area returned negative results, indicating known tribal cultural resources are not within the project site/BRPA site or the immediate vicinity. In addition, as previously discussed, the City sent project notification letters on November 1, 2023, to tribes who requested notification within the geographic area of the City, pursuant to AB 52, as well as pursuant to SB 18. As discussed previously, the City consulted with the Yocha Dehe Wintun Nation, which recommended monitoring during ground-disturbing activities and requested the incorporation of the Yocha Dehe Wintun Nation's Treatment Protocol into the mitigation measures.

Based on the findings of the Cultural Resources Study, as well as the results of the NAHC SLF search, known tribal cultural resources do not occur within the project site/BRPA site or in its vicinity. Nevertheless, while background research and the field surveys did not indicate the presence of known tribal cultural resources, subsurface Native American resources could potentially be identified on the site and the off-site improvement areas during construction activities associated with the Proposed Project or BRPA. In the event that tribal cultural resources are discovered during such activities, without inclusion of appropriate measures for unanticipated discoveries of potential, subsurface tribal cultural resources, the Proposed Project and BRPA could cause a substantial adverse change in the significance of a tribal cultural resource, as defined in PRC Section 21074. Therefore, a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure is applicable to both the Proposed Project and the BRPA and would reduce the above potential impact to a *less-than-significant* level.

Proposed Project, Biological Resources Preservation Alternative

4.5-4(a) *Prior to commencement of ground disturbing activities, the applicant shall arrange for a member of Yocha Dehe Wintun Nation to conduct Cultural Sensitivity Training to the construction crew. Generally, the training would consist of a presentation to the construction crew about types of resources and evidence thereof, role of the Tribe, what to do if resources are uncovered, etc. To schedule Cultural Sensitivity Training prior to commencement of construction, the applicant shall contact the Cultural Resources Department Administrative Staff, Yocha Dehe Wintun Nation, Office (530) 796-3400, Email:* THPO@yochadehe-nsn.gov*. Proof of compliance with this measure shall be provided to the Davis Community Development Department.*

4.5-4(b) *Prior to commencement of construction activities, the applicant shall retain an archaeologist to prepare a written monitoring plan that describes the role of the tribal monitors, archaeological monitors, and*

developer's representatives, timelines for advanced notification to Yocha Dehe Wintun Nation prior to grading, and the procedures to follow in the event archaeological/tribal remains are uncovered. The procedures shall comply with Yocha Dehe Wintun Nation's "Treatment Protocol for Handling Human Remains and Cultural Items Affiliated with the Yocha Dehe Wintun Nation." Proof of compliance shall be provided to the Davis Community Development Department.

4.5-4(c) *During grading, excavating, and trenching of soils within the project site, a tribal monitor and archaeological monitor shall be present on-site, as determined in the monitoring plan.*

During deep excavation/trenching for sewer mains, storm drains, waterlines, etc. in all portions of the project site, a tribal monitor and archaeological monitor shall be present on-site, as determined in the monitoring plan.

The foregoing measures shall be included in the project's written monitoring plan, required in Mitigation Measure 4.5-4(b).

Cumulative Impacts and Mitigation Measures

As defined in Section 15355 of the CEQA Guidelines, "cumulative impacts" refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Additional detail regarding the cumulative project setting can be found in Chapter 5, Statutorily Required Sections, of this EIR.

4.5-5 Cause a cumulative loss of cultural and tribal cultural resources. Based on the analysis below, the cumulative impact is *less than significant*.

The following discussion includes an analysis of potential cumulative impacts to cultural and tribal cultural resources associated with development of the Proposed Project and the BRPA. Because the Proposed Project and BRPA would be developed within the same overall site boundaries and would have similar potential to impact such resources, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

Generally, while some cultural and tribal cultural resources may have regional significance, the resources themselves are site-specific, and impacts to them are project-specific. For example, impacts to a subsurface archeological find at one project site would not generally be made worse by impacts to a cultural or tribal cultural resource at another site due to development of another project. Rather, the resources and the effects upon them are generally independent. A possible exception to the aforementioned general conditions would be where a cultural or tribal cultural resource represents the last known example of its kind or is part of a larger resources site. For

such a resource, cumulative impacts, and the contribution of a project to them, may be considered cumulatively significant.

As described throughout this chapter, the project site/BRPA site contains known resources that would be eligible for inclusion on the CRHR or considered significant pursuant to CEQA. However, implementation of Mitigation Measure 4.5-1 would ensure that any impacts to the identified resources would be reduced to a less-than-significant level. Furthermore, Mitigation Measures 4.5-2 and 4.5-3 would reduce impacts to previously unknown, subsurface resources and tribal cultural resources, respectively that are discovered on-site during construction activities to a less-than-significant level, including human remains.

Similarly, future development projects throughout the project region would be required to implement project-specific mitigation to ensure any potential impacts to identified cultural and tribal cultural resources are reduced to a less-than-significant level, where possible. Therefore, given that cultural and tribal cultural resource impacts are generally site-specific and each future project within the project region would be required to mitigate such impacts, any potential impacts associated with cumulative buildout of the City of Davis would not combine to result in a significant cumulative impact.

Based on the above, the potential for impacts related to a cumulative loss of cultural and tribal cultural resources, to which implementation of the Proposed Project or the BRPA could contribute, is ***less than significant***.

Mitigation Measure(s)

None required.

4.6. GEOLOGY AND SOILS

4.6. GEOLOGY AND SOILS

4.6.1 INTRODUCTION

The Geology and Soils chapter of the EIR describes the geologic and soil characteristics of the project site/Biological Resources Preservation Alternative (BRPA) site and evaluates the extent to which implementation of the Proposed Project and BRPA could be affected by unstable earth conditions and various geologic and geomorphic hazards. In addition, the chapter evaluates any adverse impacts on paleontological resources. Information from this chapter is primarily drawn from a Preliminary Geotechnical Evaluation prepared by Geocon Consultants, Inc. (Geocon) (Appendix E).[1] In addition, information was sourced from the City of Davis General Plan[2] and the associated General Plan EIR.[3]

4.6.2 EXISTING ENVIRONMENTAL SETTING

Background setting information regarding the geology, soils, seismicity, and paleontological resources associated with the project site/BRPA site and the surrounding region is provided below.

Regional Setting and Geology

The City of Davis is located in the eastern portion of the Putah Creek Plain, one of the major features of the southwestern Sacramento Valley. According to the City of Davis General Plan, the land slopes at generally less than one percent, and elevations range from 60 feet above mean sea level (amsl) in the western areas of the City to 25 feet amsl in the eastern areas of the City.[4] The foothills of the Coast Range are approximately 14 miles west of the City, and the Sacramento River is located approximately 11 miles east of the City.

Beneath the Sacramento Valley floor is a layer of metamorphic and igneous rock at depths greater than 17,000 feet. Atop this layer is a layer of marine and sedimentary rocks up to 15,000 feet thick; neither layer contains water. The surface layers consist of up to 3,000 feet of water-bearing alluvial sediments, most of which are semi-consolidated. Only the uppermost layer, which is up to 200 feet deep, consists of unconsolidated alluvial deposits.

According to the City of Davis General Plan, due to a high proportion of silt and clay within the City, the soils in the General Plan planning area are only moderately or slowly permeable, which hinders drainage and ground water recharge. Erosion hazards in the City are “none to slight.” Shrink-swell potential, which is the potential for soil to expand and contract due to moisture and temperature, is predominantly “moderate to high” in the City.

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1 Geocon Consultants, Inc. *Preliminary Geotechnical Evaluation, Village Farms Davis, Davis, California*. November 1, 2023.
2 City of Davis. *City of Davis General Plan.* Adopted May 2001. Amended January 2007.
3 City of Davis. *Final Program EIR for the City of Davis General Plan Update and Final Project EIR for Establishment of a New Junior High School.* Certified May 2001.
4 City of Davis. *City of Davis General Plan [pg. 318].* Adopted May 2001. Amended January 2007.

Regional Seismicity

A fault is defined as a fracture or zone of closely associated fractures along which rocks on one side have been displaced with respect to those on the other side. A fault zone is a zone of related faults that is commonly braided and subparallel, but may be branching or divergent. Movement within a fault causes an earthquake. When movement occurs along a fault, the energy generated is released as waves that cause ground shaking. Ground shaking intensity varies with the magnitude of the earthquake, the distance from the epicenter, and the type of rock or sediment the seismic waves move through.

The potential risk of fault rupture is based on the concept of recency and recurrence. The more recently a particular fault has ruptured, the more likely the fault would rupture again. The California Geological Survey (CGS) defines an "active fault" as one that has had surface displacement within the past 11,000 years (Holocene). Potentially active faults are defined as those that have ruptured between 11,000 and 1.6 million years before the present (Quaternary). Faults are generally considered inactive if evidence of displacement is not present during the Quaternary.

According to the City of Davis General Plan, earthquake faults do not run through the General Plan planning area.[5] The City of Davis General Plan planning area consists of approximately 160 square miles and is located 11 miles west of the City of Sacramento and approximately 79 miles northeast of the City of San Francisco. According to the Geotechnical Evaluation prepared for the proposed project, the project site/BRPA site is located approximately eight miles southeast of the Great Valley Segment 3a (Dunnigan Hills) Fault, approximately 36 miles east of the West Napa Fault, and 67 miles east of the San Andreas Fault. The Dunnigan Hills Fault is an active fault trace that is capable of generating an earthquake moment magnitude of approximately 6.4. The West Napa and San Andreas faults are larger and capable of moment magnitudes of approximately 6.6 to 8.0. Numerous earthquakes along the San Andreas fault system have been felt in Davis. Major earthquakes occurred in 1833, 1868, 1892, 1902, 1906, and most recently in 1989; however, Davis did not suffer significant damage during these events.

The Preliminary Geotechnical Evaluation concluded that the project site/BRPA site is not located within any known earthquake fault traces and is not located within an Alquist-Priolo Earthquake Fault Zone. Furthermore, according to the City of Davis General Plan, the Office of Land Use and Climate Innovation (LCI) has placed the Davis area in Seismic Activity Intensity Zone II, which indicates that the maximum intensity of an earthquake would be VII or VIII on the Modified Mercalli Intensity Scale. An earthquake of such magnitude would result in "slight damage in specially designed structures; considerable in ordinary substantial buildings, with partial collapse; great in poorly built structures." The Uniform Building Code (UBC) places all of California in the zone of greatest earthquake severity because recent studies indicate high potential for severe ground shaking.

A low-intensity zone is defined by the U.S. Geological Survey (USGS) as an area that is likely to experience an earthquake measuring a maximum of 5.0 to 5.9 in magnitude on the Richter scale, and a maximum intensity of VII or VIII on the Modified Mercalli scale. The Richter scale measures the amplitude of seismic waves recorded by a seismograph. The Modified Mercalli scale measures the intensity of an earthquake by the way the shaking is felt and responded to by humans, and by the amount of damage the earthquake causes to buildings and structures. The Modified Mercalli scale is shown in Table 4.6-1.

[5] City of Davis. *City of Davis General Plan [pg. 318].* Adopted May 2001. Amended January 2007.

Table 4.6-1
Modified Mercalli Scale of Earthquake Intensity

Scale	Effects
I.	Earthquake shaking not felt.
II.	Shaking felt by those at rest.
III.	Felt by most people indoors; some can estimate the duration of shaking.
IV.	Felt by most people indoors. Having objects swing, windows and doors rattle, wooden walls and frames creak.
V.	Felt by everyone indoors; many estimate duration of shaking. Standing autos rock. Crockery clashes, dishes rattle, and glasses clink. Doors close, open, or swing.
VI.	Felt by everyone indoors and most people outdoors. Many now estimate not only the duration of the shaking, but also its direction and have no doubt as to its cause. Sleepers awaken. Liquids disturbed, some spilled. Small unstable objects displaced. Weak plaster and weak materials crack.
VII.	Many are frightened and run outdoors. People walk unsteadily. Pictures thrown off walls, books off shelves. Dishes or glasses broken. Weak chimneys break at roofline. Plaster, loose bricks, unbraced parapets fall. Concrete irrigation ditches damaged.
VIII.	Difficult to stand. Shaking noticed by auto drivers, waves on ponds. Small slides and cave-ins along sand or gravel banks. Stucco and some masonry walls fall. Chimneys, factory stacks, towers, elevated tanks twist or fall.
IX.	General fright. People thrown to the ground. Steering of autos affected. Branches broken from trees. General damage to foundations and frame structures. Reservoirs seriously damaged. Underground pipes broken.
X.	General panic. Conspicuous cracks in ground. Most masonry and frame structures destroyed along their foundations. Some well-built wooden structures and bridges are destroyed. Serious damage to dams, dikes, and embankments. Railroads bent slightly.
XI.	General panic. Large landslides. Water thrown out of banks of canals, rivers, lakes, etc. Sand and mud shifted horizontally on beaches and flatland. General destruction of buildings. Underground pipelines completely out of service. Railroads bent greatly.
XII.	General panic. Damage nearly total, the ultimate catastrophe. Large rock masses displaced. Lines of sight and level distorted. Objects thrown into air.

Source: California Division of Mines and Geology, 1973

Project Site/BRPA Site Characteristics

The approximately 497.6-acre project site/BRPA site is located north of East Covell Boulevard, east of F Street, and west of Pole Line Road in a currently unincorporated portion of Yolo County, California. The project site/BRPA site consists of generally flat, agricultural land. In addition, one agricultural structure is located in the southern portion of the site/BRPA site. The project site/BRPA site is bisected by a north-to-south private access road ("L Street"), which also pivots to proceed in an east-to-west direction through a portion of the project site/BRPA site. A City of Davis drainage course ("Channel A") also flows east to west through the project site/BRPA site. Additionally, a Pacific Gas and Electric Co. (PG&E) easement occurs along the western and northern project site/BRPA site boundaries.

The geologic conditions on the project site/BRPA site are discussed below in further detail, including descriptions of existing site geology, subsurface soil conditions, seismicity and ground shaking, potential for earthquake-induced liquefaction, expansive soils, and groundwater conditions. In addition, this section includes a description of known paleontological resources within the project area.

Project Site/BRPA Site Geology

The project site/BRPA site is located within the Great Valley Geomorphic Province of California, more commonly referred to as the Central Valley. The Central Valley is a broad depression bounded by the Sierra Nevada mountain range to the east and the Coast Ranges to the west. The Central Valley has been filled with a thick sequence of sediments derived from weathering of the adjacent mountain ranges resulting in a stratigraphic section of Cretaceous, Tertiary, and Quaternary deposits. The project site/BRPA site is located near the southern end of the Sacramento Valley, approximately 11 miles west of the Sacramento River and approximately two miles north of Putah Creek. Published geologic mapping depicts the project site/BRPA site underlain by Quaternary-age, Holocene alluvial fan deposits, basin deposits, alluvium, and older alluvium and Holocene basin deposits, which generally consists of interbedded mixtures of alluvial sand, silt, and clay.

Subsurface Soil Conditions

Based on the U.S. Department of Agriculture (USDA) Web Soil Survey conducted by Geocon as part of the Preliminary Geotechnical Evaluation, the project site/BRPA site is underlain by the following soil units:

- Yolo silt loam (Ya) – A well-drained silt loam that forms on alluvial fans and flood plains, and is derived from igneous, metamorphic, and sedimentary rock;
- Yolo silty clay loam (Yb) – A well-drained silty clay loam to clay loam that forms on alluvial fans, and is derived from igneous, metamorphic, and sedimentary rock;
- Pescadero silty clay (Pb) – A poorly-drained silty clay to silty clay loam that forms as basinfloor remnants from alluvium derived from sedimentary rock;
- Rincon silty clay loam (Rg) – A well-drained silty clay loam that forms on alluvial fans and stream terraces from alluvium derived sedimentary rock;
- Merritt complex (Mp) – A poorly drained silty clay loam to very fine sandy loam that forms on alluvial fans and flood-plain steps, from mixed alluvium derived from sedimentary rock; and
- Sycamore silty clay loam (St) – A somewhat poorly-drained silty clay loam that forms at alluvial fans from alluvium derived by igneous, metamorphic, and sedimentary rock.

The majority of the project site/BRPA site consists of Ya and Yb soil units and the remainder of the project site/BRPA site consists of Pb, Rg, Mp, and St soil units. Based on the Web Soil Survey, the Ya and Yb soil units consist of silty clay soil to depths of at least five feet; such soils are generally classified as lean clay. Surficial soil within the northern and western portions of the project site/BRPA site are classified as Pb, Rg, and Mp, which are derived from alluvium from sedimentary rock. Rb, Rg, and Mp soil units consist of clay to silty clay soils to depths of at least five feet; such soils are generally classified as lean clay and fat clay. The top portion of soil at the project site/BRPA site has been disturbed by discing/tilling operations associated with agricultural activities on the project site/BRPA site.

Seismicity and Ground Shaking

Fault rupture hazards are important near active faults and tend to reoccur along the surface traces of previous fault movements. The project site/BRPA site is located approximately eight miles southeast of the Great Valley Segment 3a (Dunnigan Hills) Fault, approximately 36 miles east of the West Napa Fault, and 67 miles east of the San Andreas Fault. The Dunnigan Hills Fault is an active fault trace that is capable of generating an earthquake moment magnitude of approximately

6.4. The West Napa and San Andreas faults are larger and capable of moment magnitudes of approximately 6.6 to 8.0.

Known faults do not extend across the project site/BRPA site, and the project site/BRPA site is not located within an Alquist-Priolo Special Studies Zone. Therefore, the potential for fault rupture, damage from fault displacement, or fault movement directly below the project site/BRPA site is considered low. However, the project site/BRPA site is located within an area where shaking from earthquake generated ground motion waves should be considered likely. According to the City of Davis General Plan EIR, groundshaking is not considered a major geologic hazard in the City of Davis.[6]

Liquefaction

Liquefaction occurs when saturated fine-grained sands and/or silts lose physical strength temporarily during earthquake-induced shaking and behave as a liquid due to the loss of point-to-point grain contact and transfer of normal stress to the pore water. Liquefaction potential varies with water level, soil type, material gradation, relative density, and probable intensity and duration of ground shaking. The CGS has designated certain areas within California as potential liquefaction hazard zones, which are areas considered at risk of liquefaction-related ground failure during a seismic event based upon mapped surficial deposits and the depth to the areal groundwater table.

According to the Preliminary Geotechnical Evaluation, the project site/BRPA site is not located in a currently established State of California Seismic Hazard Zone for liquefaction. In addition, Geocon is not aware of any reported historical instances of liquefaction in the City of Davis area. However, soil and groundwater conditions exist at the project site/BRPA site that may be susceptible to seismic-induced liquefaction under the design-level seismic event. For example, portions of the site are underlain by poorly drained silty clays and groundwater has been encountered in below ground surface borings at the site. Based on the results of the liquefaction susceptibility analyses previously performed by Geocon for nearby sites, and the anticipated subsurface condition at this project site/BRPA site, Geocon concluded that the potential for liquefaction and significant adverse impacts from liquefaction are low.

Expansive Soils

Expansive soils are characterized by their ability to undergo significant volume change due to variation in moisture content. Compressible materials consisting of surficial organic material, loose soils, undocumented fills, debris, rubble, rubbish, etc., are considered unsuitable materials for support of proposed structures as such materials can differentially settle. Changes in soil moisture content can result from rainfall, landscape irrigation, utility leakage, roof drainage, perched groundwater, drought, or other factors and may cause unacceptable settlement of structures. According to the Preliminary Geotechnical Evaluation, expansive clay soils are common in the area and the near-surface soil at the project site/BRPA site is expected to consist of lean and fat clays with a medium to high expansion potential when subjected to moisture variations.

Groundwater

Groundwater monitoring and sampling activities for the Old Davis Landfill, located north of the project site/BRPA site, were conducted as part of the Groundwater Monitoring Report prepared

[6] City of Davis. *Final Program EIR for the City of Davis General Plan Update and Final Project EIR for Establishment of a New Junior High School [pg. 5I-10].* Certified May 2001.

by Universal Engineering Sciences (UES) for the Proposed Project.[7] Seven groundwater monitoring wells occur either on-site or in the immediate site vicinity that are associated with the Old Davis Landfill (DM-MW-1 through -4 and HLA-MW-1 through -3). Six of the monitoring wells (DM-MW-1 through -4 and HLA-MW-1 and -2) are part of the landfill monitoring program conducted by the City of Davis. Three of the monitoring wells (DM-MW-4, HLA-MW-1 through -3) are on-site. On February 21 and 22, 2024, groundwater monitoring and sampling activities occurred at the seven groundwater monitoring wells and one domestic supply well located on the project site/BRPA site. The monitoring wells ranged in depth from 34 feet to 62.5 feet below ground surface (bgs). Reported groundwater depths ranged from 8.95 feet bgs to 15.22 feet bgs, and 25.66 feet amsl to 27.70 feet amsl.

Paleontological Resources

Paleontological resources are the mineralized (fossilized) remains of prehistoric plant and animal life exclusive of human remains or artifacts. Fossil remains such as bones, teeth, shells, and leaves are found in geologic deposits (rock formations) where the resources were originally buried.

A search of the paleontological records in the University of California Museum of Paleontology (UCMP) database was conducted on April 2, 2024, by UCMP Senior Museum Scientist, Patricia A. Holroyd, Ph.D., in order to locate potential fossils documented within the project site/BRPA site and the surrounding area.[8] The UCMP database did not identify any known fossil localities at the project site/BRPA site; however, two localities were recorded within one-mile of the project site/BRPA site. Both localities were discovered during excavations in the Quaternary rocks in the project area.

The first locality (D4049) is located approximately 0.75-mile west of the project site/BRPA site, southwest of the intersection of W. Covell Boulevard and Anderson Road. The location of the UCMP locality D4049 is currently developed with apartments. Fossils of the western ridged mussel (*Gonidea angulate*) were found at UCMP locality D4049 in a fine sandstone lens at eight to 10 feet bgs. A total of 107 shells from UCMP locality D4049 are curated into the UCMP collections.

The second locality (V96015) is located approximately one mile north of the project site/BRPA site, south of Willow Slough, and east of the Union Pacific Railroad tracks. The location of the UCMP locality V96015 is undeveloped. Rodent fossils and a snake fossil were discovered at UCMP locality V96015 in grey silty mudstone at 6.5 to 7.1 feet bgs during a Sacramento Municipal Utility District (SMUD) pipeline excavation. A total of seven rodent fossils and one snake fossil are cataloged in the UCMP collections from locality V96015.

4.6.3 REGULATORY CONTEXT

The following section is a brief summary of the regulatory context under which soils, geology, seismic hazards, and paleontological resources are managed at the federal, State, and local levels.

[7] Universal Engineering Services. *Groundwater Monitoring Report, Old Davis Landfill, Davis, California.* April 19, 2024.

[8] Patricia A. Holroyd, Ph.D., Senior Museum Scientist, University of California Museum of Paleontology. Personal communication [email] with Megane Browne-Allard, Associate, Raney Planning and Management. April 2, 2024.

Federal Regulations

The following are the federal environmental laws and policies relevant to soils, geology, seismic hazards, and paleontological resources.

Federal Earthquake Hazards Reduction Act

Passed by Congress in 1977, the Federal Earthquake Hazards Reduction Act is intended to reduce the risks to life and property from future earthquakes. The Act established the National Earthquake Hazards Reduction Program (NEHRP). The goals of NEHRP are to educate and improve the knowledge base for predicting seismic hazards, improve land use practices and building codes, and to reduce earthquake hazards through improved design and construction techniques.

International Building Code

The UBC was first published in 1927 by the International Council of Building Officials and is intended to promote public safety and provide standardized requirements for safe construction. The UBC was replaced in 2000 by the new International Building Code (IBC), published by the International Code Council (ICC), which is a merger of the International Council of Building Officials' UBC, Building Officials and Code Administrators International's National Building Code, and the Southern Building Code Congress International's Standard Building Code. The intention of the IBC is to provide more consistent standards for safe construction and eliminate any differences between the three preceding codes. All State building standard codes are based on the federal building codes with California amendments.

Federal Clean Water Act

Section 402 of the federal Clean Water Act (CWA) mandates that certain types of construction activities comply with the requirements of the National Pollutant Discharge Elimination System (NPDES) stormwater program. The Phase II Rule, issued in 1999, requires that construction activities that disturb land equal to or greater than one acre require permitting under the NPDES program. In California, permitting occurs under the General Permit for Stormwater Discharges Associated with Construction Activity, issued to the State Water Resources Control Board (SWRCB), implemented and enforced by the nine Regional Water Quality Control Boards (RWQCBs).

As of July 1, 2010, all dischargers with projects that include clearing, grading or stockpiling activities expected to disturb one or more acres of soil are required to obtain compliance under the NPDES Construction General Permit Order 2009-0009-DWQ. The General Permit requires all dischargers, where construction activity disturbs one or more acres, to take the following measures:

1. Develop and implement a Stormwater Pollution Prevention Plan (SWPPP) to include a site map(s) of existing and proposed building and roadway footprints, drainage patterns and stormwater collection and discharge points, and pre- and post- project topography;
2. Describe types and placement of Best Management Practices (BMPs) in the SWPPP that will be used to protect stormwater quality;
3. Provide a visual and chemical (if non-visible pollutants are expected) monitoring program for implementation upon BMP failure; and
4. Provide a sediment monitoring plan if the area discharges directly to a water body listed on the 303(d) list for sediment.

To obtain coverage, a SWPPP must be submitted to the RWQCB electronically and a copy of the SWPPP must be submitted to the City of Davis. When project construction is completed, the landowner must file a Notice of Termination (NOT).

State Regulations

The following are the State environmental laws and policies relevant to soils, geology, seismic hazards, and paleontological resources.

Alquist-Priolo Earthquake Fault Zone Act

The 1972 Alquist-Priolo Earthquake Fault Zone Act was passed to prevent the new development of buildings and structures for human occupancy on the surface of active faults. The Act is directed at the hazards of surface fault rupture and does not address other forms of earthquake hazards. The locations of active faults are established into fault zones by the Alquist-Priolo Zone Act. Local agencies regulate any new developments within the appropriate zones in their jurisdiction.

The Alquist-Priolo Zone Act regulates development near active faults so as to mitigate the hazard of surface fault rupture. The Alquist-Priolo Zone Act requires that the State Geologist (Chief of the California Department of Mines and Geology [CDMG]) delineate “special study zones” along known active faults in California. Cities and counties affected by the special study zones must regulate certain development projects within the special study zones. The Alquist-Priolo Zone Act prohibits the development of structures for human occupancy across the traces of active faults. According to the Alquist-Priolo Zone Act, active faults have experienced surface displacement during the last 11,000 years. Potentially active faults are those that show evidence of surface displacement during the last 1.6 million years. A fault may be presumed to be inactive based on satisfactory geologic evidence; however, the evidence necessary to prove inactivity sometimes is difficult to obtain and may not exist.

Seismic Hazards Mapping Act

The California Seismic Hazards Mapping Act of 1990 (California Public Resources Code [PRC] Section 2690-2699.6) addresses non-surface rupture earthquake hazards, including liquefaction, induced landslides, and subsidence. A mapping program is also established by this Act, which identifies areas within California that have the potential to be affected by such non-surface rupture hazards. The Seismic Hazards Mapping Act specifies that the lead agency for a project may withhold development permits until geologic or soils investigations are conducted for specific sites and mitigation measures are incorporated into plans to reduce hazards associated with seismicity and unstable soils.

California Building Standards Code

The State of California regulates development within the State through a variety of tools that reduce or mitigate potential hazards from earthquakes or other geologic hazards. The California Building Standards Code (CBSC) (California Code of Regulations [CCR], Title 24) governs the design and construction of all building occupancies and associated facilities and equipment throughout California. In addition, the CBSC governs development in potentially seismically active areas and contains provisions to safeguard against major structural failures or loss of life caused by earthquakes or other geologic hazards. The California building standards include building standards in the national building code, building standards adapted from national codes to meet California conditions, and building standards adopted to address particular California concerns. It should be noted that the CBSC is updated on a triennial cycle. The most recent update, the 2022 CBSC, became effective on January 1, 2023.

Local Regulations

Relevant goals and policies from the City of Davis General Plan and various other local guidelines and regulations related to soils, geology, seismic hazards, and paleontological resources are provided below.

City of Davis General Plan

The following goal and policy from the City of Davis General Plan is applicable to the Proposed Project and BRPA:

Hazards Element

Goal HAZ 2 Minimize risks associated with soils, geology and seismicity in Davis.

Policy HAZ 2.1 Take necessary precautions to minimize risks associated with soils, geology and seismicity.

City of Davis Municipal Code

Section 40.42.110 of the City of Davis Municipal Code regulates site grading design. The following guidelines are applicable to the Proposed Project and BRPA, and are outlined below.

Section 40.42.110 Grading design plan

(a) For the efficient use of water, grading of a project site shall be designed to minimize soil erosion, runoff, and water waste. A grading plan shall be submitted as part of the landscape documentation package. A comprehensive grading plan prepared by a civil engineer for other local agency permits satisfies this requirement.
    1) The project applicant shall submit a landscape grading plan that indicates finished configurations and elevations of the landscape area including:
        A. Height of graded slopes;
        B. Drainage patterns;
        C. Pad elevations;
        D. Finish grade; and
        E. Stormwater retention improvements, if applicable.
    2) To prevent excessive erosion and runoff, it is highly recommended that project applicants:
        A. Grade so that all irrigation and normal rainfall remains within property lines and does not drain on to non-permeable hardscapes;
        B. Avoid disruption of natural drainage patterns and undisturbed soil; and
        C. Avoid soil compaction in landscape areas; and
        D. Decompact and break up compacted soil in landscape areas.
    3) The grading design plan shall contain the following statement: “I have complied with the criteria of the ordinance and applied them accordingly for the efficient use of water in the grading design plan” and shall bear the signature of a

licensed professional as authorized by law. (Ord. 2369 § 2, 2010)

4.6.4 IMPACTS AND MITIGATION MEASURES

This section describes the standards of significance and methodology used to analyze and determine the potential impacts of the Proposed Project and BRPA related to geology, soils, and paleontological resources. In addition, a discussion of the project's impacts, as well as mitigation measures where necessary, is also presented.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines, an impact related to geology and soils is considered significant if the Proposed Project or the BRPA would:

- Directly or 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; and
    - 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 landslides, lateral spreading, subsidence, liquefaction or collapse;
- Be located on expansive soil, as defined in Table 118-1-B of the UBC (1994), creating substantial risks to life or property;
- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water (see Chapter 5, Effects Not Found to be Significant); or
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

As noted above, issues related to whether the Proposed Project or BRPA would result in any of the following impacts are discussed in Chapter 5, Effects Not Found to be Significant, of this EIR:

- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

Method of Analysis

As discussed in the Project Description chapter of this EIR, the 114.88-acre northern portion of the project site/BRPA site is not currently proposed for development. Accordingly, this chapter includes an analysis of impacts associated with development of only the 382.72-acre parcel and off-site improvement areas.

The analysis presented within this chapter is based primarily on the Preliminary Geotechnical Evaluation prepared for the Proposed Project and BRPA by Geocon. The purpose of the Preliminary Geotechnical Evaluation was to evaluate the subsurface soil and geologic conditions within the project site/BRPA and provide conclusions and recommendations pertaining to the geotechnical and geologic aspects of the Proposed Project and BRPA. The report was intended for project planning and due-diligence purposes only. Additional geotechnical investigation and

analysis would be required for design and construction of the Proposed Project or BRPA. The scope of the Preliminary Geotechnical Evaluation included the following:

- A limited site reconnaissance of the 382.72-acre portion of the project site/BRPA site, which did not include soil borings at the project site/BRPA site;
- A review of USGS topographic maps, geologic maps and reports that included the project site, and available groundwater information; and
- A review of previous environmental assessments completed for other development projects within the City of Davis by Geocon including:
    - *Geotechnical Investigation – Grande Avenue Property, APN 035-097-012-1, Davis, California* (Project No. S9237-06-02). June 2007.
    - *Geotechnical Investigation – Paul's Place – 1111 H Street, Davis, California* (Project No. S2072-05-01). January 5, 2021.
    - *Geotechnical Investigation – Wildhorse Ranch, APN 071-140-11, Davis, California* (Project No. S9235-06-01). April 2007.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts is based on implementation of the Proposed Project or BRPA in comparison with the standards of significance identified above.

4.6-1 Directly or 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, and seismic-related ground failure. Based on the analysis below, the impact is *less than significant*.

The following discussion includes an analysis of potential impacts related to development of the Proposed Project or BRPA, which could directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, and seismic-related ground failure. Because the Proposed Project and BRPA would be developed within the same overall site boundaries, the discussion below applies to both the Proposed Project and the BRPA.

Proposed Project, Biological Resources Preservation Alternative

Known faults do not extend across the project site/BRPA site, and the project site/BRPA site is not located within an Alquist-Priolo Special Studies Zone. Therefore, the potential for fault rupture, damage from fault displacement, or fault movement directly below the project site/BRPA site is considered low. The project site/BRPA site is located within an area where shaking from earthquake generated ground motion waves should be considered likely; however, according to the City's General Plan EIR, groundshaking is not considered a major geologic hazard in the City of Davis.[9]

While lower-intensity earthquakes could potentially occur at the project site/BRPA site, the design of project structures would be required to adhere to the provisions of the 2022 CBSC. The 2022 CBSC contains provisions to safeguard against major

[9] City of Davis. *Final Program EIR for the City of Davis General Plan Update and Final Project EIR for Establishment of a New Junior High School [pg. 5I-10].* Certified May 2001.

structural failures or loss of life caused by earthquakes or other geologic hazards. Specifically, projects designed in accordance with the CBSC should be able to: 1) resist minor earthquakes without damage; 2) resist moderate earthquakes without structural damage, but with some non-structural damage; and 3) resist major earthquakes without collapse, but with some structural, as well as non-structural damage. Although conformance with the CBSC does not guarantee that substantial structural damage would not occur in the event of a maximum magnitude earthquake, conformance with the CBSC can reasonably be assumed to ensure structures would be survivable, allowing occupants to safely evacuate in the event of a major earthquake.

Furthermore, according to the Preliminary Geotechnical Evaluation, slope instability is not a hazard for the project site/BRPA site and the potential for liquefaction and significant adverse impacts from liquefaction are low. As noted in the Preliminary Geotechnical Evaluation, due to the relatively low seismicity of the project area, the potential for seismically induced damage to the proposed structures due to surface rupture and settlement is minimal. Impacts related to liquefaction and landslide are discussed further in Impact 4.6-3 of this chapter.

Overall, the proposed development would not be subject to substantial risks related to fault rupture hazards. Due to the relatively low seismicity of the area, compliance with CBSC requirements related to seismic design, and the lack of substantial natural slopes at the project site/BRPA site, the potential for the project to expose people or structures to the risk of loss, injury, or death involving rupture of an earthquake fault, strong ground shaking, or ground failure would be ***less-than-significant***.

Mitigation Measure(s)

None required.

4.6-2 Result in substantial soil erosion or the loss of topsoil. Based on the analysis below, the impact is *less than significant*.

The following discussion includes an analysis of potential impacts associated with the Proposed Project or BRPA, which may result in substantial soil erosion or loss of topsoil. Because the Proposed Project and BRPA would be developed within the same overall site boundaries, the discussion below applies to both the Proposed Project and the BRPA.

Proposed Project, Biological Resources Preservation Alternative

Erosion refers to the removal of soil from exposed bedrock surfaces by wind or water. Although naturally occurring, erosion is often accelerated by human activities that disturb soil and vegetation. Grading, excavation, removal of vegetation cover, and loading activities associated with construction could temporarily increase erosion, runoff, and sedimentation. Buildout of the Proposed Project or BRPA would require grading, excavation, and other construction-related activities, which, during the early stages of construction, could cause topsoil to be exposed, potentially resulting in wind erosion or an accelerated rate of erosion during storm events. However, the topography of the project site/BRPA site is relatively level, and upon development of the project site/BRPA site with buildings and structures, the amount of exposed soil

that may be lost due to wind or stormwater runoff would be minimized, as the project site/BRPA site would be largely covered with impervious surfaces.

NPDES permits are required for the discharge of pollutants to waters of the United States, which includes any discharge to surface waters, including lakes, rivers, streams, bays, dry stream beds, wetlands, and storm sewers. The RWQCB issues permits in lieu of direct issuance by the Environmental Protection Agency (EPA). The terms of the NPDES permits implement pertinent provisions of the Federal CWA. Section 30.03.010 of City of Davis Municipal Code adopts by reference the standards of the State of California's NPDES Construction General Permit for Stormwater Discharges Associated with Construction Activity (NPDES General Permit No. CAS000002). In accordance with the NPDES General Construction Permit, a SWPPP is required for any project that disturbs at least one acre of soil. Because the Proposed Project and BRPA would disturb more than one acre of soil, a SWPPP in compliance with the NPDES would need to be prepared.

Pursuant to NPDES requirements, a SWPPP would be prepared for the Proposed Project or BRPA, which would include the site plan, drainage patterns and stormwater collection and discharge points, BMPs, and a monitoring and reporting framework for implementation of BMPs, as necessary. In addition, a Notice of Intent (NOI) would be filed with the RWQCB. Construction activities would be required to comply with the conditions of this permit, including the implementation of multiple erosion and sediment control BMPs identified in the SWPPP. A Qualified SWPPP Practitioner (QSP) would ensure compliance with the SWPPP through regular monitoring and visual inspections during construction activities. The QSP for the project would amend the SWPPP and revise project BMPs, as determined necessary through field inspections, to protect against substantial erosion or siltation on- or off-site.

Compliance with a project-specific SWPPP would help ensure that soil erosion during construction and rain events is limited to the maximum extent feasible. Therefore, the potential for erosion and associated hazards would be low. During project operations, vehicles would be limited to paved areas of the project site/BRPA site, and all surfaces would be either paved or landscaped; thus, the potential for erosion to occur during project operations is also limited. Implementation of the SWPPP and BMPs would ensure that the Proposed Project and BRPA would not result in substantial erosion or the loss of topsoil.

Therefore, the Proposed Project and BRPA would not result in substantial soil erosion or the loss of topsoil, and thus, a ***less-than-significant*** impact could occur.

Mitigation Measure(s)

None required.

4.6-3 Be located on a geological 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, or be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code, creating substantial risks to life or property. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

The following discussion includes an analysis of potential impacts related to unstable geologic units and/or soils, including landslide, lateral spreading, subsidence, liquefaction, collapse, and expansive soils as a result of development of the Proposed Project or BRPA. Because the Proposed Project and BRPA would be developed within the same overall site boundaries, the discussion below applies to both the Proposed Project and the BRPA.

Proposed Project, Biological Resources Preservation Alternative

Issues associated with unstable geologic units and/or soils, including landslide, lateral spreading, subsidence, liquefaction, collapse, and expansive soils are discussed below.

Landslides

A landslide is defined as the movement of a mass of rock, debris, or earth down a slope. Almost every landslide has multiple causes. Slope movement occurs when forces acting down-slope exceed the strength of the earth materials that compose the slope. Landslides in California occur mainly due to intense rainfall or are triggered by earthquakes. According to the CGS, the project site/BRPA site is not currently within a State of California Seismic Hazard Zone for seismically induced landsliding.[10] In addition, the project site/BRPA site is relatively level and flat with elevations ranging from 31 to 43 feet amsl. Furthermore, constructed slopes are not located on or adjacent to the project site/BRPA site. Given that the project site/BRPA site is not mapped in a landslide zone and the project site/BRPA site does not contain any slopes that could be subject to landslide risks, development of the project site/BRPA site with residential uses and associated improvements would not result in on- or off-site landslide hazards.

Lateral Spreading

Lateral spreading is associated with terrain near free faces such as excavations, channels, or open bodies of water. As discussed above, the project site/BRPA site is relatively level, with elevations ranging from approximately 31 to 43 feet amsl. Given that the proposed development area and the surrounding area do not contain any steep slopes or free faces, the Proposed Project and BRPA would not be subject to substantial risks related to lateral spreading.

[10] California Geological Survey. *Landslide Inventory Map.* Available at: https://maps.conservation.ca.gov/cgs/lsi/app/. Accessed March 2024.

Subsidence/Settlement

Subsidence is the settlement of soils of very low density, generally from either oxidation of organic material, desiccation and shrinkage, or both, following drainage. Subsidence takes place gradually, usually over a period of several years, and is a common consequence of liquefaction. Due to the project site's/BRPA site's low potential for liquefaction, the potential for seismically-induced settlement to occur at the project site/BRPA site is also considered to be low. Nonetheless, the Preliminary Geotechnical Evaluation concluded that the results of the liquefaction analysis are preliminary, and should be further evaluated with a design-level geotechnical exploration. Without confirmation from such a report, the potential exists for the Proposed Project or BRPA to be exposed to substantial risks related to subsidence or settlement.

Liquefaction

Liquefaction occurs when saturated fine-grained sand and/or silts lose their physical strength temporarily during earthquake-induced shaking and behave as a liquid. The project site/BRPA site is not currently mapped for potential liquefaction hazard by the CGS. In addition, Geocon is not aware of any reported historical instances of liquefaction in the Davis area. However, soil and groundwater conditions exist at the project site/BRPA site that may be susceptible to seismic-induced liquefaction under the design-level seismic event. For example, portions of the project site are underlain by poorly drained silty clays and groundwater has been encountered in below ground surface borings at the project site. Based on the results of liquefaction susceptibility analyses performed by Geocon for nearby sites, and the anticipated subsurface condition at the project site/BRPA site, Geocon concluded that the potential for liquefaction and significant adverse impacts from liquefaction are low. Nonetheless, the Preliminary Geotechnical Evaluation concluded that the results of the liquefaction analysis are preliminary, and should be further evaluated with a design-level geotechnical exploration. Without confirmation from such a report, the potential exists for the Proposed Project or BRPA to be exposed to substantial risks related to liquefaction.

Collapse

As discussed above, the project site/BRPA site is not located in an area that would likely be subject to strong ground shaking, and is not underlain by any active faults or located within an Alquist-Priolo Fault Study Zone. Additionally, all structures constructed as part of the Proposed Project or BRPA would be required to adhere to the provisions of the most recent version of the CBSC in effect at the time of building permit issuance. Structures built according to the seismic design provisions of current building codes would be able to resist major earthquakes without collapse, but with some structural, as well as non-structural damage. Given the project's adherence to the CBSC requirements, the Proposed Project or BRPA would not be subject to substantial risks associated with building collapse.

Expansive Soils

According to the Preliminary Geotechnical Evaluation, expansive clay soils are common in the area and the near-surface soil at the project site/BRPA site is expected to consist of lean and fat clays with a medium to high expansion potential when subjected to moisture variations. Expansive soils have the potential to compromise the

structural integrity of project features, which could result in a significant impact. The Preliminary Geotechnical Evaluation includes recommendations to reduce potential damage to the Proposed Project or BRPA, such as proper moisture conditioning and compaction control during site grading of the project site/BRPA site and designing foundations to resist differential soil movement. Without implementation of recommended measures, on-site expansive soils could cause differential movement (either shrink or swell) and significant damage to overlying structures. Thus, the Proposed Project or BRPA would have the potential to be exposed to substantial risks related to expansive soils.

Conclusion

From a geotechnical standpoint, provided that the recommendations included in the Preliminary Geotechnical Evaluation prepared for the Proposed Project or BRPA are implemented into the project design and specifications, the geological and soil conditions on the project site/BRPA site would be adequate to support development of the Proposed Project or BRPA. However, conformance with such recommendations cannot be ensured and a final design-level geotechnical engineering report has not yet been prepared. As a result, a ***significant*** impact could occur related to subsidence/settlement, liquefaction, and/or expansive soils.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level.

Proposed Project, Biological Resources Preservation Alternative

4.6-3 *Prior to final design approval and issuance of building permits for the Proposed Project or BRPA, the project applicant shall submit a design-level geotechnical engineering report produced by a California Registered Civil Engineer or Geotechnical Engineer to the City of Davis Community Development Department and Public Works Department, for review and approval. The report shall include the results of a site-specific subsurface exploration, laboratory testing, and engineering analysis. The design-level report shall be performed after site configuration/layout has been established. The investigation shall include several exploratory borings and test pits throughout the project site/BRPA site to evaluate the potential presence of undocumented fill, tilled/disturbed soil thickness, liquefaction potential, and excavation characteristics. The design-level geotechnical engineering report shall evaluate soil expansion potential and include the results of a laboratory plasticity index and expansion index testing. The report shall include the geotechnical recommendations specified in the Preliminary Geotechnical Evaluation prepared for the Proposed Project and BRPA, unless it is determined in the design-level report that one or more recommendations need to be revised.*

The design-level geotechnical engineering report shall address, at a minimum, the following:

- *Compaction specifications and subgrade preparation for on-site soils;*
- *Structural foundations;*
- *Grading practices;*
- *Liquefaction potential; and*
- *Expansive/unstable soils, including fill.*

Prior to issuance of any improvement plans, the foundation and improvement plans shall incorporate design-level recommendations. All foundation and improvement plans shall be reviewed and approved by the City of Davis Public Works – Engineering and Transportation Department, and the City of Davis Community Development Department – Building Division prior to issuance of any building permits.

4.6-4 Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

The following discussion includes an analysis of potential impacts related to the direct or indirect destruction of a unique paleontological resource or site or unique geologic feature as a result of development of the Proposed Project or BRPA. Because the Proposed Project and BRPA would be developed within the same overall site boundaries, the discussion below applies to both the Proposed Project and the BRPA.

Proposed Project, Biological Resources Preservation Alternative

As previously discussed, the project site/BRPA site is underlain by Quaternary-age, Holocene alluvial fan deposits, basin deposits, alluvium, and older alluvium and Holocene basin deposits, which generally consists of interbedded mixtures of alluvial sand, silt, and clay. A Paleontological Records Search for the Proposed Project and BRPA was conducted by Senior Museum Scientist, Patricia A. Holroyd, Ph.D., at the UCMP in order to determine the presence of paleontological resources on the project site/BRPA site. Results of the records search determined that two localities have been discovered within one mile of the project site/BRPA site. Although the project site/BRPA site does not contain any known paleontological resources or unique geologic features, given the undeveloped nature of the project site, the potential exists that a unique paleontological resource or site could be unearthed during project construction activities. It should be noted that the BRPA would have a reduced potential (relative to that of the Proposed Project) to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature due to the preservation of the Natural Habitat Area.

Based on the above, development of the Proposed Project or BRPA could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. As a result, a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

Proposed Project, Biological Resources Preservation Alternative

4.6-4 *Should paleontological resources be discovered during ground-disturbing activities, work shall be halted in the area within 50 feet of the find. Construction may continue in areas outside of the buffer zone. The applicant shall notify the Public Works Department and the City of Davis Community Development Department and retain a qualified paleontologist to inspect the discovery. If deemed significant under criteria established by the Society for Vertebrate Paleontology with respect to authenticity, completeness, preservation, and identification, the resource(s) shall then be salvaged and deposited in an accredited and permanent scientific institution (e.g., University of California Museum of Paleontology [UCMP] or Sierra College), where the discovery would be properly curated and preserved for the benefit of current and future generations. The language of this mitigation measure shall be included on any future grading plans, utility plans, and improvement plans approved by the City of Davis Public Works – Engineering and Transportation Department and the City of Davis Public Works – Utilities and Operations Department for the Proposed Project or BRPA, where excavation work would be required.*

Cumulative Impacts and Mitigation Measures

As defined in Section 15355 of the CEQA Guidelines, "cumulative impacts" refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Additional detail regarding the cumulative project setting can be found in Chapter 6, Statutorily Required Sections, of this EIR.

4.6-5 Cumulative increase in the potential for geological related impacts and hazards. Based on the analysis below, the cumulative impact is *less than significant*.

The following discussion includes an analysis of potential cumulative impacts associated with cumulative increases in the potential for geological related impacts and hazards as a result of development of the Proposed Project or BRPA. Because the Proposed Project and BRPA would be developed within the same overall site boundaries, the discussion below applies to both the Proposed Project and the BRPA.

Proposed Project, Biological Resources Preservation Alternative

Impacts to geology, soils, seismicity, and paleontological resources related to implementation of the Proposed Project or BRPA are analyzed throughout this chapter. As discussed above, existing geological and soil conditions on the project site/BRPA site would generally be adequate to support development of the Proposed

Project or BRPA. In addition, Mitigation Measure 4.6-3, which requires the preparation of a final design-level geotechnical engineering report, would ensure the appropriate recommendations are implemented to reduce project-specific impacts related to geology and soils to a less-than-significant level.

While some geologic characteristics may affect regional construction practices, impacts and mitigation measures are primarily site-specific and project-specific. For example, impacts resulting from development on expansive soils at one project site are not worsened by impacts from development on expansive soils or undocumented fill at another project site. Rather, the soil conditions, and the implications of such conditions for each project, are independent.

As such, the potential for cumulative impacts related to geology, soils, seismicity, and paleontological resources, to which implementation of the Proposed Project or BRPA might contribute, is ***less than significant***.

Mitigation Measure(s)

None required.

4.7. Hazards and Hazardous Materials

4.7 HAZARDS AND HAZARDOUS MATERIALS

4.7.1 INTRODUCTION

The Hazards and Hazardous Materials chapter of the EIR describes existing and potentially occurring hazards and hazardous materials within the project area. The chapter includes a discussion of potential impacts posed by such hazards to the environment. In addition, surrounding land uses are discussed in order to provide an assessment of whether the Proposed Project or Biological Resources Preservation Alternative (BRPA) could impact surrounding land uses. The question of whether surrounding land uses could impact future residents of the Proposed Project or BRPA is not a question requiring analysis under CEQA.[1]

The Hazards and Hazardous Materials chapter is primarily based on information drawn from two Phase I Environmental Site Assessments (ESAs) prepared for the Proposed Project by Geocon Consultants, Inc. (Geocon). The Phase I ESAs include assessment of the proposed 379.2-acre portion of the project site/BRPA site proposed for urban development (hereafter referred to as Urban Development Area Phase I ESA) (see Appendix F of this EIR)[2] and assessment of the proposed 118.4-acre Urban Agricultural Transition Area (UATA) and surrounding area (hereafter referred to as UATA Phase I ESA) (see Appendix G of this EIR).[3] In addition, this chapter incorporates information from three Phase II ESAs prepared for the Proposed Project by Geocon to assess soil conditions within the proposed urban development area (hereafter referred to as Urban Development Area Phase II ESA) (see Appendix H of this EIR)[4] and agricultural buffer area (hereafter referred to as UATA Phase II ESA) (see Appendix I of this EIR),[5] as well as effects to on-site soils from the former firing range site currently occupied by Davis Paintball and Blue Max Kart Club (hereafter referred to as Firing Range Phase II ESA) (see Appendix J of this EIR).[6] This chapter additionally relies on information from the City of Davis General Plan[7] and the associated General Plan EIR.[8]

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1 Per the *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369 (*CBIA*), the California Supreme Court held that "agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents. But when a proposed project risks exacerbating those environmental hazards or conditions that already exist, an agency must analyze the potential impact of such hazards on future residents or users. In those specific instances, it is the project's impact on the environment – and not the environment's impact on the project – that compels an evaluation of how future residents or users could be affected by exacerbated conditions." (*Id.* at pp. 377-378.).

2 Geocon Consultants, Inc. *Phase I Environmental Site Assessment Report, Village Farms Davis, Davis, California*. Revised February 14, 2024.

3 Geocon Consultants, Inc. *Phase I Environmental Site Assessment Report, Yolo County, Assessor's Parcel Number 042-110-029, Davis, California*. Revised February 14, 2024.

4 Geocon Consultants, Inc. *Phase II Environmental Site Assessment, Village Farms Davis, Davis, California*. Revised February 14, 2024.

5 Geocon Consultants, Inc. *Phase II Environmental Site Assessment Report, Village Farms Davis Agricultural Buffer Area, Yolo County Assessor's Parcel Number 042-110-029 and 035-970-033, Davis, California*. Revised March 25, 2024.

6 Geocon Consultants, Inc. *Phase II Environmental Site Assessment, Addressing Nearby Firing Range, Village Farms Davis, Davis, California*. May 15, 2023.

7 City of Davis. *City of Davis General Plan.* Adopted May 2001, Amended January 2007.

8 City of Davis. *Final Program EIR for the City of Davis General Plan Update and Final Project EIR for Establishment of a New Junior High School.* Certified May 2001.

4.7.2 EXISTING ENVIRONMENTAL SETTING

The following section includes a definition of hazardous materials and descriptions of the existing conditions associated with the project site/BRPA site related to hazards and hazardous materials.

Hazardous Materials

The term "hazardous substance" refers to both hazardous materials and hazardous wastes. A material is defined as hazardous if the material appears on a list of hazardous materials prepared by a federal, State, or local regulatory agency or if the material has characteristics defined as hazardous by such agencies. The California Environmental Protection Agency (CalEPA), California Department of Toxic Substances Control (DTSC) defines hazardous waste, as found in the California Health and Safety Code Section 25141(b), as follows:

> […] waste that, because of the quantity, concentration, or physical, chemical, or infectious characteristics of the waste, may do either of the following:
>
> (1) Cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness.
> (2) Pose a substantial present or potential hazard to human health or the environment, due to factors including, but not limited to, carcinogenicity, acute toxicity, chronic toxicity, bioaccumulative properties, or persistence in the environment, when improperly treated, stored, transported, or disposed of, or otherwise managed.

The following discussion focuses on the potential Recognized Environmental Conditions (RECs) associated with the project site/BRPA site. A REC indicates the presence or likely presence of any hazardous substances in, on, or at a property due to any release into the environment, under conditions indicative of a release to the environment, or under conditions that pose a material threat of a future release to the environment.[9]

Additionally, the following sections include a discussion of historical RECs (HRECs) associated with the project site/BRPA site. A HREC indicates a past release of hazardous substances or petroleum products that has occurred in connection with a property and has been addressed to the satisfaction of the applicable regulatory authority. A HREC does not have any property use restrictions and, thus, does not have any use limitations with respect to future activities on the property. The following discussion also addresses the possibility of controlled RECs (CRECs) associated with the project site/BRPA site. A CREC is a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority, with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls.

Project Area Conditions

The project site/BRPA site is located in an unincorporated portion of Yolo County immediately north of the City of Davis. The existing on-site conditions of the urban development area and the UATA are discussed separately below.

Urban Development Area

According to the Urban Development Area Phase I ESA, the portion of the project site/BRPA site proposed for urban development is primarily comprised of irrigated farmland, but also includes an

[9] ASTM International. *ASTM E1527, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.* 2013.

approximately 1.5-acre "former structure area" located in the southern portion of the site (see Figure 4.7-1 and Figure 4.7-2).

The former structure area formerly contained a barn, residence, and shed (see Markers #3 through #5 in Figure 4.7-1). Currently, the only structure within the former structure area is a water tank house, which was historically sided with unpainted metal and is currently sided with unpainted wood. To the south of the former structure area is a beekeeping area and associated pallet tanks of natural flavoring (see Marker #6 in Figure 4.7-1). A Pacific Gas and Electric Company (PG&E) buried gas pipeline is located near the former structure area and crosses through the center of the project site/BRPA site, from south-southeast to north-northwest (see Marker #10 in Figure 4.7-1), as does a sewer line with associated manholes (see Marker #11 in Figure 4.7-1). A PG&E pole-mounted electrical transformer is also located near the former structure area, as well as a domestic well (see Marker #7 in Figure 4.7-1), adjacent to the southwest of the former structure area.

Elsewhere, an irrigation well, associated 1,000-gallon diesel aboveground storage tank (AST), and diesel engine and turbine occur in the north-central area of the urban development portion of the project site/BRPA site, along the current alignment of Channel A (see Markers #12 through #14 in Figure 4.7-1). A well, associated turbine, and concrete pad are also located in the eastern portion of the urban development area (see Markers #15 and #16 in Figure 4.7-1). Additionally, irrigation wells are present in the north-central and eastern portions of the site.

Monitoring wells associated with the former landfill occur in the northern portion of the urban development area (see Marker #17 in Figure 4.7-1). With respect to off-site areas adjacent to the urban development area, residential development occurs to the east, west, and south. The closed Old Davis Landfill, former wastewater treatment plant (WWTP), and agricultural uses are adjacent to the north. Additionally, a former firing range used by the Davis Police Department was also located approximately 300 feet north of the urban development area on an adjacent property currently occupied by Davis Paintball and Blue Max Kart Club.

The existing potential hazards associated with the Urban Development Area are described in further detail below and are based on the Urban Development Area Phase I and Phase II ESAs, which were conducted concurrently, as well as the Firing Range Phase II ESA.

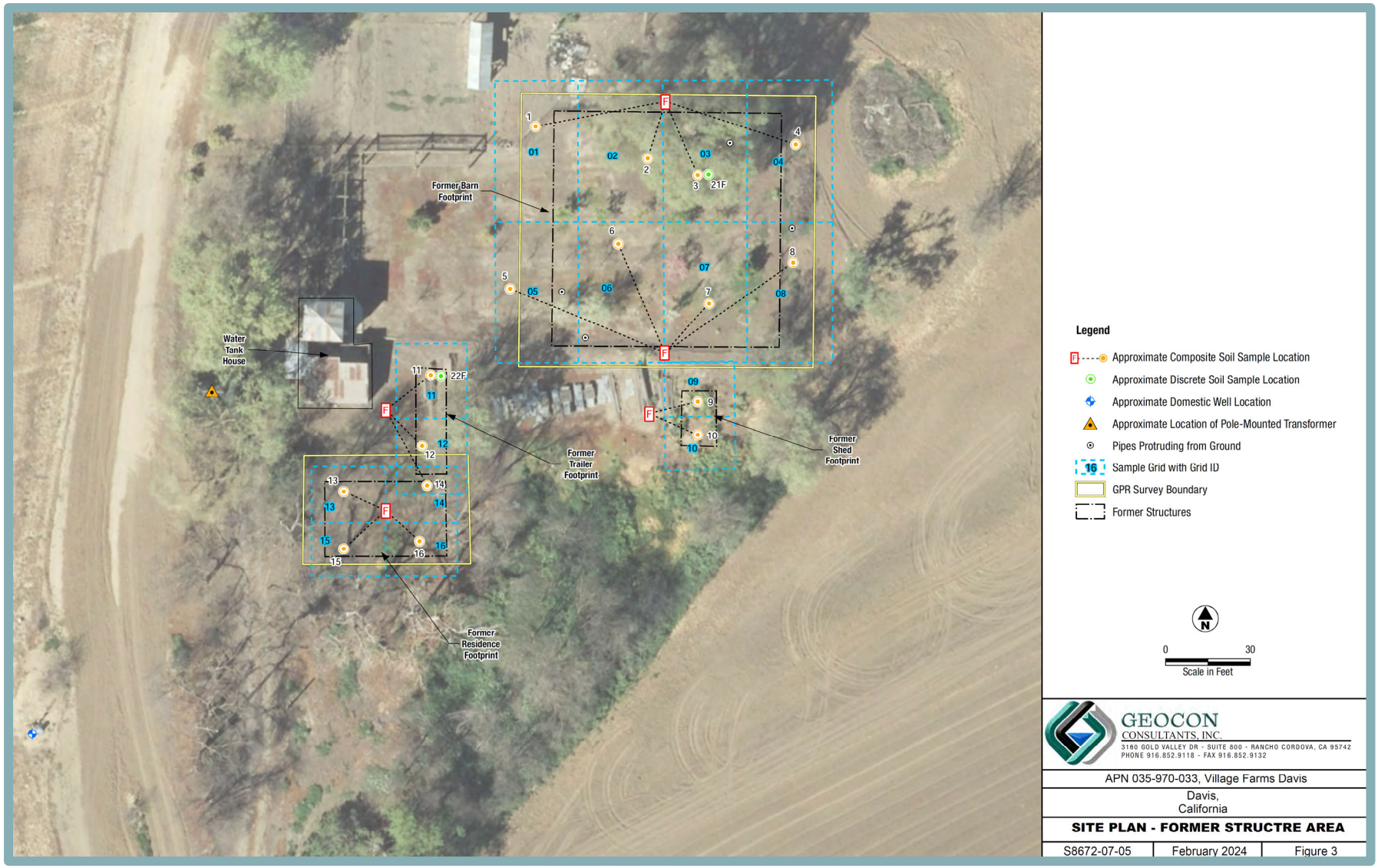
Organochlorine Pesticides and Arsenic

Organochlorine pesticides (OCPs) are a group of chlorinated compounds used as pesticides. OCPs can enter the environment after pesticide applications and can adhere to the soil and air, increasing the chances of high persistence in the environment. Exposure to pesticides has been concluded to increase the risk of hypertension, cardiovascular disorders, and other health-related problems in humans.[10] Arsenic is a metalloid, which possesses characteristics of both a metal and a non-metal, and is widely distributed in the soil, water, air, and rocks. Arsenic was commonly found in pesticides but has since been removed. The immediate symptoms of acute arsenic poisoning include vomiting, abdominal pain, and diarrhea.

[10] National Center for Biotechnology Information, U.S. National Library of Medicine, National Institutes of Health. *Organochlorine pesticides, their toxic effects on living organisms and their fate in the environment*. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5464684/. Accessed March 2024.

Figure 4.7-1
Urban Development Area Survey Area

Figure 4.7-2
Former Structure Area



Long-term exposure to high levels of inorganic arsenic can lead to cancers of the skin, bladder, and/or lungs, as well as adverse pregnancy outcomes.[11] It should be noted that naturally occurring arsenic is present in soils throughout the State and low levels of arsenic below DTSC screening levels are therefore commonly encountered.

According to the Urban Development Area Phase I ESA, the urban development area has been used for agricultural uses since prior to 1937. The City of Davis reported that the on-site agricultural fields had lain fallow for most of the 1990s, but agricultural uses resumed, with the fields planted each summer starting in 1999.

Based on the previous and current agricultural uses associated with the urban development area, the Urban Development Area Phase II ESA included the testing of on-site soils for total arsenic and OCPs associated with the former agricultural uses, in accordance with U.S. Environmental Protection Agency (USEPA) Methods 6010B and 8081A, respectively. Figure 4.7-3 shows the locations of soil samples excavated as part of the Urban Development Area Phase II ESA. According to the Urban Development Area Phase II ESA, arsenic was not detected in on-site soils, and OCPs were not detected at concentrations exceeding the applicable DTSC screening levels for residential soil.

Pursuant to DTSC guidance, the Phase II ESA also included soil sampling at the former structure area and laboratory analysis for potential contaminants, including OCPs. The only OCP detected at concentrations exceeding the DTSC screening level for residential soil was toxaphene, a synthetic organic mixture of chemicals used as an insecticide during the late 1960s and the 1970s that tends to remain in soil for long periods. Laboratory analysis detected toxaphene in four of the five composite surface soil samples gathered throughout the former structure area, as well as the samples taken from the northern end of the former structure area, near the former barn. Concentrations within the gathered soil samples ranged from 1,000 to 1,200,000 micrograms per kilogram (µg/kg), which exceeds the DTSC screening level for toxaphene in residential soil (450 µg/kg). Concentrations of toxaphene exceeding the DTSC screening level were not detected in any of the subsurface samples.

Polychlorinated Biphenyls

Polychlorinated biphenyls (PCBs) are a mixture of individual chemicals that are not currently produced in the U.S. but were previously used in transformers and are still found in the environment. PCBs entered the air, water, and soil during their manufacture, use, and disposal; from accidental spills and leaks during their transport; and from leaks or fires in products containing PCBs. The chemicals do not readily break down and, thus, may persist for very long periods of time. Health effects that have been associated with exposure to PCBs include acne-like skin conditions in adults and neurobehavioral and immunological changes in children.[12] PCBs are also known to cause cancer in animals.

As part of the site reconnaissance conducted for the Urban Development Area Phase I ESA, Geocon observed a single pole-mounted electrical transformer near the former structure area in the southern portion of the urban development area.

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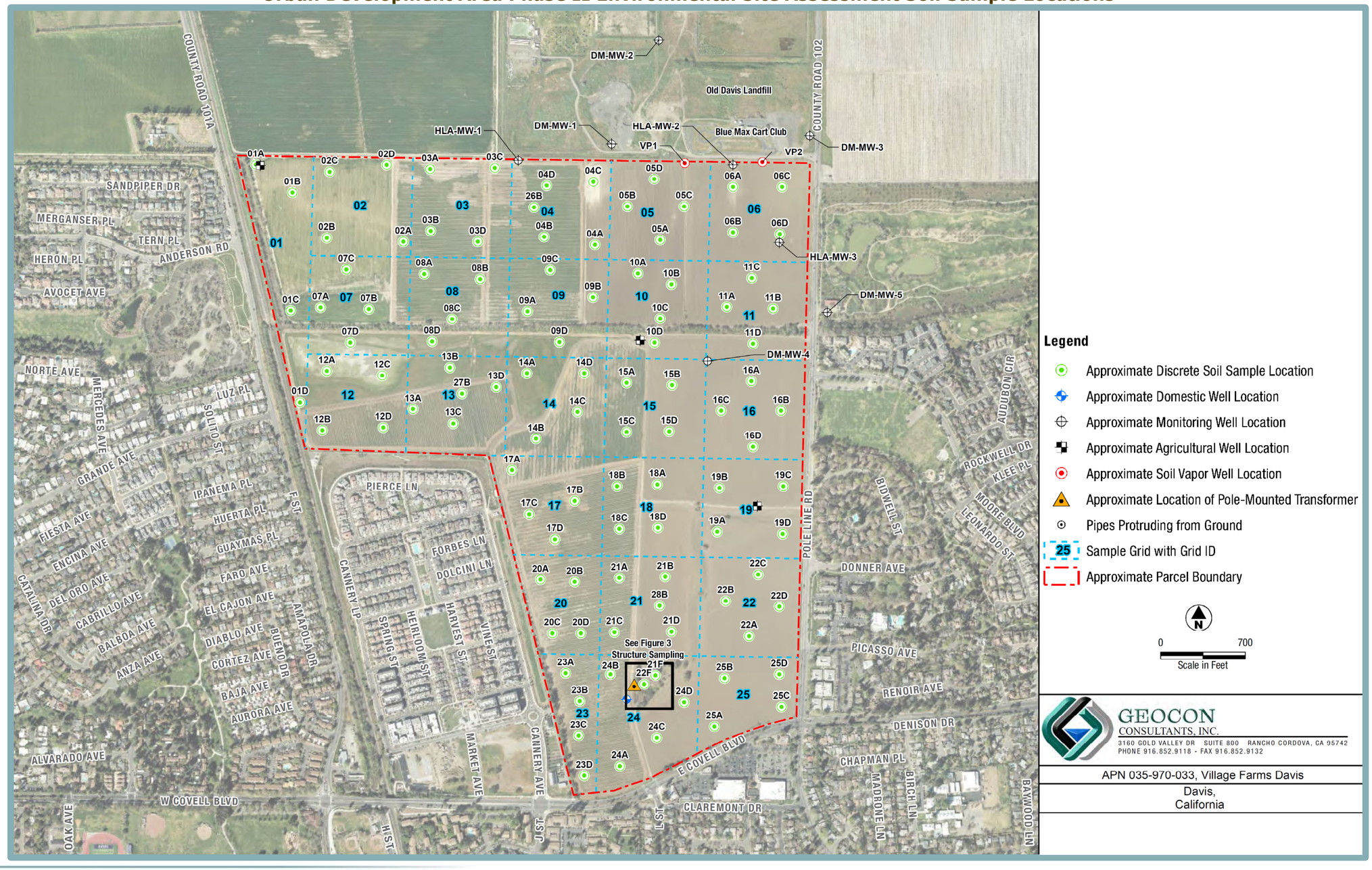
[11] World Health Organization. *Arsenic*. Available at: https://www.who.int/news-room/fact-sheets/detail/arsenic. Accessed March 2024.

[12] Agency for Toxic Substances and Disease Registry, U.S. Department of Health and Human Services. *ToxFAQs for Polychlorinated Biphenyls (PCBs)*. Available at: https://wwwn.cdc.gov/TSP/ToxFAQs/ToxFAQsDetails.aspx?faqid=140&toxid=26. Accessed March 2024.

Figure 4.7-3
Urban Development Area Phase II Environmental Site Assessment Soil Sample Locations



The transformer was not labeled to indicate whether PCBs were present in the dielectric fluid, but evidence of leaking was not observed. Geocon contacted PG&E but was unable to obtain specific information regarding the age or PCB content of the transformer.

Asbestos-Containing Materials

Asbestos is the name for a group of naturally occurring silicate minerals that are considered to be "fibrous" and through processing can be separated into smaller and smaller fibers. The fibers are strong, durable, chemical resistant, and resistant to heat and fire. Because of its fiber strength and heat resistance, asbestos has been used in a variety of building construction materials for insulation and as a fire retardant. Exposure to asbestos increases the risk of developing lung disease, such as lung cancer, mesothelioma, and asbestosis.[13] For buildings constructed prior to 1980, the Code of Federal Regulations (CFR) (Title 29, Section 1926.1101) states that all thermal system insulation (boiler insulation, pipe lagging, and related materials) and surface materials must be designated as "presumed asbestos-containing material" unless proven otherwise through sampling in accordance with the standards of the Asbestos Hazard Emergency Response Act.

The barn, residence, and shed that were historically located in the former structure area were constructed between 1937 and 1952. According to the Urban Development Area Phase I ESA, the former structures were removed circa 2015, and a two-story water tank house is the only structure currently standing within the former structure area. Asbestos-containing materials (ACMs) were not observed on the structure exterior; however, the interior of the structure was boarded up after the recent eviction of unauthorized occupants and, thus, was inaccessible. The presence of asbestos within the water tank house cannot be ruled out.

Lead-Based Paints and Lead-Affected Soils

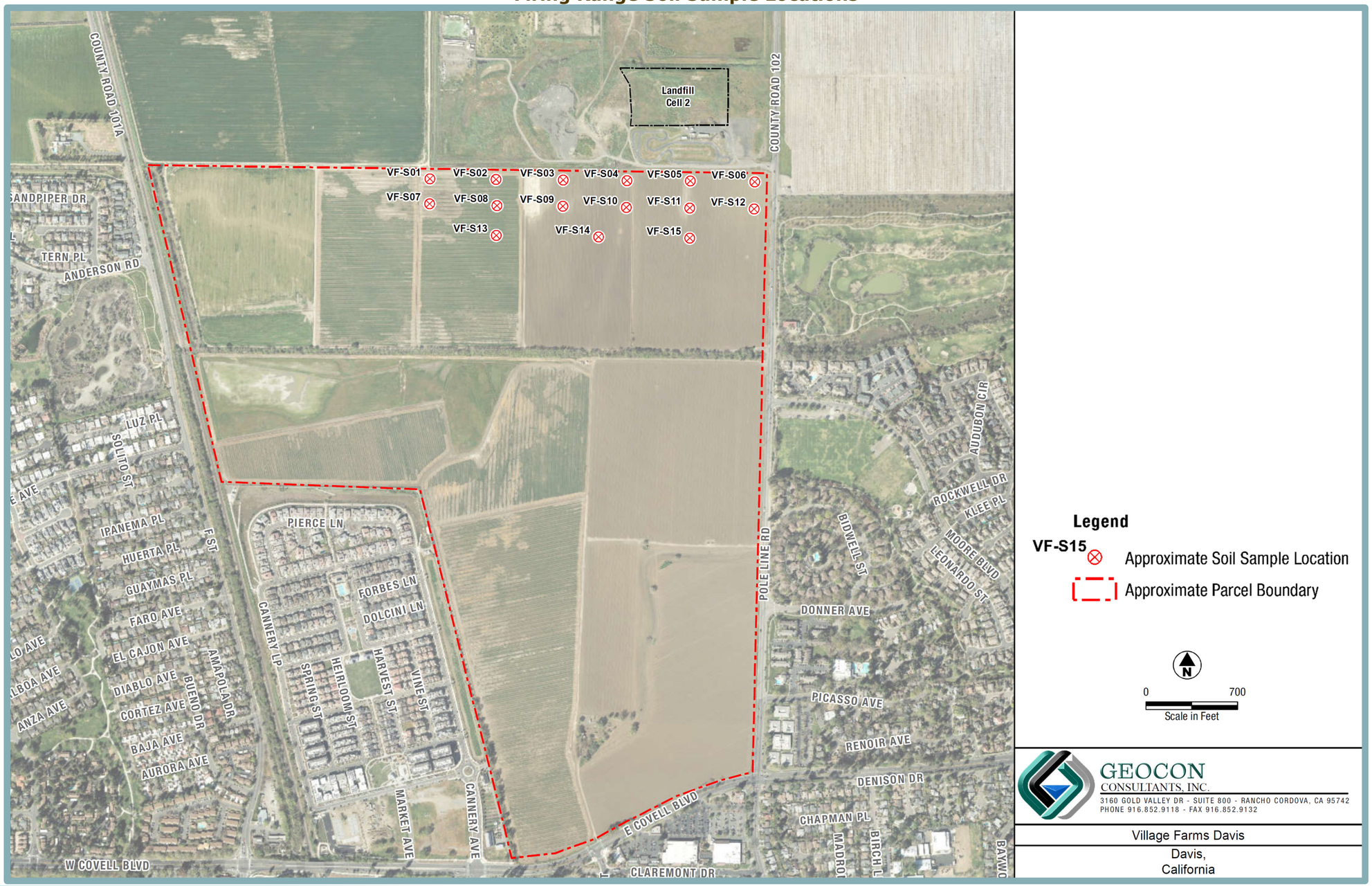
Lead is a highly toxic material that may cause a range of serious illnesses, and in some cases death. Lead was most commonly used in paint. In 1978, the Consumer Product Safety Commission banned the use of lead as an additive to paint; however, lead-based paints (LBPs) could be present in structures built prior to 1970. Typically, human exposure to lead from older vintage paint could occur during renovation, maintenance, or demolition work.

LBPs were not observed on the structure exterior as part of the Urban Development Area Phase I ESA, but as previously discussed, the interior of the structure was boarded up and inaccessible. Pursuant to DTSC guidance, the Urban Development Area Phase II ESA conducted post-demolition soil sampling at the former structure area. The samples were subject to laboratory analysis for lead in accordance with USEPA Method 6010B. Lead was detected at concentrations ranging from 6.6 to 93 milligrams per kilogram (mg/kg), which exceeds the California DTSC Human and Ecological Risk Office Note 3 screening levels (80 mg/kg). Specifically, lead concentrations in one surface soil sample gathered approximately 25 feet north of the former structure area were measured at 93 mg/kg, indicating that shallow soil surrounding the footprint of the former structure has been impacted by concentrations of lead. Although lead was detected in the subsurface sample obtained from the same location, the concentration was measured at 3.9 mg/kg, which is substantially below the DTSC screening level for lead in residential soil.

Off-site firing range operations historically included the discharge of ordnance to the north, away from the urban development portion of the project site/BRPA site into the southern side of a closed landfill unit associated with the Old Davis Landfill, identified in Figure 4.7-4 as Landfill Cell 2.

[13] U.S. Environmental Protection Agency. *Learn About Asbestos*. Available at: https://www.epa.gov/asbestos/learn-about-asbestos#find. Accessed March 2024.

Figure 4.7-4
Firing Range Soil Sample Locations



Firearm discharge and the associated lead shot could potentially create the presence of lead-affected soil.

To evaluate the presence of lead in on-site soils, the Firing Range Phase II ESA included soil samples from a 40-acre area in the northeastern portion of the urban development area. Lead concentrations in the soils potentially affected by the firing range were between 4.5 and 8.9 mg/kg, which is below the California DTSC screening level (80 mg/kg).

Total Petroleum Hydrocarbons

The term "total petroleum hydrocarbons" (TPH) is used to describe a large family of several hundred chemical compounds. The various chemical compounds originally come from crude oil, which is used to make petroleum products that can potentially contaminate the environment. Exposure to TPH compounds can result in several impacts to human health, including effects on the central nervous system, the blood, immune system, lungs, skin, and eyes.[14]

During the field survey associated with the Urban Development Area Phase I ESA, Geocon observed minor diesel and oil staining on the ground surface adjacent to a diesel engine and empty diesel AST associated with an agricultural water supply well in the north-central portion of the project site/BRPA site (see Markers #12 through #14 in Figure 4.7-1). Similar staining was observed adjacent to a concrete pad associated with an agricultural water supply well in the eastern portion of the project site/BRPA site (see Markers #15 and #16 in Figure 4.7-1). Due to its minor nature, Geocon found the oil staining to be a de minimis condition, which is a condition that does not pose a threat to the environment or human health and is not subject to enforcement action from a regulatory agency.

Volatile Organic Compounds

Volatile organic compounds (VOCs) are compounds that have a high vapor pressure and low water solubility.[15] Many VOCs are human-made chemicals that are used and produced in the manufacture of paints, pharmaceuticals, and refrigerants. VOCs are emitted as gases from certain solids or liquids. Some VOCs may have short- and long-term adverse health effects. Concentrations of many VOCs are consistently higher indoors (up to 10 times higher) than outdoors. VOCs are emitted by a wide array of products, including, but not limited to, paints and lacquers, paint strippers, cleaning supplies, pesticides, building materials and furnishings, office equipment, correction fluids and carbonless copy paper, graphics and craft materials, permanent markers, and photographic solutions.

According to the Urban Development Area Phase I ESA, the State Water Resources Control Board's (SWRCB) GeoTracker database identifies the Old Davis Landfill as an open Cleanup Program Site. The landfill was reportedly used as a burn dump prior to 1969, with open-pit burning beginning in the 1940s or 1950s. According to City of Davis Public Works Department records reviewed as part of the Urban Development Area Phase I ESA, the landfill operated from 1969 to 1975. The type of materials disposed of in the landfill included residential, commercial, industrial, and demolition-type wastes. When the landfill was constructed, the excavations were unlined, and leachate collection systems were not installed. A Regional Water Quality Control Board

[14] Agency for Toxic Substances and Disease Registry, U.S. Department of Health and Human Services. *ToxFAQs for Total Petroleum Hydrocarbons (TPH)*. Available at: https://wwwn.cdc.gov/TSP/ToxFAQs/ToxFAQsDetails.aspx?faqid=423&toxid=75. Accessed March 2024.

[15] U.S. Environmental Protection Agency. *What are volatile organic compounds (VOCs)?* Available at: https://www.epa.gov/indoor-air-quality-iaq/what-are-volatile-organic-compounds-vocs. Accessed October 2024.

(RWQCB) inspection report from October 1985 noted that the landfill was capped with three to four feet of cover when the landfill closed.

As shown in Figure 4.7-1, seven groundwater monitoring wells occur either on-site or in the immediate project vicinity that are associated with the Old Davis Landfill (DM-MW-1 through -4 and HLA-MW-1 through -3). Six of the monitoring wells (DM-MW-1 through -4 and HLA-MW-1 and -2) are part of the landfill monitoring program conducted by the City of Davis. As shown in Figure 4.7-1, HLA-MW-3 is located on-site. The status of the well is unknown and is not associated with the monitoring program. Three of the monitoring wells (DM-MW-4, HLA-MW-1 and HLA-MW-2) are on-site. Additionally, two soil vapor wells (VP1 and VP2) occur near the northern site boundary and groundwater monitoring well HLA-MW-2.

According to multiple records reviewed as part of the Urban Development Area Phase I ESA, groundwater beneath the project site/BRPA site appears to have been impacted by low levels of VOCs, as well as general minerals and inorganic constituents (including alkalinity, chloride, nitrate, sulfate, selenium, and total dissolved solids [TDS]) at concentrations higher than the assumed naturally occurring background levels. VOCs have been detected only occasionally at low levels in the groundwater monitoring wells at the site, and therefore, "plume" boundaries have not been established. Additionally, according to the Urban Development Area Phase I ESA, the presence of elevated general minerals and inorganic constituents does not represent a contaminant plume, and background concentrations (concentration limits) have not been established. Groundwater contamination from the former landfill is considered a potential REC. However, as the REC pertains to the quality of the groundwater, potential impacts related to groundwater contamination are discussed in Chapter 4.8, Hydrology and Water Quality, of this EIR.

The RWQCB issued a "Notice of Cleanup Program Site Case and Request for Additional Groundwater Monitoring, Old Davis Landfill" on July 26, 2023. The letter requires the City of Davis to perform additional groundwater monitoring in response to concerns expressed by a Davis resident regarding "potential risks the landfill may pose to properties south of the landfill that are proposed for residential development." The letter states that the RWQCB "does not believe a risk is posed to the residential and commercial properties proposed for development if the development is connected to the existing City municipal water system and the City water system is the sole means of water used by the development."

Other Potential On-Site Recognized Environmental Conditions

The following additional potential environmental concerns were identified for the project site/BRPA site:

- **Subsurface Anomalies:** In addition to the aforementioned potential RECs, four pipes extend from the ground within the portion of the former structure area associated with the barn. Although the Urban Development Area Phase II ESA did not identify evidence of underground storage tanks (USTs) near the pipes, two subsurface anomalies were identified that could be possibly related to USTs. The first is north of the former barn location, and the second is near the southwestern portion of the former residence location. Based on a Yolo County Environmental Health Division (YCEHD) permit for abandonment of a septic tank at the former residence, the third subsurface anomaly may be associated with a partial basement and/or abandoned septic tank.

- **On-Site Wells:** A total of 10 wells are present within the urban development area. The on-site wells are comprised of the following: two soil vapor monitoring wells on the project site/BRPA site boundary south of the Blue Max Kart Club area; four groundwater monitoring wells in the northeastern portion of the urban development area, two of which are associated with the Old Davis Landfill; three agricultural wells, with two in the central portion and one in the northwestern corner of the urban development area; and one domestic water well located in the former structure area (see Figure 4.7-2). It should be noted that three groundwater monitoring wells are located north of the project site/BRPA site (see Figure 4.7-1). Private wells carry the potential to be contaminated by both naturally occurring sources and by human activities, with contaminants potentially released into the environment through ground-disturbing construction activities in the event the on-site wells are disrupted.[16]
- **Natural Gas Pipeline:** Within the central portion of the urban development area, a natural gas pipeline traverses the project site in a north-to-south direction.

It should be noted that previous reviews conducted by Geocon that identified off-site facilities in the vicinity of the project site/BRPA site that were listed by the YCEHD were summarized as part of the Urban Development Area Phase I ESA. As discussed therein, the former Hunt-Wesson facility at 1111 East Covell Boulevard is listed as a closed Leaking UST (LUST) case approximately 630 feet west of the project site/BRPA site. However, the release was to soil only and a No Further Action Required letter was prepared for the facility on January 1, 1989. Based on the regulatory status and lack of confirmed groundwater impacts, the Urban Development Area Phase I ESA concluded that the Hunt-Wesson facility is unlikely to have caused a REC on-site. Furthermore, the site of the former Hunt-Wesson facility is now developed with the Cannery subdivision.

In addition, Geocon previously reviewed records for a Rent-All Center located south of the site at the East Covell Boulevard/F Street intersection. The review indicated that the facility had two 20,000-gallon USTs used to store gasoline and diesel fuel. However, the USTs were removed by Tank Protection Engineering (TPE) on October 14, 1991. Soils around the site were excavated and sampled according to YCEHD requirements. On June 15, 1992, the YCEHD issued a regulatory closure letter granting “No Further Assessment” status for the former UST release. A final site closure letter was issued by the RWQCB in March 1996. Based on the regulatory closure status and the lack of confirmed groundwater impacts, the Urban Development Area Phase I ESA concluded that the facility presents a low risk of impacts to the project site/BRPA site.

Finally, the Haussler Property is located east of the project site/BRPA site at 2002 Renoir Drive. The Urban Development Area Phase I ESA indicates that the facility had two USTs. Laboratory analysis of soil samples collected from the former location of the USTs indicated non-detectable levels of hydrocarbons. A letter from the YCEHD to the Yolo County District Attorney’s Office dated July 6, 1990, stated that the USTs were illegally removed from the ground and transported to another property. However, based on the lack of detectable petroleum hydrocarbons at the former UST location and removal of the USTs, the Urban Development Area Phase I ESA concluded that the Haussler Property presents a low risk of impacting the project site/BRPA site.

[16] U.S. Centers for Disease Control and Prevention. *Water Contamination and Diseases*. Available at: https://www.cdc.gov/healthywater/drinking/private/wells/diseases.html. Accessed March 2024.

Urban Agricultural Transition Area

The UATA portion of the project site/BRPA site is located immediately north of the urban development portion of the site and is comprised of irrigated farmland (see Figure 4.7-5).

Structures are not present within the UATA. An unpaved road bisects the UATA from north to south. A PG&E buried gas line proceeds near the eastern UATA boundary. The UATA is bounded to the west by F Street and Union Pacific Railroad (UPRR) tracks. The site of the former Old Davis Landfill is located to the east of the southern portion of the UATA, and a residential subdivision is located to the southwest.

The existing potential hazards associated with the UATA are described in further detail below and are based on the UATA Phase I and Phase II ESAs.

Organochlorine Pesticides and Arsenic

The UATA has been subject to agricultural uses, including row and grain crops, since prior to 1937. The UATA Phase I ESA concluded that, although persistent pesticides, such as arsenical pesticides or OCPs, may have been historically applied at the UATA portion of the project site/BRPA site, such chemicals are typically associated with orchards, rather than row and grain crops. In addition, records of unregulated chemical use were not identified by the UATA Phase I or Phase II ESAs.

Testing for pesticide residues is generally considered appropriate if an agricultural property would be developed for residential or other sensitive land uses, or if shallow soil would be exported from an agricultural property for residential use. The UATA is not proposed for development, but would provide a buffer between the urban development portion of the project site/BRPA site and the surrounding agricultural uses to the north and dirt from the UATA would be used for fill at the project site/BRPA site. Thus, the UATA Phase II ESA assessed existing UATA soil conditions for use as fill, rather than for potential hazards to new residential development, as the Proposed Project and BRPA would import up to one million cubic yards (CY) of soil from depths up to 10 feet to use as fill. Soil sample locations are shown in Figure 4.7-6.

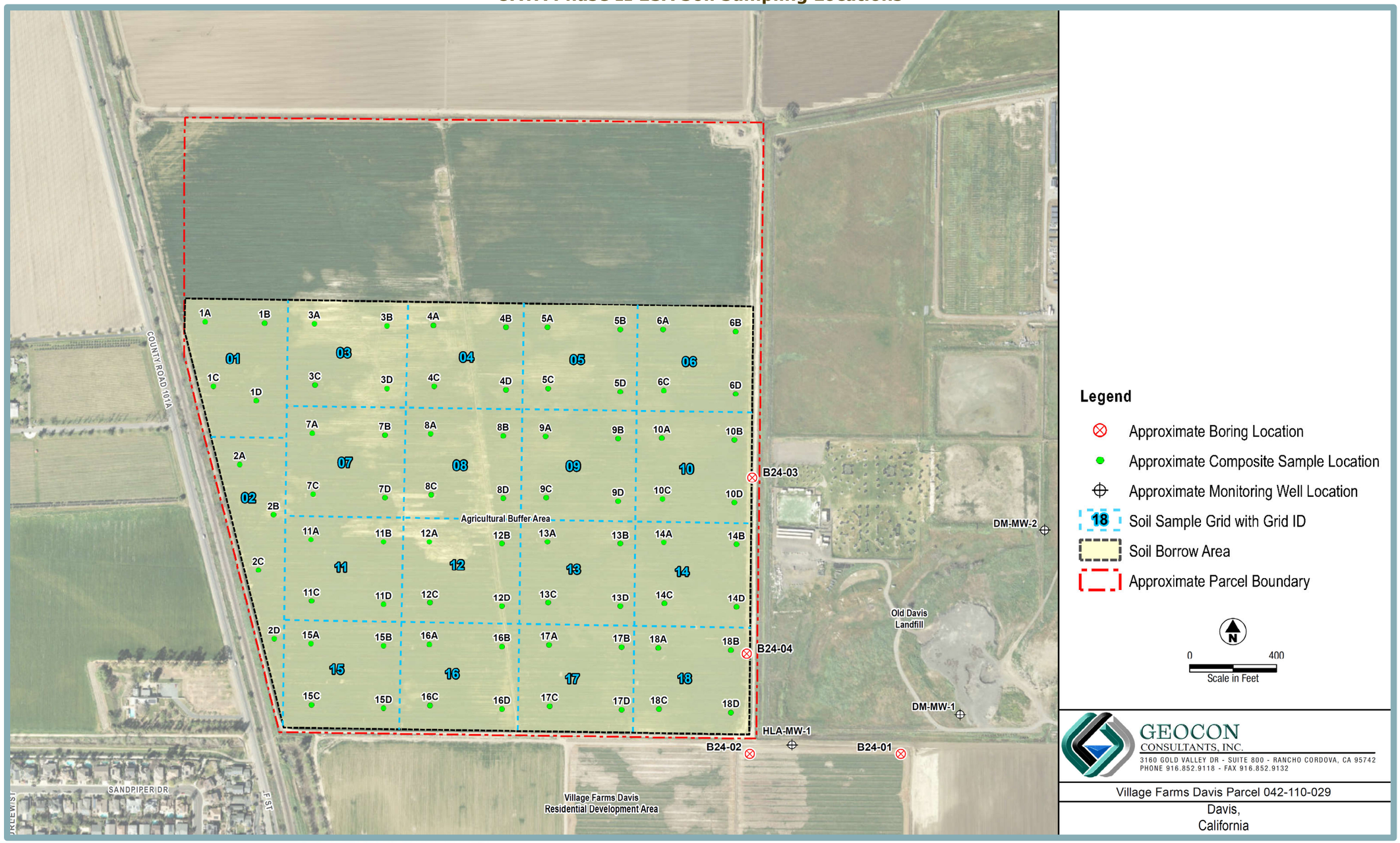
According to the UATA Phase II ESA, arsenic was detected in the soil samples at concentrations ranging from 6.1 to eight mg/kg, which are greater than the DTSC screening level for arsenic in residential soil (0.11 mg/kg). However, as noted in the UATA Phase II ESA, the arsenic levels detected in the soil samples are within the typical range of regional background soil arsenic concentrations. The OCP dichlorodiphenyldichloroethylene (DDE), an insecticide extensively used in the 1940s and 1950s, was detected at concentrations ranging from 1.1 to 5.2 µg /kg, which is less than the DTSC screening level (2,000 µg /kg). Other OCPs were not detected at concentrations exceeding the corresponding screening levels.

Potential Contaminants Associated with Landfill Operations

The UATA is located west of the Old Davis Landfill. According to the UATA Phase II ESA, TPH is a common landfill constituent. Because TPH is commonly found in landfills, the UATA Phase II ESA included subsurface soil testing for TPH. Elevated TPH levels indicating soils affected by gasoline, diesel fuel, or motor oil were not identified by the UATA Phase II ESA.

Figure 4.7-5
Urban Agricultural Transition Area Survey Area

Figure 4.7-6
UATA Phase II ESA Soil Sampling Locations



Heavy metals formerly noted as "CAM 17 metals" are currently listed in Table II, California Code of Regulations (CCR) Title 22, Section 66261.24(a)(2)(A). The list includes, but is not limited to, metals such as antimony, barium, chromium, cobalt, copper, mercury, nickel, silver, and zinc. Heavy metals are commonly found in the environment and, in small amounts, are required for maintaining good health. However, in larger amounts, such metals can become toxic or dangerous. Heavy metal toxicity can lower energy levels and damage the functioning of vital organs, including the brain, lungs, kidney, and liver. Long-term exposure to CAM 17 metals can lead to gradually progressing physical, muscular, and neurological degenerative processes that imitate diseases, such as multiple sclerosis, Parkinson's disease, Alzheimer's disease, and muscular dystrophy. Repeated long-term exposure of some heavy metals and their compounds may even cause cancer.[17]

According to the UATA Phase II ESA, the subsurface soil samples were tested for CAM 17 metals. CAM 17 metals were detected at concentrations less than the screening levels for residential soil, with the exception of arsenic which was detected at concentrations ranging from 6.1 to eight mg/kg. As discussed above, the UATA Phase II ESA concluded that existing levels of arsenic are representative of background conditions.

Off-Site Improvement Areas

Off-site improvements associated with the Proposed Project and BRPA would include, but are not necessarily limited to, a new roundabout along Pole Line Road and new traffic signals at intersections along Pole Line Road and East Covell Boulevard. Additionally, if determined to be feasible, the Proposed Project and BRPA would include a pedestrian/bicycle undercrossing at Pole Line Road. This EIR also evaluates the conceptual landing area for a potential future grade-separated crossing to the west at F Street/UPRR. Ultimately, the feasibility of the pedestrian/bicycle crossings would depend on the UPRR and City of Davis limitations, landing constraints, potential impacts to the surrounding area, and other factors to be determined in coordination with the UPRR and the City. It should be noted that the off-site areas were not specifically evaluated in the Phase I and II ESAs prepared for the project site/BRPA site.

4.7.3 REGULATORY CONTEXT

The following discussions contain a summary of regulatory controls pertaining to hazardous substances, including federal, State, and local laws and ordinances.

Federal Regulations

Federal agencies that regulate hazardous materials include the USEPA, the Occupational Safety and Health Administration (OSHA), the U.S. Department of Transportation (DOT), and the National Institute of Health (NIH). Prior to August 1992, the principal agency at the federal level regulating the generation, transport, and disposal of hazardous waste was the USEPA under the authority of the Resource Conservation and Recovery Act (RCRA). On August 1, 1992, however, the California DTSC was authorized to implement the State's hazardous waste management program for the USEPA. The USEPA continues to regulate hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA). The following federal laws and related regulations govern hazardous materials.

[17] National Center for Biotechnology Information, National Institutes of Health. *Toxicity, mechanism and health effects of some heavy metals*. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4427717. Accessed March 2024.

Occupational Safety and Health Act

Congress passed the Occupational Safety and Health Act (29 U.S.C. Section 651 et seq. [1970]) to ensure worker and workplace safety. Their goal was to make sure employers provide their workers a place of employment free from recognized hazards to safety and health, such as exposure to toxic chemicals, excessive noise levels, mechanical dangers, heat or cold stress, or unsanitary conditions. In order to establish standards for workplace health and safety, the Act also created the National Institute for Occupational Safety and Health (NIOSH) as the research institution for OSHA. OSHA is a division of the U.S. Department of Labor that oversees the administration of the Act and enforces standards in all 50 states. OSHA requires 40 hours of training for hazardous materials operators, as well as an annual eight-hour refresher course, which includes training regarding personal safety, hazardous materials storage and handling, and emergency response.

Comprehensive Environmental Response, Compensation, and Liability Act

The CERCLA (42 U.S.C. Section 9601 et seq. [1980]) provides a federal “Superfund” to clean up uncontrolled or abandoned hazardous-waste sites as well as accidents, spills, and other emergency releases of pollutants and contaminants into the environment. Through CERCLA, the USEPA was given power to seek out those parties responsible for any release and assure their cooperation in the cleanup. The USEPA cleans up orphan sites when potentially responsible parties cannot be identified or located, or when they fail to act. Through various enforcement tools, USEPA obtains private party cleanup through orders, consent decrees, and other small party settlements. The USEPA also recovers costs from financially viable individuals and companies once a response action has been completed. The USEPA is authorized to implement the CERCLA in all 50 states and U.S. territories.

Superfund Amendments and Reauthorization Act of 1986

The Superfund Amendments and Reauthorization Act (SARA) of 1986 (Title III; Section 305[a]) reauthorized CERCLA to continue cleanup activities around the country. Several site-specific amendments, definition clarifications, and technical requirements were added to the legislation, including additional enforcement authorities. In addition, Title III of SARA authorized the Emergency Planning and Community Right-to-Know Act (EPCRA). SARA, Title III provides funding for training in emergency planning, preparedness, mitigation, response, and recovery capabilities associated with hazardous chemicals. Title III of SARA addresses concerns about emergency preparedness for hazardous chemicals, and emphasizes helping communities meet their responsibilities in preparing to handle chemical emergencies and increasing public knowledge and access to information on hazardous chemicals present in their communities.

Resource Conservation and Recovery Act

The RCRA (42 U.S.C. Section 6901 et seq. [1976]) gives USEPA the authority to control hazardous waste from the "cradle-to-grave," which includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled USEPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. The federal Hazardous and Solid Waste Amendments (HSWA) are the 1984 amendments to RCRA that focused on waste minimization and phasing out land disposal of hazardous waste as well as corrective action for releases. Some of the other mandates of this law include increased enforcement authority for USEPA, more stringent hazardous waste management standards, and a comprehensive UST program. States have the authority to

implement individual hazardous waste programs in lieu of the RCRA as long as the state program is as stringent as federal RCRA requirements and is approved by the USEPA.

Toxic Substances Control Act

The Toxic Substances Control Act (TSCA) of 1976 (15 U.S.C. Section 2601 et seq. [1976]) provides USEPA with authority to require reporting, record-keeping and testing requirements, and restrictions related to chemical substances and/or mixtures. Certain substances are generally excluded from TSCA, including, among others, food, drugs, cosmetics, and pesticides. TSCA addresses the production, importation, use, and disposal of specific chemicals including PCBs, asbestos, radon, and LBP.

U.S. Department of Transportation

Transportation of hazardous materials is regulated by the DOT's Office of Hazardous Materials Safety. The office formulates, issues, and revises hazardous materials regulations under the Federal Hazardous Materials Transportation Law. The hazardous materials regulations cover hazardous materials definitions and classifications, hazard communications, shipper and carrier operations, training and security requirements, and packaging and container specifications. The hazardous materials transportation regulations are codified in 49 CFR Parts 100 to 185.

The hazardous materials transportation regulations require carriers transporting hazardous materials to receive required training in the handling and transportation of hazardous materials. Training requirements include pre-trip safety inspections; use of vehicle controls and equipment, including emergency equipment; procedures for safe operation of the transport vehicle; training on the properties of the hazardous material being transported; and loading and unloading procedures. All drivers must possess a commercial driver's license as required by 49 CFR Part 383. Vehicles transporting hazardous materials must be properly placarded. In addition, the carrier is responsible for the safe unloading of hazardous materials at the site, and operators must follow specific procedures during unloading to minimize the potential for an accidental release of hazardous materials.

Asbestos Hazard Emergency Response Act

The 1986 Asbestos Hazard Emergency Response Act (AHERA) was signed into law as Title II of the TSCA, requiring the Asbestos Model Accreditation Plan (MAP) for accrediting individuals conducting asbestos inspection and corrective-action activities in schools and public and commercial buildings. The MAP provides guidance on the minimum training requirements for accrediting asbestos professionals, such as procedural entry, exit, sampling and monitoring, safety hazards, and relevant federal, State, and local regulatory standards.

Lead-based Paint Regulations

Lead pollutants are regulated by several laws administered by the USEPA, including the TSCA, the Residential Lead-based Paint Hazard Reduction Act of 1992, the Clean Air Act, the Clean Water Act (CWA), the Safe Drinking Water Act (SDWA), the RCRA, and CERCLA. The aforementioned regulations address lead in paint, dust and soil, and air and water, as well as the disposal of lead wastes. Regulations specific to LBP include, but are not limited to, the Lead Renovation Repair and Painting Program Rule, the Lead Abatement Program, the residential Lead-based Paint Disclosure Program, and Residential Hazards of Lead in Paint, Dust and Soil. Such regulations require risk assessments, inspections, and work practices that work to minimize exposure to lead hazards.

State Regulations

CalEPA and the SWRCB establish rules governing the use of hazardous materials and the management of hazardous waste. Within CalEPA, DTSC has primary regulatory responsibility, with delegation of enforcement to local jurisdictions that enter into agreements with the State agency, for the management of hazardous materials and the generation, transport, and disposal of hazardous waste under the authority of the Hazardous Waste Control Law (HWCL). The following discussion contains the applicable State laws.

Regional Water Quality Control Board

The CalEPA and the Office of Emergency Services (OES) establish regulations governing the use of hazardous materials in California. Within CalEPA, DTSC has primary regulatory responsibility for hazardous waste management. Enforcement of regulations can be delegated to local jurisdictions that enter into agreements with DTSC for the generation, transport, and disposal of hazardous materials under the authority of the Hazardous Waste Control Law. Along with the DTSC, the RWQCB is responsible for implementing regulations pertaining to management of soil and groundwater investigation and cleanup. The RWQCB's regulations are contained in Title 27 of the CCR. The DTSC, RWQCB, and/or a local agency typically oversee investigation and cleanup of contaminated sites.

Department of Toxic Substances Control

The DTSC was established to protect California against threats to public health and degradation to the environment and to restore properties degraded by past environmental contamination. Through statutory mandates, DTSC cleans up existing contamination, regulates management of hazardous wastes, and prevents pollution by working with businesses to reduce hazardous waste and use of toxic materials in California. DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste in California. In addition, DTSC's Site Mitigation and Brownfields Reuse Program oversees the cleanup of State Superfund sites. State Superfund sites are additionally known as Annual Workplan sites, listed sites, or Cortese List sites. Superfund sites demonstrate evidence of a hazardous substance release or releases that could pose a significant threat to public health and/or the environment. DTSC requires responsible parties to cleanup such sites. When responsible parties cannot be found or where they do not take proper and timely action, DTSC may use State funds to undertake the cleanup.

Cortese List

Pursuant to Government Code Section 65962.5(a), the DTSC must compile and update, as appropriate and at least annually, submit to the Secretary for Environmental Protection a list of all of the following:

1. All hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code.
2. All land designated as hazardous waste property or border zone property pursuant to former Article 11 (commencing with Section 25220) of Chapter 6.5 of Division 20 of the Health and Safety Code.
3. All information received by the DTSC pursuant to Section 25242 of the Health and Safety Code on hazardous waste disposals on public land.
4. All sites listed pursuant to Section 25356 of the Health and Safety Code.

California Code of Regulations

Hazardous waste is characterized and defined in CCR, Title 22, Sections 66261.2. Soils that meet the descriptions of the characteristics of hazardous waste defined therein and contain contaminants above regulatory screening levels are considered hazardous waste and must be handled and disposed of as such. The CCR includes the California Health and Safety Code.

California Health and Safety Code

The handling and storage of hazardous materials is regulated at the federal level by the USEPA under CERCLA, as amended by the SARA. Under SARA Title III, a nationwide emergency planning and response program was established that imposed reporting requirements for businesses that store, handle, or produce significant quantities of hazardous or acutely toxic substances as defined under federal laws. SARA Title III required each state to implement a comprehensive system to inform federal authorities, local agencies, and the public when a significant quantity of hazardous, acutely toxic substances are stored or handled at a facility.

Ammonia is an example of an acutely hazardous material (AHM) that is regulated by the California OES under the California Accidental Release Program (CalARP), the USEPA under the Risk Management Program (40 CFR 68), and OSHA under the Process Safety Management Program (OSHA 1910.119). The CalARP and Risk Management Program require that all facilities that store, handle, or use AHMs above a minimum quantity, known as the threshold planning quantity, are required to develop a plan and prepare supporting documentation that summarizes the facility's potential risk to the local community and identifies safety measures to reduce potential risks to the public.

The HWCL, Chapter 6.5 of the California Health and Safety Code, is administered by the CalEPA to regulate hazardous wastes. While the HWCL is generally more stringent than RCRA, until the USEPA approves the California program, both the State and federal laws apply in California. The HWCL lists 791 chemicals and about 300 common materials that may be hazardous; establishes criteria for identifying, packaging, and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal and transportation; and identifies some wastes that cannot be disposed of in landfills.

In California, the underground storage of hazardous materials is regulated by Chapter 6.7 of the California Health and Safety Code, pursuant to the Underground Storage of Hazardous Substances Act. Under Section 25280, the USTs used for the storage of substances hazardous to public health and safety and to the environment are stored prior to use or disposal in thousands of underground locations in the State. The USTs used for storage are potential sources of contamination of the ground and underlying aquifers, and may pose other dangers to public health and the environment. Chapter 6.7 establishes orderly procedures that will ensure that newly constructed USTs meet appropriate standards and that existing tanks be properly maintained, inspected, tested, and upgraded so that the health, property, and resources of the people of the State will be protected.

California Vehicle Code Section 31303

The California Highway Patrol (CHP) and California Department of Transportation (Caltrans) are the enforcement agencies for hazardous materials transportation regulations. Hazardous materials and waste transporters are responsible for complying with all applicable packaging, labeling, and shipping regulations. California Vehicle Code Section 31303 regulates the transport of hazardous materials.

Emergency Response to Hazardous Materials Incidents

California has developed an emergency response plan to coordinate emergency services provided by federal, State, and local governments and private agencies. Response to hazardous material incidents is one part of this plan. The plan is managed by OES, which coordinates the responses of other agencies, including CalEPA, CHP, California Department of Fish and Wildlife (CDFW), Central Valley RWQCB, and the Davis Fire Department (DFD).

Unified Hazardous Materials Management Regulatory Program

On January 1, 1996, CalEPA implemented a unified hazardous waste and hazardous materials management regulatory program (Unified Program), to consolidate the administration of specified statutory requirements for the regulation of hazardous wastes and materials. The Unified Program is implemented at the local level by government agencies certified by the Secretary of CalEPA. The Certified Unified Program Agency (CUPA) is responsible for implementation of the Unified Program. CUPA is certified and responsible for oversight of the following consolidated programs: Hazardous Materials Release Response Plans and Inventories (Business Plans); California Accidental Release Program; Underground Storage Tank Program; Aboveground Petroleum Storage Act; Hazardous Waste Generator and Onsite Hazardous Waste Treatment (tiered permitting) Programs; and California Uniform Fire Code: Hazardous Materials Management Plans and Hazardous Material Inventory Statements.

Local Regulations

Relevant Yolo County guidelines and regulations, as well as City of Davis General Plan goals and policies, related to hazards and hazardous materials are discussed below.

Yolo County Environmental Health Division

The YCEHD is the CUPA for local implementation of the California Accidental Release Prevention Program and several other hazardous materials and hazardous waste programs. YCEHD is responsible for regulating hazardous materials business plans and chemical inventory, hazardous materials storage, hazardous materials management plans, and risk management plans. The goal of YCEHD is to protect and enhance the quality of life of Yolo County residents by identifying, assessing, mitigating, and preventing environmental hazards.

Hazardous materials incidents that require emergency response are handled by the Yolo County Environmental Health HazMat Unit, along with local fire and law enforcement agencies. The level of response is dependent on the size and nature of the incident and the level of threat to public health and the environment. The Yolo County Environmental Health HazMat Unit also handles all after-hours calls and complaints for YCEHD, including sewage spills, food-borne illness complaints, abandoned waste, animal bite reports, housing complaints, and communicable disease reports. HazMat Unit staff work closely with other YCEHD staff in handling matters after hours.

Yolo County Emergency Operations Plan

The Yolo County Emergency Operations Plan (EOP) provides the structure and processes that all partner agencies within the County use to respond to and recover from major emergency or disaster events.[18] The Yolo County EOP provides an overview of the jurisdiction's approach to emergency operations. It identifies emergency response policies, describes the response and recovery organization, and assigns specific roles and responsibilities to County departments,

[18] Yolo County Office of Emergency Services. *County of Yolo Emergency Operations Plan.* June 6, 2024.

agencies, and community partners. The EOP has the flexibility to be used for all emergencies and will facilitate response and recovery activities efficiently and effectively.

Yolo County Operational Area Hazard Mitigation Plan

The 2023 Yolo County Operational Area Hazard Mitigation Plan (HMP) was prepared to support the EOP and is an update to the previous 2018 plan. The HMP was prepared pursuant to the requirements of the Disaster Mitigation Act of 2000 so that Yolo County would be eligible for the Federal Emergency Management Agency's (FEMA) Pre-Disaster Mitigation and Hazard Mitigation and Grant Programs. The HMP is a multi-jurisdictional plan that geographically covers the entire area within Yolo County's jurisdictional boundaries, which includes the cities of Davis, West Sacramento, Winters, and Woodland. The purpose of the HMP is to reduce the risk to life and property in Yolo County by decreasing the long-term vulnerability from hazards through coordinated planning, partnerships, capacity building, and effective risk-reduction measures.

City of Davis General Plan

The following goals and policies from the City's General Plan related to hazards and hazardous materials are applicable to the Proposed Project and BRPA.

Hazards Chapter

Goal HAZ 3 Provide for the safety and protection of citizens from natural and environmental hazards.

Policy HAZ 3.1 Provide for disaster planning.

Goal HAZ 4 Reduce the use, storage, and disposal of toxic and hazardous substances in Davis, and promote alternatives to such substances and their clean up.

Policy HAZ 4.1 Reduce and manage toxics within the planning area.

Policy HAZ 4.2 Provide for the proper disposal of hazardous materials in Davis.

Policy HAZ 4.3 Reduce the potential for pesticide exposure for people, wildfire and the environment.

Policy HAZ 4.4 Increase awareness of agricultural chemical use impacting Davis residents.

Policy HAZ 4.5 Minimize impacts of hazardous materials on wildlife inhabiting or visiting the Davis area.

Policy HAZ 4.7 Ensure that remediation of hazardous waste sites is conducted in the most timely and environmentally responsible manner possible.

City of Davis Multi-Hazard Functional Planning Guide

According to the City's General Plan, the DFD maintains the City's Multi-Hazard Functional Planning Guide, which plans for emergency management and evacuation in the event of disasters. The Guide includes operating procedures in the event of a disaster, as well as descriptions of emergency evacuation routes in Davis.

4.7.4 IMPACTS AND MITIGATION MEASURES

The following section describes the standards of significance and methodology used to analyze and determine the potential impacts of the Proposed Project and BRPA related to hazards and hazardous materials. A discussion of the project's impacts, as well as mitigation measures where necessary, is also presented.

Standards of Significance

In accordance with CEQA Guidelines Appendix G, an impact related to hazards and hazardous materials is considered significant if the Proposed Project or BRPA 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, substances, or waste within one-quarter mile of an existing or proposed school;
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment (see Chapter 5, Effects Not Found to be Significant);
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area (see Chapter 5, Effects Not Found to be Significant);
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; and/or
- Expose people or structures, either directly or indirectly, to the risk of loss, injury or death involving wildland fires (see Chapter 4.15, Wildfire).

As noted above, impacts related to whether the Proposed Project or BRPA would result in any of the following impacts are discussed in Chapter 5, Effects Not Found to be Significant, of this EIR:

- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment (see Chapter 5, Effects Not Found to be Significant);
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area (see Chapter 5, Effects Not Found to be Significant);

Impacts related to wildland fires are addressed in detail in Chapter 4.15, Wildfire, of this EIR. Thus, further discussion related to exposure of people or structures, either directly or indirectly, to the risk of loss, injury, or death involving wildland fires is not included in this chapter.

Method of Analysis

The following sections describe the methods of analysis used to determine the presence of RECs and other potential hazards for the Phase I and Phase II ESAs prepared for the Proposed Project by Geocon.

Phase I Environmental Site Assessments – Urban Development Area and Urban Agricultural Transition Area

Geocon performed two Phase I ESAs for the project site/BRPA site to evaluate whether evidence of RECs exists that indicate the site could have been impacted by releases of hazardous materials. The Phase I ESAs were performed in general accordance with the American Society for Testing and Materials (ASTM) E1527-21 standard. The following tasks were performed as part of the Phase I ESAs:

- Historical records such as aerial photographs, historical topographic maps, City directories, and other readily available historical sources were evaluated, as available, to research the history of the site and vicinity;
- Federal, State, and local environmental databases were reviewed to identify sites that use, store, or have released hazardous materials. The database search was performed by Environmental Data Resources, Inc. (EDR), an environmental database research firm. The EDR database reports (presented as Appendix C to the Phase I ESAs [see Appendices F and G of this EIR]) provide federal and State information intended to meet ASTM guidelines for Phase I ESAs. Regulatory files were reviewed for the identified sites, subject to the limitations of the ASTM guidance document;
- A surface reconnaissance of the project site/BRPA site and surrounding off-site areas visible from the site boundaries was performed on foot by Geocon on October 12 and 13, 2023 for the Urban Development Area Phase I ESA and October 12 and November 3, 2023 for the UATA Phase I ESA; and
- Persons with knowledge of the site were interviewed.

For further details regarding the methodology and results of the Urban Development Area and UATA Phase I ESAs prepared by Geocon, please see Appendices F and G of this EIR.

Phase II Environmental Site Assessments – Urban Development Area, Urban Agricultural Transition Area, and Firing Range

As discussed throughout this chapter, Geocon performed three Phase II ESAs related to different areas of the project site/BRPA site. The methods of analysis of the Phase II ESAs are described in further detail below.

Urban Development Area Phase II Environmental Site Assessment

Geocon divided the site into 25 sampling grids of roughly equal area and obtained four samples from each grid at various locations to test for concentrations of pesticides or herbicides within on-site soils, PCB associated with one pole-mounted transformer, ACMs and LBP associated with existing structures, and on-site USTs. A total of 100 soil samples were collected from the project site/BRPA site on October 12 and 13, 2023. The samples were delivered for testing to California Laboratory Services (CLS), a SWRCB-certified laboratory.

Soil sampling activities, sample collection, sample handling procedures, and chemical analysis procedures were conducted within the agricultural area in accordance with California DTSC

guidance documents, including the Interim Guidance for Sampling Agricultural Properties (Third Revision). Specifically, discrete surface soil samples were taken from the upper six inches of soil (beneath the vegetative layer, if present). Each discrete surface soil sample was obtained with hand tools and was placed in a one-gallon resealable plastic bag for homogenization by kneading and shaking. After homogenization, the samples were labelled and delivered to CLS for OCP and arsenic analysis. In addition, duplicate composite soil samples from each of the 25 sampling grids were submitted for OCP analysis.

Geocon collected post-demolition soil samples in the former structure area in accordance with the DTSC's Interim Guidance Evaluation of School Sites with Potential Soil Contamination as a Result of Lead from Lead-based Paint, Organochlorine Pesticides from Termiticides, and Polychlorinated Biphenyls from Electrical Transformers. Each former structure location (i.e., the residence, trailer, barn, and shed) was divided into sampling grids of roughly equal area. One surface sample (zero to six inches below ground surface [bgs]) and one subsurface sample (two to 2.5 feet deep) were collected from each location with a decontaminated three-inch-diameter hand auger, for a total of 32 samples. Each discrete soil sample was placed in a one-gallon resealable plastic bag for homogenization by kneading and shaking. After homogenization, the samples were labelled and delivered to CLS for pesticide and metals analysis. Nine composite field samples and one composite duplicate sample were tested for OCP, and a total of 17 discrete field samples and three discrete duplicate samples were tested for lead.

Geocon delivered each soil sample to CLS and requested for each area described above to be tested using the following laboratory methods:

- Total Arsenic by USEPA Method 6010B;
- Total Lead by USEPA Method 6010B; and
- OCPs by USEPA Method 8081A.

For further details regarding the methodology and results of the Urban Development Area Phase II ESA prepared by Geocon, please see Appendix H of this EIR.

In addition, a geophysical investigation was performed by Advanced Geological Services (AGS) on November 3, 2023, to assess the potential for USTs to be located within the former structure area. AGS used ground conductivity electromagnetic equipment, ground-penetrating radar (GPR), and a handheld Schondstedt metal magnetic locator. Electromagnetic data was collected at a frequency of five samples per second throughout the area along parallel traverses spaced six feet apart. Following the electromagnetic survey, AGS scanned the area with the handheld Schondstedt metal magnetic locator, which does not record data. Any anomalies interpreted from the locator were marked on the ground using paint and pin flags. The GPR system, using a recording window of 60 nanoseconds, was used to further investigate the anomalies and to investigate areas where the electromagnetic method was ineffective because of rebar or surface metal.

Urban Agricultural Transition Area Phase II Environmental Site Assessment

On March 4, 2024, Geocon divided the UATA into 18 sampling grids of approximately equal area and collected four surface soil samples from each grid. Sample handling and chemical analysis was conducted in accordance with the DTSC's Interim Guidance for Sampling Agricultural Properties. The surface soil samples were taken from the upper six inches of soil (beneath the vegetative layer, if present). Each discrete surface soil sample was obtained with hand tools and

was placed in a one-gallon resealable plastic bag for homogenization by kneading and shaking. After homogenization, the samples were labelled and delivered to McCampbell Analytical, Inc. (MAI) for OCP and arsenic analysis. MAI tested 20 samples for total arsenic using USEPA Method 6020, and 20 samples for OCPs using USEPA Method 8081 A/B.

Subsurface soil samples were collected from the area adjacent to the Old Davis Landfill on March 11, 2024. Two soil borings were performed at the location of the proposed Channel A realignment south of the Old Davis Landfill, and two soil borings were performed at the eastern edge of the UATA boundary, west of the Old Davis Landfill (see Figure 4.7-6). At each boring location, Geocon obtained three soil samples from depths of zero to one foot, five to six feet, and nine to 10 feet bgs, respectively. Each sample was labeled and delivered to MAI for heavy metals analysis using USEPA Methods 6020 and 7471B, and TPH analysis using USEPA Methods 8021B/8015B-modified/8015B. In addition, a portion of each sample was sent to Sunland Analytical for soil salinity analysis, including potential of hydrogen (pH), electrical conductivity, and total dissolved salts.

For further details regarding the methodology and results of the UATA Phase II ESA prepared by Geocon, please see Appendix I of this EIR.

Firing Range Phase II Environmental Site Assessment

As part of the Firing Range Phase II ESA, Geocon used a hand auger to collect a surface soil sample (zero to six inches bgs) and a subsurface soil sample (12 to 18 inches bgs) from 15 locations in the northeastern portion of the project site/BRPA site and three duplicate samples, for a total of 33 soil samples. The samples were placed in a resealable plastic bag for homogenization by kneading and shaking. After homogenization, the samples were labelled and delivered to CLS for total lead analysis. CLS analyzed the 33 soil samples for total lead using USEPA Method 6010B.

For further details regarding the methodology and results of the Firing Range Phase II ESA prepared by Geocon, please see Appendix J of this EIR.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts is based on implementation of the Proposed Project or the BRPA in comparison with the standards of significance identified above.

4.7-1 Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Based on the analysis below, the impact is *less than significant*.

Because the Proposed Project and the BRPA would be developed within the same overall site boundaries and, due to their components, would have similar potential to create a significant hazard through the routine transport, use, or disposal of hazardous materials, the below discussion applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

A significant hazard to the public or the environment could result from the routine transport, use, or disposal of hazardous materials. Projects that involve the routine transport, use, or disposal of hazardous materials are typically industrial in nature. The

Proposed Project and BRPA would not be industrial in nature, as both development scenarios would primarily result in residential uses, with other uses including neighborhood services and public, semi-public, educational, and recreational uses, none of which are industrial. During operations, hazardous material use would be limited to landscaping products such as fertilizer, pesticides, and typical commercial and maintenance products (cleaning agents, degreasers, paints, batteries, and motor oil). In addition, the fire station would include fuel storage use during training exercises that could then be released into the environment. Landscaping and fire station activities would include the proper handling and usage of such materials in accordance with label instructions, which would ensure that adverse impacts to human health or the environment would not occur. Therefore, operation of the Proposed Project or the BRPA would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Construction activities associated with development of the Proposed Project and BRPA, including the proposed off-site improvements, would involve the use of heavy equipment containing fuels, oils, and various other products such as concrete, paints, and adhesives. The project contractor would be required to comply with all California Health and Safety Codes, as well as with local ordinances regulating the handling, storage, and transportation of hazardous and toxic materials. Pursuant to California Health and Safety Code Section 25510(a), except as provided in subdivision (b),[19] the handler or an employee, authorized representative, agent, or designee of a handler, must, upon discovery, immediately report any release or threatened release of a hazardous material to the CUPA (in the case of the Proposed Project and BRPA, the YCEHD) in accordance with the regulations adopted pursuant to Section 25510(a). The handler or an employee, authorized representative, agent, or designee of the handler must provide all relevant State, City, or County personnel with access to the handler's facilities. For the Proposed Project and BRPA, the contractors would be required to notify the YCEHD in the event of an accidental release of a hazardous material, who would then monitor the conditions and recommend appropriate remediation measures.

Based on the above, the Proposed Project and BRPA would not create a significant hazard to the public or the environment through the routine handling, transport, use, or disposal of hazardous materials, and a ***less-than-significant*** impact could occur.

Mitigation Measure(s)

None required.

4.7-2 Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

[19] Subdivision (a) does not apply to a person engaged in the transportation of a hazardous material on a highway that is subject to, and in compliance with, the requirements of Sections 2453 and 23112.5 of the Vehicle Code.

Because the Proposed Project and the BRPA would be developed within the same overall site boundaries and, due to their components, would have similar potential to create a significant hazard to the public or environment through reasonably foreseeable upset or accident conditions involving the likely release of hazardous materials into the environment, the below discussion applies to both development scenarios. In accordance with the *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369 (CBIA), where existing hazardous conditions already occur on the project site/BRPA site or vicinity, the discussions below focus on the potential for development of the Proposed Project or BRPA to exacerbate risks associated with such conditions.

Proposed Project, Biological Resources Preservation Alternative

The following discussions detail the potential for the Proposed Project and BRPA to create a significant hazard to the public or the environment through the likely release of OCPs and arsenic, PCBs, ACMs, LBPs and lead-affected soils, potential contaminants associated with the Old Davis Landfill, and other potential RECs.

Organochlorine Pesticides and Arsenic

According to the Urban Development Area Phase II ESA, arsenic was not detected in any of the 25 discrete surface soil samples or three duplicate surface soil samples obtained from the urban development area. Specifically, laboratory analysis indicated that arsenic was not present in soils collected at areas formerly used as agricultural fields at a concentration exceeding the applicable laboratory reporting limit (two mg/kg). In addition, OCPs were not found in excess of the applicable DTSC screening level for the samples obtained from the former agricultural area. Thus, the Urban Development Area Phase II ESA did not identify potential impacts associated with arsenical pesticides or OCPs in the agricultural portion of the urban development area.

Laboratory analysis of composite surface soil samples obtained from the former structure area identified the OCP toxaphene in four of the five samples at concentrations exceeding the DTSC screening level for toxaphene in residential soils. Specifically, toxaphene was detected in shallow soil at the former barn/shed area, and at the northern end of the former residence/trailer area (near the barn) at concentrations ranging from 1,000 to 1,200,000 µg/kg. The DTSC screening level for toxaphene in residential soil is 450 µg/kg. Thus, the potential presence of OCP-impacted soil within the former structure area is considered a REC, and the Proposed Project and BRPA could expose construction workers to hazardous materials during ground-disturbing activities.

With respect to the UATA, laboratory analysis for arsenic conducted as part of the UATA Phase II ESA identified arsenic levels ranging from 6.1 to 8.0 mg/kg, which is greater than the DTSC screening level for arsenic in residential soil (0.11 mg/kg). However, similar arsenic concentrations were detected in the subsurface soil samples collected at depths up to nine feet from borings B-24-01 through B-24-04 (5.9 to 8.7 mg/kg). Therefore, the UATA Phase II ESA concluded that the identified arsenic levels are representative of background soil conditions and, thus, are not considered a REC. In addition, the OCP DDE was detected at concentrations ranging from 1.1 to 5.2 ug/kg, which is less than the DTSC screening level for DDE in residential soil (2,000 ug/kg). Additional OCPs were not detected at concentrations above the laboratory

reporting limits. Based on the findings of the UATA Phase II ESA, use of the UATA soils as fill as part of the Proposed Project or BRPA would not create a significant hazard to the public or environment related to the release of OCPs or arsenic.

Polychlorinated Biphenyls

As previously discussed, as part of the site reconnaissance conducted for the Urban Development Area Phase I ESA, a single pole-mounted electrical transformer was observed near the former structure area in the southern portion of the urban development area. The transformer was not labeled to indicate whether PCBs were present in the dielectric fluid, but evidence of leaking was not observed. Although PG&E did not respond to requests from Geocon for more-specific information regarding the age or PCB content of the transformer, the Urban Development Area Phase I ESA found that PG&E is responsible for the maintenance and/or disposal of transformers containing PCBs in its service territory. Such actions are subject to applicable regulations of the TSCA, as administered and enforced by the YCEHD. Given the required compliance with applicable regulations, the Urban Development Area Phase I ESA did not recommend further investigation of potential adverse effects associated with PCBs.

Asbestos-Containing Materials

The only existing on-site structure is the two-story water tank house within the former structure area. While the Urban Development Area Phase II ESA did not include observations of ACMs on the structure exterior, the interior of the structure was inaccessible and, thus, could contain unknown hazardous building construction materials. The potential presence of ACMs within the tank house is, therefore, considered a REC, as construction workers could come into contact with and be exposed to asbestos during demolition and ground-disturbing activities associated with the Proposed Project or BRPA.

Lead-Based Paints and Lead-Affected Soils

As previously discussed, the only existing on-site structure is the water tank house within the former structure area. While the Urban Development Area Phase II ESA did not include observations of LBP on the structure exterior, the interior of the structure was inaccessible and, thus, could contain unknown hazardous building construction materials, including LBPs. In addition, lead was detected in the 16 discrete surface soil samples and two duplicate surface soil samples obtained as part of the Urban Development Area Phase II ESA from the former structure area at concentrations ranging from 6.6 to 93 mg/kg. The lead concentration in one surface soil sample (F11-0, 93 mg/kg) and its co-located duplicate sample (F22-0, 83 mg/kg) exceeded the DTSC screening level for lead in residential soil (80 mg/kg). The samples were obtained approximately 25 feet north of the former residence footprint at the northern end of a former residential trailer footprint. Thus, the soils within the former structure area are potentially impacted by lead.

The Firing Range Phase II ESA included the sampling and testing of 33 soil samples collected from the northeastern portion of the project site/BRPA site for the presence of lead associated with leftover ordnance. Laboratory analysis of the soil samples identified lead concentrations below the DTSC screening level for residential soil. Because the presence of lead was measured at concentrations less than the

corresponding DTSC screening level, the Firing Range Phase II ESA concluded that the soils located near the former firing range would not pose a substantial risk of adversely affecting human health.

Based on the above, the potential presence of LBP and lead-affected soils within the former structure area is considered a REC, and construction workers could come into contact with and be exposed to lead during demolition and ground-disturbing activities associated with the Proposed Project or BRPA.

Potential Contaminants Associated with Landfill Operations

According to the UATA Phase II ESA, laboratory analysis of soil samples obtained from the western and southern edges (Borings B24-01 through B24-04) of the Old Davis Landfill did not detect concentrations of hazardous metals exceeding the applicable concentration thresholds for residential soils, with the exception of arsenic. However, as discussed above, detected arsenic levels are representative of background conditions. Petroleum hydrocarbons were not detected. Salt concentrations in surface soils were higher than those detected in subsurface soil, but the UATA Phase II ESA determined that such levels are likely the result of former agricultural uses, rather than activities associated with the Old Davis Landfill. Based on the findings of the UATA Phase II ESA, use of the UATA soils as fill as part of the Proposed Project or BRPA would not create a significant hazard to the public or environment related to the release of hazardous metals, petroleum hydrocarbons, or salt concentrations.

Other Potential On-Site RECs

Consistent with Mitigation Measure 4.10-4 of the Covell Village Project EIR, a determination of whether the four pipes extending from the ground within the barn area of the former structure area are associated with USTs would be required prior to issuance of a grading permit for any portion of the project site/BRPA site. The Urban Development Area Phase II ESA included a geophysical survey that did not conclusively identify evidence of USTs near the pipes located at the former barn area. However, three subsurface anomalies were identified: one located north of the former barn, one near the southwestern corner of the former residence, and a third at the northeastern side of the former residence. According to the Urban Development Area Phase II ESA, the first two anomalies could be related to USTs. Based on a YCEHD permit for abandonment of a septic tank at the former residence, the third anomaly may be associated with a partial basement and/or abandoned septic tank.

Additionally, as previously discussed, 10 wells are located within the urban development area, including two soil vapor monitoring wells; four groundwater monitoring wells, two of which are associated with the Old Davis Landfill; three agricultural wells, and one domestic water well. The project applicant intends to abandon all on-site agricultural and domestic water wells. The Urban Development Area Phase II ESA recommends that the project applicant coordinate with the City of Davis and the RWQCB to determine the fate of the on-site groundwater monitoring wells and proper abandonment of the soil vapor monitoring wells, if the project applicant is not subject to landfill post-closure requirements. According to the Central Valley RWQCB, the residential and commercial components evaluated throughout this EIR would not risk groundwater contamination from the existing groundwater

monitoring wells if the Proposed Project and BRPA connected to the existing City municipal water system as the sole means of water supply.[20] If the Proposed Project and BRPA do not comply with applicable setbacks established by the YCEHD to avoid the foregoing features as part of the project design, a significant impact could occur. If the on-site water wells and monitoring wells are to be abandoned, the project applicant would be required to abandon the foregoing wells in accordance with the standards set forth in California Department of Water Resources Bulletin 74-81.

A natural gas pipeline also traverses the project site/BRPA site in a north-to-south direction within the central portion of the urban development area and the eastern boundary of the UATA. Thus, without proper avoidance of the buried gas pipeline during construction, a significant hazard to the public or environment could be created. With respect to project design, the land use plan places the natural gas pipeline within greenbelt areas to allow access for maintenance and inspection.

Based on the findings of the Urban Development Area Phase II ESA, without proper abandonment of USTs (if present), avoidance or abandonment of on-site wells, and avoidance of the natural gas pipeline within the project site/BRPA site, the Proposed Project and BRPA could exacerbate existing hazardous conditions and create a significant hazard to the public or environment.

Conclusion

Based on the above, development of the Proposed Project or BRPA could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment related to OCPs, ACMs, LBPs and lead-affected soil, potential USTs, on-site water wells and monitoring wells, and the buried natural gas pipeline. Therefore, a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measures, which are applicable to both the Proposed Project and the BRPA, would reduce the above potential impact to a *less-than-significant* level.

Proposed Project and Biological Resources Preservation Alternative

4.7-2(a) *Prior to issuance of a demolition permit by the City for the on-site two-story tank house, shallow soil impacted by toxaphene at the former barn, shed, and trailer locations within the project site/Biological Resources Preservation Alternative (BRPA) site shall be removed and disposed of off-site in accordance with federal, State, and local regulations at an appropriate Class I or Class II facility permitted by the Department of Toxic Substances Control (DTSC), or other options implemented as deemed satisfactory by Yolo County Environmental Health Division (YCEHD) and/or DTSC. The removal and off-site disposal of soil impacted by toxaphene shall concurrently address the limited area where lead was detected at concentrations exceeding the*

[20] Central Valley Regional Water Quality Control Board. *Notice of Cleanup Program Site Case and Request for Additional Groundwater Monitoring, Old Davis Landfill (T10000021241), 24998 County Road 102, Davis, Yolo County*. July 26, 2023.

screening level for residential soil in the Urban Development Area Phase II Environmental Site Assessment (ESA) prepared for the Proposed Project by Geocon Consultants, Inc. (Geocon). The soil removal shall be performed under the oversight of the YCEHD, unless the YCEHD defers oversight to a State agency. Verification soil sampling and laboratory analysis shall be required to demonstrate that the impacted soil was removed, and a completion report shall document the proper handling and disposal of the impacted soil. Results of soils sampling, analysis, and the completion report shall be submitted for review and approval to the City of Davis Department of Community Development and Public Works Utilities and Operations Department (PWUO).

4.7-2(b) *Prior to issuance of a demolition permit by the City for the on-site two-story tank house, the interior of the water tank house shall be surveyed for asbestos-containing materials (ACMs) in accordance with applicable Yolo-Solano Air Quality Management District (YSAQMD) regulations, including, but not necessarily limited to, Rule 9.9, Section 401. Written notification to YSAQMD shall be provided a minimum of 10 working days prior to commencement of any demolition activity, whether asbestos is present or not. The structure interior shall also be inspected for deteriorated (peeling/flaking) lead-based paint (LBP) prior to demolition activities. If LBP is found, all loose and peeling paint shall be removed and disposed of by a licensed and certified lead paint removal contractor, in accordance with California Air Resources Board recommendations and OSHA requirements. The demolition contractor shall be informed that all paint on the interior of the structure shall be considered as containing lead.*

The contractor shall follow all work practice standards set forth in the Asbestos National Emission Standards for Hazardous Air Pollutants (Asbestos NESHAP, 40 CFR, Part 61, Subpart M) regulations, as well as Section V, Chapter 3 of the OSHA Technical Manual. Work practice standards generally include appropriate precautions to protect construction workers and the surrounding community, and appropriate disposal methods for construction waste containing lead paint or asbestos in accordance with federal, State, and local regulations subject to approval by the City Engineer.

4.7-2(c) *Prior to commencement of construction activities, the locations of the geophysical anomalies identified at the former barn and residence locations identified in the Urban Development Phase II ESA prepared for the Proposed Project by Geocon shall be investigated through exploratory trenching. The results of the investigation and any soil sampling and analysis that occurs shall be submitted for review and approval to the City of Davis Department of Community Development and Public Works Utilities and Operations Department (PWUO). If evidence of underground storage tanks (USTs) is not found, further mitigation shall not be required.*

If USTs are identified, the project applicant shall submit an Authority to Remove Underground Storage Tanks Application to the YCEHD for review and approval, pursuant to the requirements set forth in Yolo County Code Section 6-11.12.8. As part of the Authority to Remove Underground Storage Tanks Application, the project applicant shall also pay associated fees. At minimum, the Authority to Remove Underground Storage Tanks Application shall detail the following:

- *The proposed schedule for collection and sampling of soils beneath the on-site USTs and along piping runs;*
- *The DTSC and U.S. Environmental Protection Agency (USEPA) standards against which collected on-site soils shall be tested;*
- *Applicable work practice standards, in accordance with the Occupational Safety and Health Administration (OSHA) Technical Manual, that shall be implemented to ensure appropriate precautions are incorporated to protect construction workers and the surrounding community during removal of the on-site USTs and associated piping runs;*
- *The proposed disposal methods for on-site soils associated with the USTs and piping runs;*
- *The proposed date of UST closure inspection; and*
- *The methods with which soils shall be remediated on-site, if contaminants in tested soils exceed applicable standards. If on-site remediation is not possible, the methods and routes in which contaminated soils shall be hauled to an appropriate facility for disposal.*

In accordance with California Code of Regulations (CCR) Title 22, Division 4.5, Chapter 32, the existing on-site USTs and primary piping shall be managed as hazardous waste upon removal, unless such facilities are cleaned on-site and certified by a YCEHD representative as non-hazardous in accordance with DTSC hazardous waste regulations. UST removal and sampling activities shall be witnessed by a YCEHD representative.

4.7-2(d) *Prior to commencement of construction activities, the project applicant shall hire a licensed well contractor to obtain a well abandonment permit from YCEHD for all on-site water supply wells, and properly abandon the on-site water supply wells in accordance with Department of Water Resources Bulletin 74-81 (Water Well Standards, Part III). Verification of abandonment shall be submitted for review and approval of the City of Davis Department of Community Development and YCEHD.*

4.7-2(e) *Prior to commencement of construction activities, the project applicant shall consult with the Central Valley Regional Water Quality Control Board (RWQCB) and YCEHD to determine if on-site monitoring wells can be abandoned. Confirmation shall be obtained from the YCEHD documenting that the proposed development is not subject to landfill*

post-closure requirements associated with CCR Title 27 Section 21190(g). If additional soil vapor monitoring is not anticipated to be performed, soil vapor monitoring wells VP1 and VP2 shall be abandoned under permit from the YCEHD.

If the Central Valley RWQCB and YCEHD confirm that all or a portion of on-site monitoring wells may be abandoned, the project applicant shall hire a licensed well contractor to obtain a well abandonment permit from YCEHD for the identified on-site monitoring wells to be abandoned, and properly abandon the wells in accordance with Department of Water Resources Bulletin 74-81 (Water Well Standards, Part III). Verification of abandonment shall be submitted for review and approval of the RWQCB, City of Davis Department of Community Development, and YCEHD.

If the Central Valley RWQCB and YCEHD prohibit the abandonment of all or a portion of the on-site monitoring wells, the project applicant shall ensure that the improvement plans show that all project improvements comply with applicable minimum setback distances established by the YCEHD Water Well Program. Verification that the improvement plans properly document minimum setback distances shall be subject to review and approval of the Public Works Utilities and Operations Department (PWUO), RWQCB, and YCEHD.

4.7-2(f) *Prior to commencement of grading and construction, the construction contractor, a representative from Pacific Gas & Electric Company (PG&E), and a representative from the City of Davis Public Works Department shall meet on the project site/BRPA site and the applicant shall prepare site-specific safety guidelines for construction in the field in and around the buried natural gas pipeline, to the satisfaction of the Public Works Department. The safety guidelines and field-verified location of the on-site buried natural gas pipeline shall be noted on the improvement plans and included in all construction contracts involving the project site/BRPA site.*

4.7-3 Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Based on the analysis below, the impact would be *less than significant*.

Because the Proposed Project and the BRPA would be developed within the same overall site boundaries and, due to their components, would have similar potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25-mile of an existing or proposed school, the below discussion applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

The project site/BRPA site is approximately 0.24-mile to the northwest of Birch Lane Elementary School, which is located at 1600 Birch Lane. In addition, the Proposed

Project and BRPA each include a Pre-Kindergarten Early Learning Center and an educational farm. Therefore, the Proposed Project and BRPA would be located within 0.25-mile of an existing school and include proposed schools. However, as discussed under Impact 4.7-1, projects that emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste are typically industrial in nature. The Proposed Project and BRPA would not be industrial in nature and would, instead, consist primarily of residential uses, with other uses including neighborhood services and public, semi-public, educational, and recreational uses, none of which are industrial. Thus, operation of the Proposed Project or BRPA would not result in hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or waste within proximity to Birch Lane Elementary School or the proposed school sites.

As discussed under Impact 4.7-2, based on the Phase I and II ESAs prepared for the Proposed Project, on-site RECs include OCPs, ACMs, LBPs and lead-affected soil, potential USTs, on-site water wells and monitoring wells, and the buried natural gas pipeline. Ground-breaking and construction activities associated with either the Proposed Project or BRPA could, therefore, release hazardous emissions, materials, substances, and/or waste within 0.25-mile of Birch Lane Elementary School. However, both the Proposed Project and BRPA would both be subject to Mitigation Measures 4.7-2(a) through 4.7-2(f), which would ensure that all identified potential RECs within the project site/BRPA site would be remediated or avoided in accordance with federal, State, and local regulations.

Demolition and/or off-hauling of contaminated building materials and soils could result in contaminated dust emissions during removal and transport. However, such removal and transport activities would be required to occur in accordance with applicable YCEHD and DTSC regulations, which include incorporation of industry standard best management practices (BMPs) during off-hauling activities. As part of the BMPs, during loading activities, the project contractor would be required to place heavy plastic sheeting beneath the trucks to collect any spilled soil. To avoid spreading of the contamination, after each truck is loaded and prior to moving off the plastic sheeting, the top rails, fences, tires, and all other surfaces with visible dust or soil spilled during loading would be removed by dry brushing methods at the point of loading. The collected soil on the plastic would be periodically removed to avoid the spreading of impacted soil on the truck tires. Furthermore, the soil would be transported by a licensed transporter. The trucks would be loaded at the project site/BRPA site and appropriately covered (tarped) in accordance with U.S. Department of Transportation regulations. The loaded trucks would use the most direct routes, which would provide the least risk of exposure to surrounding communities and would avoid the major commute times and residential areas as much as possible. Birch Lane Elementary School does not front East Covell Boulevard, the most direct route to the project site/BRPA site and, thus, loaded trucks would not expose individuals at the school to hazardous materials. All such BMPs would be enforced by YCEHD. As such, through mandatory compliance with YCEHD and DTSC regulations and incorporation of BMPs, demolition and/or off-hauling activities during construction would not result in a significant impact related to contaminated dust emissions to Birch Lane Elementary School.

Based on the above, while the project site/BRPA site is located within 0.25-mile of Birch Lane Elementary School, the Proposed Project and BRPA would not result in substantial adverse effects related to hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or waste. Therefore, a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

4.7-4 Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Based on the analysis below, the impact would be *less than significant.*

Because the Proposed Project and the BRPA would be developed within the same overall site boundaries and, due to their components, would have similar potential to impair or interfere with an adopted emergency response or evacuation plan, the below discussion applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

The City of Davis does not have an adopted emergency evacuation plan. However, according to the City's General Plan, the DFD maintains the City's Multi-Hazard Functional Planning Guide, which plans for emergency management and evacuation in the event of disasters. The Multi-Hazard Functional Planning Guide includes operating procedures in the event of a disaster and descriptions of routes in the City to take in the event of an emergency. According to the guide, all major roads are available for evacuation, depending on the location and type of emergency that arises. Major roads identified for evacuation include, but are not limited to, Interstate 80, Pole Line Road, East Covell Boulevard, F Street, and Mace Boulevard.

The Proposed Project and BRPA would include off-site roadway improvements on Pole Line Road, as well as at the intersection of East Covell Boulevard and L Street. The proposed off-site roadway improvements would result in a new roundabout along Pole Line Road and new traffic signals at intersections along Pole Line Road and East Covell Boulevard.

During project construction, temporary lane closures on the roadways in the vicinity of the project site/BRPA site, including Pole Line Road, may be required; however, any temporary lane closures would be coordinated with City police and fire departments and complete closure of the roadways is not anticipated. Increased peak hour traffic volumes during operation could potentially slow traffic during emergency situations. However, East Covell Boulevard has traffic signals equipped with emergency vehicle pre-emption, providing signal priority to emergency vehicles in the event of an emergency. In addition, the roadway improvements included under the Proposed Project and BRPA, such as the new traffic signals at the Pole Line Road/Donner Avenue and Pole Line Road/Picasso Avenue intersections, would result in improved circulation and emergency access in the project vicinity. Moreover, the construction of the on-site fire station would reduce potential impacts related to accessing the project site/BRPA site during emergency situations. Overall, implementation of City

emergency response plans would not be impaired and emergency access throughout the project site/BRPA site would be provided by internal circulation.

Based on the above information, the Proposed Project and BRPA would not interfere with or impair implementation of an adopted emergency response plan or emergency evacuation plan. Therefore, the project would result in a ***less-than-significant*** impact.

Mitigation Measure(s)

None required.

Cumulative Impacts and Mitigation Measures

As defined in Section 15355 of the CEQA Guidelines, "cumulative impacts" refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.

For more details regarding the cumulative setting, refer to Chapter 5, Statutorily Required Sections, of this EIR.

4.7-5 Cumulative exposure to potential hazards, including wildfire, and increases in the transport, storage, and use of hazardous materials. Based on the analysis below, the cumulative impact is *less than significant.*

The Proposed Project and the BRPA would be developed within the same overall site boundaries and, due to their components, would have similar potential to result in cumulative exposure to potential hazards and hazardous materials. Therefore, the following discussion applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

Hazardous materials and other public health and safety issues are generally site-specific and/or project-specific and would not be significantly affected by other development within the project area. As demonstrated throughout this chapter, potential impacts associated with hazardous materials related to development of the Proposed Project or the BRPA were found to be less than significant with incorporation of mitigation. Cumulative development projects would be subject to the same federal, State, and local hazardous material management requirements as the Proposed Project and BRPA, which would minimize potential risks associated with increased hazardous materials use in the community.

Increased peak hour traffic volumes associated with cumulative conditions could potentially slow traffic during emergency situations. However, as previously discussed, East Covell Boulevard traffic signals would provide priority to emergency vehicles in the event of an emergency and the roadway improvements included under the Proposed Project and BRPA would improve circulation and emergency access in the vicinity. Moreover, inclusion of the on-site fire station would reduce potential impacts related to accessing the project site/BRPA site during emergency situations.

Overall, cumulative impacts associated with exposure to potential hazards, including wildfire, and increases in transport, storage, and use would be ***less than significant***.

Mitigation Measure(s)

None required.

4.8. Hydrology and Water Quality

4.8 HYDROLOGY AND WATER QUALITY

4.8.1 INTRODUCTION

The Hydrology and Water Quality chapter of the EIR describes existing drainage patterns on the project site/Biological Resources Preservation Alternative (BRPA) site, current stormwater flows, and stormwater infrastructure. The chapter also evaluates potential impacts of the Proposed Project and BRPA with respect to increases in impervious surface area and associated stormwater flows, degradation of water quality, and increases in on- and off-site flooding. Information used for the chapter was primarily drawn from the Drainage System and Flood Control Analyses (Drainage Report) prepared for both the Proposed Project (see Appendix K)[1] and the BRPA by Cunningham Engineering (see Appendix L),[2] the 2-Dimensional Hydraulic Modeling reports prepared for both the Proposed Project and the BRPA by Rick Engineering Company (see Appendix M and Appendix N),[3,4] and a Drainage Channel Evaluation prepared by Geocon Consultants, Inc. (Geocon) to evaluate historical groundwater data (Appendix O).[5] In addition, information was drawn from the City of Davis General Plan[6] and the City of Davis General Plan EIR.[7] Issues associated with water supply availability are addressed in Chapter 4.14, Utilities and Service Systems, of this EIR.

4.8.2 EXISTING ENVIRONMENTAL SETTING

The section below describes regional hydrology, the existing drainage patterns within the project site, including peak flows, existing water quality, and groundwater conditions.

Regional Hydrology

The 497.6-acre project site/BRPA site is located north of East Covell Boulevard, east of F Street, and west of Pole Line Road in a currently unincorporated portion of Yolo County, California. According to the General Plan EIR, the Sacramento River and the Yolo Bypass drain Yolo County, which is part of the Sacramento River Flood Control Project. The largest surface waterway in the region is Putah Creek, which drains approximately 600 square miles. Other major waterways that drain unincorporated County areas around the City include Willow Slough Bypass to the north, which empties into the Yolo Bypass. Willow Slough Bypass is a leveed channel that drains approximately 204 square miles and receives flows from Willow, Cottonwood, Chickahominy, and Dry Sloughs south of Cache Creek.

The soils in the eastern portion of Yolo County contain high amounts of clay, which limits infiltration rates and consequently causes high runoff rates. Flooding has frequently occurred in Willow Slough, Dry Slough, and Davis area watersheds north of Putah Creek. Yolo County has

1 Cunningham Engineering. *Drainage System and Flood Control Analysis for Village Farms Davis*. August 8, 2024.
2 Cunningham Engineering. *Drainage System and Flood Control Analysis for Village Farms Davis Biological Resources Preservation Alternative*. August 8, 2024.
3 Rick Engineering Company. *Village Farms Project: 2-Dimensional Hydraulic Modeling*. July 8, 2024.
4 Rick Engineering Company. *Village Farms Project: Biological Wetland Avoidance Alternative: 2-Dimensional Hydraulic Modeling*. July 8, 2024.
5 Geocon Consultants, Inc. *Drainage Channel Evaluation, Village Farms Davis, Davis, California.* July 2024.
6 City of Davis. *City of Davis General Plan*. Adopted May 2001, Amended January 2007.
7 City of Davis. *Final Program EIR for the City of Davis General Plan Update and Final Project EIR for Establishment of a New Junior High School*. Certified May 2001.

been mapped by the Federal Emergency Management Agency (FEMA) as being part of the National Flood Insurance Program (NFIP), which identifies areas of potential flooding and their associated risks.

Flooding tends to increase in the Davis area when either flood waters from western Yolo County exceed the capacity of creeks and sloughs flowing easterly near Davis (e.g., flows in Dry Creek west of Davis have frequently caused flooding in the Davis area), and/or when flood waters from the Sacramento River back up into the Yolo and Willow Slough Bypasses, impeding gravity flow from the systems. Floodwaters from local drainages subsequently back up and pond behind the levees of the bypasses until flood flows in the bypasses recede. In addition, a dam inundation study prepared for the Bureau of Reclamation shows that flooding would occur in Davis if Monticello Dam (Lake Berryessa) on Putah Creek, 23 miles west of Davis, were to fail.

Flood protection for the City from the Sacramento River is provided by storage and flood control projects upstream on the Sacramento River and on tributaries to the Sacramento River. Internal drainage within the Davis City Limits is captured by various storm drain collection systems and detention ponds. The ponds provide storage and reduce peak flood flows to the channels that flow to Willow Slough Bypass or the Yolo Bypass.

Project Site and Surrounding Area Drainage

The project site/BRPA site is undeveloped and consists primarily of irrigated farmland. A drainage course, the Covell Drain (Channel A), along with its associated non-native riparian corridor, cuts from east to west across the site. The site is relatively flat with elevations ranging from 35-45 feet with a general slope to the west and toward Channel A at approximately 0.2 percent to 0.3 percent slope. All on-site agricultural fields are actively farmed. One of the on-site fields south of Channel A contains a large seasonal wetland or alkali playa, as well as other smaller wetlands. In addition, limited development occurs on-site in the form of one agricultural structure located in the southern portion of the site.

The project site/BRPA site lies within the Covell Drain watershed. The Covell Drain watershed is approximately 17 square miles, primarily upstream of the site, draining to the east to the Willow Slough Bypass, approximately 2.3 miles east of the site (see Figure 4.8-1).

Off-Site Inflow

The primary inflow to the project site/BRPA site is from the Covell Drain (Flow #1) (see Figure 4.8-2); entering at the northwest corner of the site through dual box culverts under F Street and the Union Pacific Railroad (UPRR) tracks. Flows also enter the site from the F Street Channel (Flow #6) and Northstar Pond Discharge (Flow #5) at a trestle undercrossing of the Railroad tracks. The Northstar Pond, located west of F Street, provides storm water detention, which is then pumped across F Street to the trestle crossing at the city-maintained Storm Drain Pump Station #2 (SDS #2). Flow in the F Street channel originates from two primary sources; the first is the H Street Pump Station (SDS #3) and second is the Cannery Pump Station (Flow #12). Flow from both pump stations is discharged into the F Street Channel and flows overland northerly and combines with the Northstar Pump Station flow, which then flow east under the railroad trestle crossing into the project site. In high flow conditions, storm water north of the project site from the North Davis Channel, overwhelms the capacity of the existing channel and spills south into the existing farm field (Flow #7).

Figure 4.8-1
Project Area

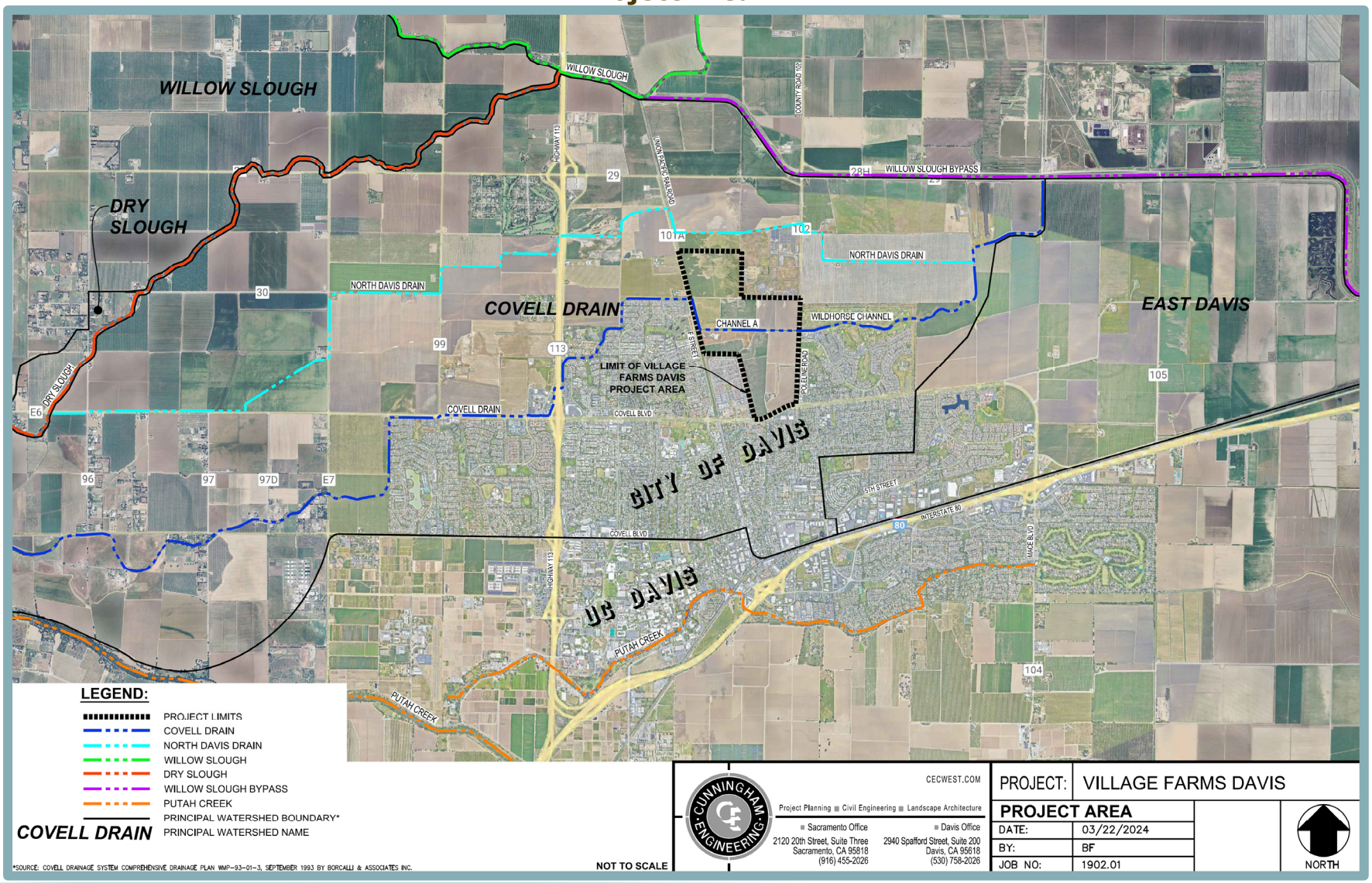
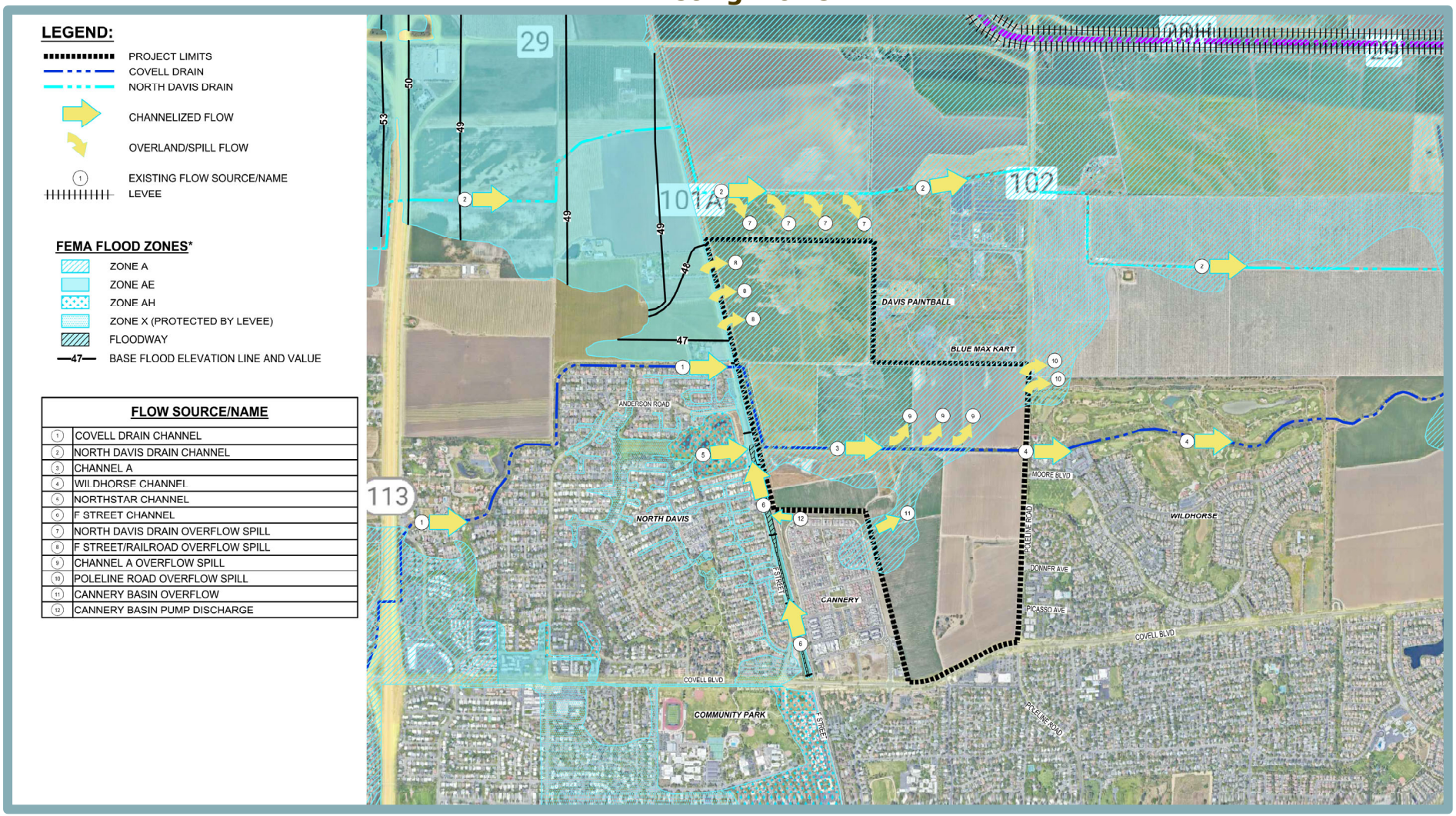


Figure 4.8-2
Existing Flows



The North Davis Drain channelized flow (Flow #2) also overwhelms the channel capacity west of F Street, resulting in shallow flooding of the farm fields and ultimately overtopping F Street and the Railroad (Flow #8).

Storm water flows from the aforementioned locations continue as shallow overland flow southerly across the farm fields and enters the project site, combining with the storm water from the Covell Drain and F Street channel. In high flow storm water events, storm water contained in the Cannery detention basin, located around the northern and eastern perimeter of the Cannery, overtops a concrete weir and flows overland eventually entering Channel A flows onsite.

Flow Through Project Site

The storm water flow through the project site generally flows within Channel A (Flow #3). Flow from the Covell Drain entering at the northwest corner of the project site, turns south and flows southerly as channelized flow, parallel to the UPRR, following the Covell Drain line (see Figure 4.8-2). After flowing south approximately 1,400 feet, the Covell Drain flow merges with the incoming flows from the F Street channel at the trestle crossing. Flows turn and flow easterly through the project site in Channel A (Flow #3) approximately 4,300 feet to Pole Line Road. During high flow conditions, storm water overtops Channel A and spills to the north into the farm field. The overflow continues flowing overland to the northeast corner and begins ponding, eventually overtopping Pole Line Road. As discussed above, flows from the Cannery overflow weir flow overland across the farm fields, eventually intersecting Channel A and continuing east to Pole Line Road.

Project Site Outflow

Storm water flows from Channel A, and the overtopping shallow flows are directed west to Pole Line Road. Flows contained within Channel A continue east through two box culverts, then continue as channelized flow within the Wildhorse Channel (Flow #4). Flows from the shallow flooding at the northeast corner of the property ultimately overtop Pole Line Road (Flow #10) and flow northeast across the farm fields intersecting the Channelized flow in North Davis Channel (Flow #2). Storm water flow continues in Wildhorse Channel east out of the City, continuing north and merging with the North Davis Channel flows and continuing north, discharging into the Willow Slough Bypass. Discharge into the Willow Slough Bypass is regulated by flap gates in the culverts penetrating the levees; during peak flows in the Willow Slough Bypass, the flap gates remain shut. During this condition, flow from the Covell Drain watershed spills east out of the channelized flow and flows overland into the East Davis watershed resulting in ponding and flooding through the eastern reaches of the watershed.

Existing Stormwater Infrastructure

The only existing storm water infrastructure on the project site is Channel A. With respect to immediately adjacent storm water infrastructure, the City of Davis maintains a storm drain pipe network within the Cannery development to the southwest, within Pole Line Road to the east and within Covell Boulevard to the south. These existing networks remain hydraulically isolated from the project development.

Flooding

The project site/BRPA site is depicted on FEMA Flood Insurance Rate Map (FIRM) numbers 06113C0603G and 06113C0611G, both effective June 18, 2010. Both FIRMs were revised by Letter of Map Revision (LOMR) 20-09-2115R, effective August 15, 2022. The LOMR revised the

mapped flooding adjacent to the site, but in coordination with the engineers that prepared the LOMR, flow from the study revision does not impact the site. The northern portion of the site is within FEMA Zone A (see Figure 4.8-2). Zone A is defined as areas which are determined to flood during the one percent annual flood event. Flood plain depths vary across the project area from zero to over three feet. Flood depths in excess of three feet are located within the conveyance channels and along the northerly boundary of the site, adjacent to the Blue Max Kart facility.

Surface Water Quality

Activities and/or conditions that have the potential to degrade water quality include, but are not limited to, construction activities and urban stormwater runoff. Construction activities have the potential to cause erosion and sedimentation associated with ground-disturbing and clearing activities, which could cause unstabilized soil to be washed or wind-blown into nearby surface water. In addition, the use of heavy equipment during construction activities, especially during rainfall events, has the potential to cause petroleum products and other pollutants to enter nearby drainages.

Water quality degradation from urban stormwater runoff is primarily the result of runoff carrying pollutants from the land surface (i.e., streets, parking lots, etc.) to the receiving waters (i.e., streams and lakes). Pollutants typically found in urban runoff include facility maintenance and lawn-care/landscaping chemicals (insecticides, herbicides, fungicides and rodenticides), heavy metals (such as copper, zinc and cadmium), oils and greases from automobiles and other mechanical equipment, and nutrients (nitrogen and phosphorus).

According to the City's General Plan EIR, pollutant concentrations in Davis surface water are highly variable, depending on urban densities, land uses, and the time since the last rains that produced surface runoff. The Covell Drain and other surface drainage ditches are typically intermittent and often do not have appreciable surface flow during the dry season. During the low-flow periods, surface water from the Covell Drain and Channel A may contain detectable amounts of agricultural pollutants, such as pesticides, herbicides, and fertilizers from agricultural return water. The Covell Drain could also contain some pollutants associated with urban runoff from the Stonegate watershed in west Davis.

Groundwater

The project site/BRPA site is located within the Yolo Subbasin and the jurisdiction of the Yolo Subbasin Groundwater Authority (YSGA). The YSGA was formed in 2017 in order to comply with the requirements of the Sustainable Groundwater Management Act (SGMA). The goal of the YSGA is to manage the entire Yolo Subbasin by protecting against overdraft and creating sustainable water supplies.

According to the Groundwater Sustainability Plan for the Yolo Subbasin, the local aquifer system can be delineated into three zones. The shallow zone extends from the surface to a depth of approximately 220 feet and is predominantly alluvium (and the top of the upper Tehama Formation). The intermediate zone extends from depths of approximately 220 to 600 feet and is entirely within the upper Tehama Formation, believed to be largely alluvial plains with distributary channel and sheet flood sands interbedded in silts and clays. The deposits are believed to be slightly more consolidated than the shallow zone, although the coarser beds may remain loose. The deep zone extends from depths of approximately 600 to 1,500 feet within the upper Tehama

Formation. The lower Tehama Formation (generally below a depth of 1,500 feet) is not typically utilized for groundwater extraction.[8]

The Yolo Subbasin is not identified by the California Department of Water Resources (DWR) as being in a state of overdraft.[9] Groundwater overdraft is a condition within a developed groundwater basin in which the amount of water pumped from the basin exceeds the sustainable yield of the basin over the long term.

The Drainage Channel Evaluation prepared by Geocon Consultants, Inc. (Geocon) evaluated historical groundwater data from a variety of sources and charted the data, as shown in Figure 4.8-3 (Appendix O).[10] As shown in Figure 4.8-3, the substantial majority of the data points are below 26.5 feet above mean sea level (amsl), which is the proposed bottom of the on-site detention basin and associated channel, which is further discussed under Impact 4.8-4. The storm water detention basin in the Cannery Subdivision has a base elevation ranging from 25.5 to 27.5 feet amsl, and City staff has not observed any groundwater seepage into the Cannery detention basin.[11]

Anomalously high and low groundwater elevations were reported by Wallace-Kuhl & Associates (WKA) for the 2018 and 2019 dry seasons (see Figure 4.8-3). For example, the depth to water in monitoring well DM-MW-1 was reported as 9.93 feet on September 12, 2018, 22.34 feet on September 26, 2018, and 10.40 feet on July 20, 2019. The reported elevations are not typical of dry-season conditions.

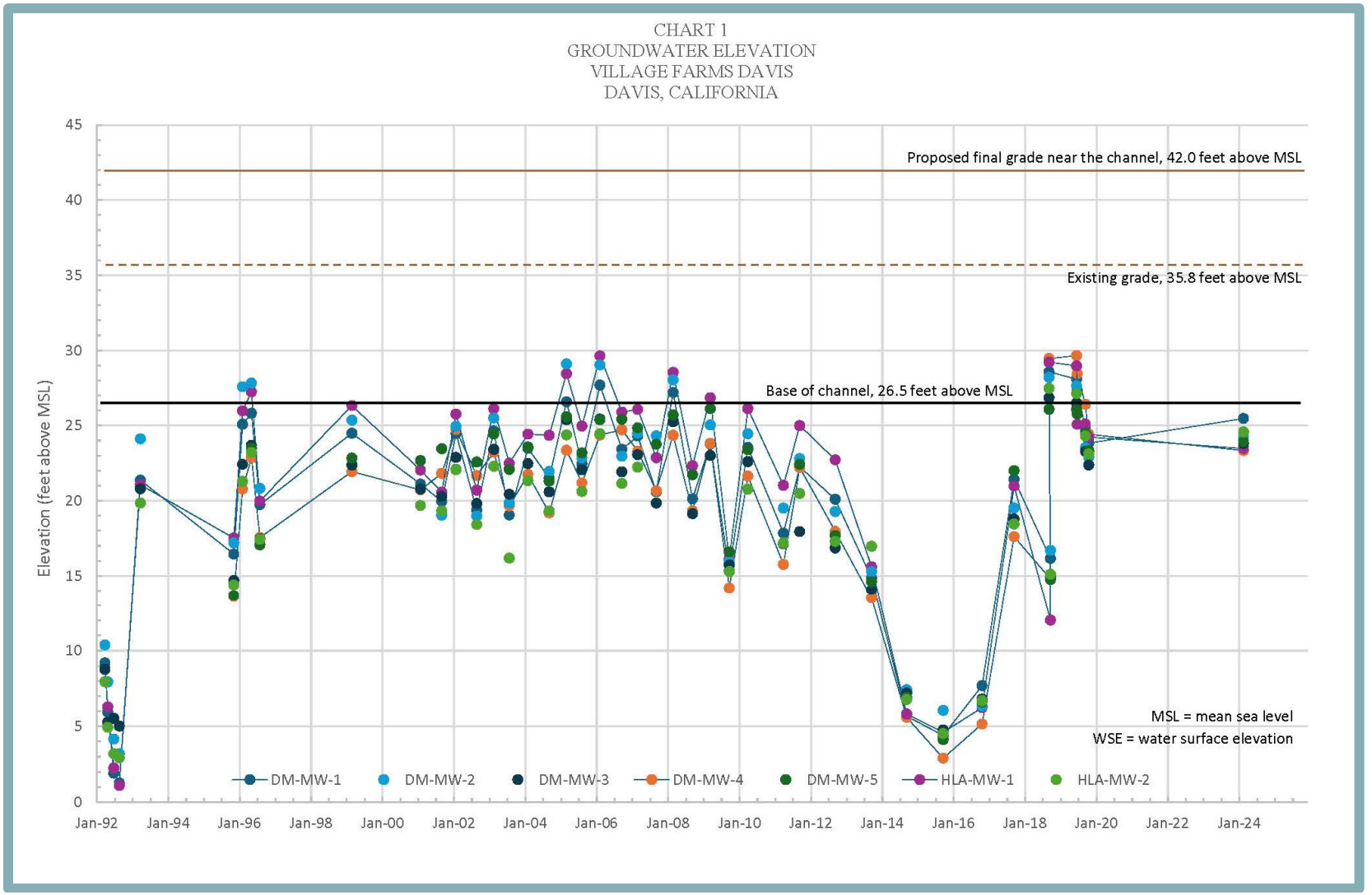
The Drainage Channel Evaluation also notes that the reported flow direction for shallow groundwater has varied with time. Dames & Moore (1996) reported that the groundwater flow direction was generally southeast during winter months and southwest during summer months as a result of groundwater extraction at the Hunt-Wesson plant southwest of the project site/BRPA site.

More recently, the City and WKA have reported that the groundwater flow direction is generally northeast. The change in groundwater flow direction may be a result of changes in land use and groundwater pumping in the vicinity, such as the following:

- cessation of groundwater extraction at the Hunt-Wesson facility southwest of the project site/BRPA site;
- development of the Wildhorse subdivision and golf course, east of the site, in the late 1990s;
- development of the Cannery subdivision, south and west of the site in 2015; and
- groundwater extraction associated with the cultivation of agricultural fields at the site, which recommenced in 1999 after a decade of laying fallow.

8 Yolo Subbasin Groundwater Agency. *2022 Groundwater Sustainability Plan*. Adopted January 24, 2022.
9 California Department of Water Resources. *California's Critically Overdrafted Groundwater Basins.* January 2020.
10 Geocon Consultants, Inc. *Drainage Channel Evaluation, Village Farms Davis, Davis, California.* July 2024.
11 *Ibid* [page 9].

Figure 4.8-3
Groundwater Elevation Data



Source: Geocon, 2024.

Universal Engineering Sciences (UES), in their monitoring of the Old Davis Landfill to the north,[12] reported that the calculated groundwater elevations based on depth-to-water measurements in the monitoring wells indicated that the groundwater gradient was "radiating out from around DM-MW-1" and, therefore, a singular direction of groundwater flow could not be calculated.

Information provided by the City indicates that groundwater infiltration has not been observed by City staff in the storm water detention basin associated with the Cannery Subdivision immediately southwest of the project site/BRPA site. Improvement plans for the Cannery Subdivision specify base elevations for the detention basin ranging from 25.5 to 27.5 feet amsl.

As noted in Chapter 4.7, Hazards and Hazardous Materials, of this EIR, according to multiple records reviewed as part of the Urban Development Area Phase I ESA prepared for the project site, groundwater beneath the project site/BRPA site appears to have been impacted by the former landfill and is considered a potential Recognized Environmental Condition (REC).

UES was retained by the City of Davis in 2024 to prepare a Groundwater Monitoring Report for the Old Davis Landfill and evaluate current groundwater conditions beneath and in the vicinity of the Old Davis Landfill. Groundwater monitoring and sampling of existing groundwater monitoring wells was conducted in February 2024. See Chapter 4.7, Section 4.7-2, and Figure 4.7-1, for a detailed description of the groundwater monitoring wells on the project site and Old Davis Landfill.

Eight contaminants were found to exceed the Maximum Contaminant Level (MCLs) set forth by the United States Environmental Protection Agency (USEPA) and/or State of California. MCL is defined by the USEPA as the highest level of a contaminant that is allowed in drinking water and are enforceable standards.

Based on a review of regional water quality data, UES concluded that aluminum, arsenic, selenium, and nitrate can be attributed to larger regional trends because water districts and regulatory agencies in the region and across the central valley have reported levels of these analytes above MCLs and at similar concentrations reported in the monitoring wells associated with Old Davis Landfill. UES concluded that the detected concentrations of aluminum, arsenic selenium, and nitrate are not specifically connected to activities at the Old Davis Landfill.

In contrast, the detected per- and polyfluoroalkyl substances (PFAS) compounds and manganese appear to originate from the Old Davis Landfill. On April 10, 2024, the USEPA announced the final National Primary Drinking Water Regulation (NPDWR) for six PFAS compounds. Six legally enforceable MCLs were established with this ruling, including MCLs for perfluorooctanoic acid (PFOA), perfluorooctane sulfonic acid (PFOS), perfluorohexane-sulfonic acid (PFHxS), perfluorononanoic acid (PFNA), hexafluoropropylene oxide dimer acid (HFPO-DA), and certain compound mixtures. Three PFAS compounds exceeded their respective USEPA water quality standards in five monitoring well water samples, as explained below.

PFOA was detected in one on-site groundwater monitoring well (DM-MW-4) at a concentration of 29 nanograms per liter (ng/l), which exceeds the recently established USEPA Primary MCL for PFOA in drinking water (4 ng/l). PFOS was detected at concentrations of 1,100 ng/L, 320 ng/L, 29 ng/L, and 13 ng/L in water samples collected from monitoring wells DM-MW-1, DM-MW-3, DM-

[12] Universal Engineering Sciences. *Groundwater Monitoring Report, Old Davis Landfill, Davis, California*. April 19, 2024.

MW-4, and DM-MW-5, respectively. PFHxS was detected at a concentration of 13 ng/L in DM-MW-1 which exceeded the USEPA MCL of 10 ng/L.

The high concentrations of PFAS detected at the Old Davis Landfill are not seen in the wider regional setting, and, therefore, PFAS concentrations in groundwater likely originate from the Old Davis Landfill. Elevated concentrations of PFAS were not detected in the source water for the City's drinking water supply system, indicating that the apparent landfill contamination is not currently impacting the drinking water supply.

Manganese was detected at concentrations ranging from 29 to 340 micrograms per liter (µg/l) in groundwater beneath the project site/BRPA site, and some of the detected concentrations exceed the Secondary (aesthetic) MCL for manganese in drinking water (50 µg/l). Manganese was detected in groundwater at relatively high concentrations beneath the Old Davis Landfill, and such concentrations could be attributable to former landfill operations.

4.8.3 REGULATORY CONTEXT

A number of federal, State, and local policies provide the regulatory framework that guides the protection of water resources. The following discussion summarizes those laws that are most relevant to hydrology and water quality in the vicinity of the project site.

Federal Regulations

The following are the federal environmental laws and policies relevant to hydrology and water quality.

Federal Emergency Management Agency

FEMA is responsible for determining flood elevations and floodplain boundaries based on U.S. Army Corps of Engineers (USACE) studies. FEMA is also responsible for distributing the FIRMs, which are used in the NFIP. The FIRMs identify the locations of special flood hazard areas, including the 100-year floodplains.

FEMA allows non-residential development in the floodplain; however, construction activities are restricted within flood hazard areas, depending upon the potential for flooding within each area. Federal regulations governing development in a floodplain are set forth in Title 44, Part 60 of the Code of Federal Regulations (CFR). These standards are implemented at the State level through construction codes and local ordinances; however, these regulations only apply to residential and non-residential structure improvements. Although roadway construction or modification is not explicitly addressed in the FEMA regulations, the California Department of Transportation (Caltrans) has also adopted criteria and standards for roadway drainage systems and projects situated within designated floodplains. Standards that apply to floodplain issues are based on federal regulations (Title 23, Part 650 of the CFR). At the State level, roadway design must comply with drainage standards included in Chapters 800-890 of the Caltrans Highway Design Manual. CFR Section 60.3(c)(10) restricts cumulative development from increasing the water surface elevation of the base flood by more than one foot within the floodplain.

Federal Clean Water Act

The National Pollutant Discharge Elimination System (NPDES) permit system was established in the federal Clean Water Act (CWA) to regulate municipal and industrial discharges to surface waters of the U.S. Each NPDES permit contains limits on allowable concentrations and mass

emissions of pollutants contained in the discharge. Sections 401 and 402 of the CWA contain general requirements regarding NPDES permits. Section 307 of the CWA describes the factors that the USEPA must consider in setting effluent limits for priority pollutants.

Nonpoint sources are diffuse and originate over a wide area rather than from a definable point. Nonpoint pollution often enters receiving water in the form of surface runoff, but is not conveyed by way of pipelines or discrete conveyances. As defined in the federal regulations, such nonpoint sources are generally exempt from federal NPDES permit program requirements. However, two types of nonpoint source discharges are controlled by the NPDES program – nonpoint source discharge caused by general construction activities, and the general quality of stormwater in municipal stormwater systems. The 1987 amendments to the CWA directed the USEPA to implement the stormwater program in two phases. Phase I addressed discharges from large (population 250,000 or above) and medium (population 100,000 to 250,000) municipalities and certain industrial activities. Phase II addresses all other discharges defined by USEPA that are not included in Phase I.

Section 402 of the CWA mandates that certain types of construction activities comply with the requirements of the NPDES stormwater program. The Phase II Rule, issued in 1999, requires that construction activities that disturb land equal to or greater than one acre require permitting under the NPDES program. In California, permitting occurs under the General Permit for Stormwater Discharges Associated with Construction Activity, issued to the State Water Resources Control Board (SWRCB), implemented and enforced by the nine Regional Water Quality Control Boards (RWQCBs).

As of July 1, 2010, all dischargers with projects that include clearing, grading or stockpiling activities expected to disturb one or more acres of soil are required to obtain compliance under the NPDES Construction General Permit Order 2009-0009-DWQ. The General Permit requires all dischargers, where construction activity disturbs one or more acres, to take the following measures:

1. Develop and implement a Stormwater Pollution Prevention Plan (SWPPP) to include a site map(s) of existing and proposed building and roadway footprints, drainage patterns and stormwater collection and discharge points, and pre- and post- project topography;
2. Describe types and placement of Best Management Practices (BMPs) in the SWPPP that will be used to protect stormwater quality;
3. Provide a visual and chemical (if non-visible pollutants are expected) monitoring program for implementation upon BMP failure; and
4. Provide a sediment monitoring plan if the area discharges directly to a water body listed on the 303(d) list for sediment.

To obtain coverage, a SWPPP must be submitted to the RWQCB electronically and a copy of the SWPPP must be submitted to the City of Davis. When project construction is completed, the landowner must file a Notice of Termination (NOT).

State Regulations

The following are the State environmental laws and policies relevant to hydrology and water quality.

State Water Resources Control Board

The SWRCB and the RWQCBs are responsible for ensuring implementation and compliance with the provisions of the federal CWA and California's Porter-Cologne Water Quality Control Act. The project site is situated within the jurisdictional boundaries of the Central Valley RWQCB (CVRWQCB) (Region 5). The CVRWQCB has the authority to implement water quality protection standards through the issuance of permits for discharges to waters at locations within their jurisdiction.

Central Valley Regional Water Quality Control Board

As authorized by the Porter-Cologne Water Quality Control Act, the CVRWQCB's primary function is to protect the quality of the waters within its jurisdiction for all beneficial uses. State law defines beneficial uses of California's waters that may be protected against quality degradation to include, but not be limited to: domestic; municipal; agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

The CVRWQCB implements water quality protection measures by formulating and adopting water quality control plans (referred to as basin plans, as discussed below) for specific groundwater and surface water basins, and by prescribing and enforcing requirements on all agricultural, domestic, and industrial waste discharges. The CVRWQCB oversees many programs to support and provide benefit to water quality, including the following major programs: Agricultural Regulatory; Above-Ground Tanks; Basin Planning; CALFED; Confined Animal Facilities; Landfills and Mining; Non-Point Source; Spills, Leaks, Investigations, and Cleanups (SLIC); Stormwater; Total Maximum Daily Load (TMDL); Underground Storage Tanks (UST), Wastewater Discharges (including the NPDES); Water Quality Certification; and Watershed Management.

The CVRWQCB is responsible for issuing permits for a number of varying activities. Activities subject to the CVRWQCB permitting requirements include stormwater, wastewater, and industrial water discharge, disturbance of wetlands, and dewatering. Permits issued and/or enforced by the CVRWQCB include, but are not limited to, the NPDES Construction General Permit, NPDES Municipal Stormwater Permits, Industrial Stormwater General Permits, Clean Water Act Section 401 and 404 Permits, and Dewatering Permits.

Basin Plans and Water Quality Objectives

The Porter-Cologne Water Quality Control Act provides for the development and periodic review of water quality control plans (basin plans) that are prepared by the RWQCBs. Basin plans designate beneficial uses of California's major rivers and groundwater basins, and establish narrative and numerical water quality objectives for those waters. Beneficial uses represent the services and qualities of a water body (i.e., the reasons why the water body is considered valuable), while water quality objectives represent the standards necessary to protect and support those beneficial uses. Basin plans are primarily implemented through the NPDES permitting system and by issuing waste discharge regulations to ensure that water quality objectives are met.

Basin plans provide the technical basis for determining waste discharge requirements and taking regulatory enforcement actions if deemed necessary. The project site is located within the jurisdiction of the CVRWQCB. The City of Davis is located within the plan area of the Water

Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin (Basin Plan).[13]

The Basin Plan sets water quality objectives for the surface waters in its region for the following substances and parameters: bacteria, bioaccumulation, biostimulatory substances, color, dissolved oxygen, floating material, oil and grease, population and community ecology, pH, radioactivity, salinity, sediment, settleable material, suspended material, sulfide, taste and odor, temperature, toxicity, turbidity, and un-ionized ammonia. For groundwater, water quality objectives applicable to all groundwater have been set for bacteria, chemical constituents, radioactivity, taste, odors, and toxicity.

Senate Bill 5

In 2007, the State of California set the 200-year storm event as the Urban Level of Flood Protection (ULOP) for the State through a series of laws included in Senate Bill (SB) 5. Along with other related legislation, SB 5 established a mandate for local governments to amend their general plans and zoning codes to be consistent with State law on floodplain management. Specifically, SB 5 requires all cities and counties within the Sacramento-San Joaquin Valley, as defined in California Government Code Sections 65007(h) and (j), to make findings related to an ULOP or the national FEMA standard of flood protection before: (1) entering into a development agreement for any property that is located within a flood hazard zone; (2) approving a discretionary permit or other discretionary entitlement, or a ministerial permit that would result in the construction of a new residence, for a project that is located within a flood hazard zone; or (3) approving a tentative map, or a parcel map for which a tentative map was not required, for any subdivision that is located within a flood hazard zone. The primary purpose of the law is to ensure that appropriate flood protection is provided in urban and urbanizing areas.

A project would be subject to the requirements of SB 5 if the project would meet all of the following five criteria:

1. Located within an urban area that is a developed area, as defined by CFR Title 44, Section 59.1, with 10,000 residents or more, or an urbanizing area that is a developed area or an area outside a developed area that is planned or anticipated to have 10,000 residents or more within the next 10 years.
2. Located within a flood hazard zone that is mapped as either a special hazard area or an area of moderate hazard on FEMA's official (i.e., effective) FIRM for the NFIP.
3. Located within the Sacramento-San Joaquin Valley.
4. Located within an area with a potential flood depth above 3.0 feet, from sources of flooding other than localized conditions that may occur anywhere in a community, such as localized rainfall, water from stormwater and drainage problems, and water from temporary water and wastewater distribution system failure.
5. Located within a watershed with a contributing area of more than 10 square miles.

With respect to Criteria 1, the project site/BRPA site is considered to be within an urban area. With respect to Criteria 2, according to the Drainage Report, the northern portion of the site is located within Zone A, and is also located within the Sacramento Valley, consistent with Criteria 3. With respect to Criteria 4, portions of the site are located within an area with a potential flood

[13] Central Valley Regional Water Quality Control Board. *The Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin.* Revised February 2019.

depth above three feet from sources of flooding other than localized conditions. Finally, consistent with Criteria 5, the site is located within the Covell Drain watershed, which has a contributing area of more than 10 square miles.

Because the project would meet all of the foregoing criteria, the Proposed Project/BRPA would be subject to the requirements of SB 5.

The ULOP requires the development to withstand flooding that has a 1-in-200 chance of occurring in any given year. As a result, the project flood evaluation utilizes the 200-year 10-day storm for evaluation of all flood impacts related to the project. Even though the City of Davis requires elevation of the pads one foot above the Base Flood Elevation (BFE), final grades for the project would be based upon the elevations resulting from the 2D Hydraulic Modeling contained herein, which is based on the 200-year recurrence interval storm.

Local Regulations

The following are the local environmental laws and policies relevant to hydrology and water quality.

City of Davis General Plan

The following policies from the City of Davis General Plan related to hydrology and water quality are applicable to the Proposed Project/BRPA:

Water Element

Goal WATER 2 Ensure sufficient supply of high quality water for the Davis Planning Area.

- Policy WATER 2.1 Provide for the current and long-range water needs of the Davis Planning Area, and for protection of the quality and quantity of groundwater resources.
- Policy WATER 2.2 Manage groundwater resources so as to preserve both quantity and quality.
- Policy WATER 2.3 Maintain surface water quality.

Goal WATER 3 Design stormwater drainage and detention facilities to maximize recreational, habitat and aesthetic benefits.

- Policy WATER 3.1 Coordinate and integrate development of storm ponds and channels City-wide, to maximize recreational, habitat and aesthetic benefits.
- Policy WATER 3.2 Coordinate and integrate design, construction, and operation of proposed stormwater retention and detention facilities City-wide, to minimize flood damage potential and improve water quality.

Hazards Element

Goal HAZ 1 Provide flood protection which minimizes potential damage, while enhancing recreational opportunities and wildlife habitats and water quality.

Policy HAZ 1.1	Site and design developments to prevent flood damage.
Policy HAZ 1.2	Continue to provide flood control improvements that are sensitive to wildlife habitat and open space preservation.

NPDES Small Municipal Separate Storm Sewer System (MS4) General Permit

The NPDES Municipal Stormwater Permitting Program regulates stormwater discharges from separate storm sewer systems. NPDES Municipal Stormwater Permits are issued in two phases. Phase I regulates stormwater discharges from large- and medium-sized municipal separate storm sewer systems (those serving more than 100,000 persons). Most Phase I permits are issued to a group of co-permittees encompassing an entire metropolitan area. Phase II provides coverage for smaller municipalities, including nontraditional small storm sewer systems, which include governmental facilities such as military bases, public campuses, and prison and hospital complexes. The NPDES Municipal Stormwater Permits require the discharger to develop and implement a Stormwater Management Plan/Program with the goal of reducing the discharge of pollutants to the maximum extent practicable.

The CVRWQCB issued the NPDES General Permit No. CAS000004 Waste Discharge Requirements for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems, which became effective on July 1, 2013. An "MS4" is a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) designed or used for collecting or conveying stormwater; (ii) which is not a combined sewer; and (iii) which is not part of a Publicly Owned Treatment Works (POTW). The City of Davis is a Phase II MS4 permittee. Projects subject to the requirements of the Phase II MS4 NPDES permit must submit the appropriate Post-Construction Stormwater Plan based on the project type/development category. Regulated Projects include projects that create or replace 5,000 square feet (sf) or more of impervious surface. Regulated Projects that create and/or replace one or more acres of impervious surface are considered regulated hydromodification management projects. The Proposed Project/BRPA would create more than one acre of impervious area, and, thus, are considered Regulated Hydromodification Management Projects subject to Phase II MS4 NPDES permit post-construction stormwater treatment requirements.

Regulated Projects are required to divide the project area into Drainage Management Areas (DMAs) and implement and direct water to appropriately-sized Site Design Measures (SDMs) and Baseline Hydromodification Measures to each DMA to the Maximum Extent Practicable (MEP). Regulated Projects must additionally include Source Control BMPs where possible. SDMs and Baseline Hydromodification Measures include, but are not limited to:

- Rooftop and impervious area disconnection;
- Porous pavement;
- Rain barrels and cisterns;
- Vegetated swales;
- Bio-retention facilities;
- Green roofs; or
- Other equivalent measures.

A detailed description of the requirements for Regulated Hydromodification Management Projects, such as the Proposed Project/BRPA, is included in the *Stormwater Phase II General Permit Development Standards Guidance Document.*[14]

City of Davis Municipal Code

City of Davis Municipal Code Chapter 30, Stormwater Management and Discharge Control, includes ordinances associated with hydrology and water quality. The applicable ordinances are discussed in further detail below.

Section 30.03.010

Section 30.03.010, Stormwater Discharges Associated with Construction Activity, requires compliance with the Construction General Permit. Additionally, an erosion and sediment control plan shall be prepared prior to and as a condition of the issuance of a grading or building permit. The erosion and sediment control plan shall contain, at a minimum, appropriate site-specific construction site BMPs and the rationale used for selecting or rejecting BMPs. Plan review by City staff would ensure compliance with this section and BMPs may be imposed as conditions of approval for a grading or building permit. A SWPPP developed pursuant to the Construction General Permit may substitute for the erosion and sediment control plan for projects where a SWPPP is developed.

Section 30.03.030

Section 30.03.030, New Development and Significant Redevelopment Projects subject to State of California NPDES Phase II Small Municipal Separate Storm Sewer System General Permit, states that all discretionary development and redevelopment projects are subject to the post-construction standards described in the NPDES General Permit for Phase II Small Municipal Separate Storm Sewer System (NPDES General Permit No. CASS000004).

Article 39.05

Article 39.05, Groundwater Wells, is intended to provide standards for the location, construction, maintenance, rehabilitation, sealing, abandonment and destruction of all wells so the quality of the groundwater is not polluted, contaminated or otherwise impacted in a manner which will jeopardize the health, safety or welfare of the citizens of the City. Article 39.05 provides standards for the location, construction, maintenance, rehabilitation, sealing, abandonment, and destruction of all wells.

4.8.4 IMPACTS AND MITIGATION MEASURES

This section describes the standards of significance and methodology used to analyze and determine the Proposed Project's/BRPA's potential impacts related to hydrology and water quality. In addition, a discussion of the project's impacts, as well as mitigation measures where necessary, is also presented.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines, a significant impact would occur if the Proposed Project/BRPA would result in any of the following:

[14] City of Davis. *Stormwater Phase II General Permit Development Standards Guidance Document*. November 2015.

- 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 site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
    - Result in substantial erosion or siltation on- or off-site;
    - Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;
    - 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 either during construction or in the post-construction condition; or
    - Impede or redirect flood flows;
- Place housing or improvements within a 100-year flood hazard area either as mapped on a federal Flood Hazard boundary or Flood Insurance Rate Map or other flood hazard delineation map which would:
    - Impede or redirect flood flows;
    - Expose people or structures to risk of loss, injury or death involving flooding; or
    - risk release of pollutants due to project inundation; and/or
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

The Proposed Project's/BRPA's impacts associated with erosion or siltation on- or off-site are discussed in Chapter 4.6, Geology and Soils, of this EIR. In addition, water supply availability is addressed in Chapter 4.14, Utilities and Service Systems, of this EIR.

Method of Analysis

The impact analysis for this chapter is based primarily on the Drainage Reports prepared for the Proposed Project and the BRPA by Cunningham Engineering, as well as Hydraulic Modeling conducted by Rick Engineering.

Hydraulic Modeling

Whereas Cunningham Engineering prepared the local hydrology analysis for the Proposed Project and BRPA (see below), Rick Engineering conducted a comparative analysis of the volumetric impacts that could result from the Proposed Project and BRPA, downstream of the project site/BRPA site.

The Hydraulic Modeling analyzed four storm events: the 200-year, 10-day storm; the 100-year, 10-day storm; the 100-year, 24-hour storm; and the 10-year, 24-hour storm. The flow information used for the modeling was taken from a study prepared for the Cannery project adjacent to the project site/BRPA site and provided to Rick Engineering by the City of Davis. The proposed site grading was utilized for the proposed condition models.

The Rick Engineering HEC-1 model does not include any diversion of flow through the levee at Willow Slough that exists in actual conditions. Flap gates on the structure allow flow from the Davis side of the levee to flow into Willow Slough, but do not allow flow from Willow Slough to

flow out of the levee. The model essentially assumes that the stage in Willow Slough is high enough that the flap gates are closed such that all flow within the City side of the levee will pond at the eastern side of Davis instead of flowing into the slough.

Detailed calculations are provided in the Hydraulic Modeling prepared for the Proposed Project and BRPA by Rick Engineering (see Appendix M and Appendix N).

Drainage System and Flood Control Analysis

The Drainage Reports evaluated the preliminary design of the proposed drainage system in accordance with the Phase II General Permit Development Standards Guidance Document[15] and the City of Davis Public Works Revised Design Standards.[16]

The Drainage Reports evaluated whether the Proposed Project/BRPA storm water infrastructure would be designed to address the following design parameters and requirements:

- Storm Water Quality (SWQ) and Low Impact Development (LID) integration into the Proposed Project/BRPA for two-year 24-hour storm;
- On-site conveyance of the 10-year 24-hour storm event and attenuation of the post-project peak flows from the 10-year 24-hour storm event to pre-project peak flows;
- On-site routing of the 100-year 24-hour storm event;
- Protect the proposed development areas from flood water flows and elevate structures above the flood plain; and
- Mitigate development impacts to the flood water flows and flood water elevations to match existing conditions at the project site/BRPA site boundary.

Project Impacts and Mitigation Measures

The following discussion of impacts is based on the implementation of the Proposed Project/BRPA in comparison with the standards of significance identified above.

4.8-1 Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality during construction. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

Given that development of both the Proposed Project and the BRPA would result in the construction of similar land uses within the same site, the following discussion applies to the potential for both development scenarios to violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality during construction.

[15] City of Davis. *City of Davis Stormwater Phase II General Permit Development Standards Guidance Document*. November 2015.
[16] City of Davis. *City of Davis Public Works Revised Design Standards*. September 19, 1991.

Proposed Project, Biological Resources Preservation Alternative

Construction of the Proposed Project/BRPA would include grading, excavation, trenching for utilities, and other construction-related activities that could cause soil erosion at an accelerated rate during storm events. In addition, soil would be disturbed during construction of the proposed off-site improvements, including a new roundabout and signals along Pole Line Road, a new traffic signal at the intersection of East Covell Boulevard and L Street, and off-site water line improvements within three existing roadways in the project vicinity. This EIR also covers the potential environmental affects that could result from future construction of grade-separated pedestrian/bicycle crossings at F Street and Pole Line Road. All such activities have the potential to affect water quality and contribute to localized violations of water quality standards if impacted stormwater runoff from construction activities enters the Covell Drain in the project area, which eventually drains to the Willow Slough Bypass.

Soils exposed by the aforementioned types of construction activities have the potential to affect water quality in two ways: 1) suspended soil particles and sediments transported through runoff; or 2) sediments transported as dust that eventually reach local water bodies. Spills or leaks from heavy equipment and machinery, staging areas, or building sites also have the potential to enter runoff. Typical pollutants include, but are not limited to, petroleum and heavy metals from equipment and products such as paints, solvents, and cleaning agents, which could contain hazardous constituents. Sediment from erosion of graded or excavated surface materials, leaks or spills from equipment, or inadvertent releases of building products could result in water quality degradation if runoff containing the sediment or contaminants should enter receiving waters in sufficient quantities. Discharge of polluted stormwater or non-stormwater runoff could violate waste discharge requirements. However, impacts from construction-related activities would generally be short-term and of limited duration.

NPDES permits are required for the discharge of pollutants to waters of the United States, which includes any discharge to surface waters, including lakes, rivers, streams, bays, dry stream beds, wetlands, and storm sewers. The RWQCB issues permits in lieu of direct issuance by the USEPA. The terms of the NPDES permits implement pertinent provisions of the Federal CWA. Section 30.03.010 of City of Davis Municipal Code adopts by reference the standards of the State of California's NPDES Construction General Permit for Stormwater Discharges Associated with Construction Activity (NPDES General Permit No. CAS000002). Because the Proposed Project/BRPA would both require construction activities that would result in a land disturbance of greater than one acre, the project applicant would be required by the State to comply with the most current NPDES Construction General Permit requirements. Pursuant to the requirements, a SWPPP would be prepared for the overall Proposed Project/BRPA, which would include the site map, drainage patterns and stormwater collection and discharge points, BMPs, and a monitoring and reporting framework for implementation of BMPs, as necessary. In addition, a Notice of Intent (NOI) would be filed with RWQCB.

Non-stormwater management and material management controls reduce non-sediment-related pollutants from potentially leaving the construction site to the extent practicable. The Construction General Permit prohibits the discharge of materials

other than stormwater and authorized non-stormwater discharges (such as irrigation and pipe flushing and testing). Non-stormwater BMPs tend to be management practices with the purpose of preventing stormwater from coming into contact with potential pollutants. Examples of non-stormwater BMPs include preventing illicit discharges, and implementing good practices for vehicle and equipment maintenance, cleaning, and fueling operations, such as using drip pans under vehicles. Waste and materials management BMPs include implementing practices and procedures to prevent pollution from materials used on construction sites. Examples of materials management BMPs include the following:

- Good housekeeping activities such as storing of materials covered and elevated off the ground, in a central location;
- Securely locating portable toilets away from the storm drainage system and performing routine maintenance;
- Providing a central location for concrete washout and performing routine maintenance;
- Providing several dumpsters and trash cans throughout the construction site for litter/floatable management; and
- Covering and/or containing stockpiled materials and overall good housekeeping on the site.

While the final materials management BMPs to be used during construction are currently unknown, the Proposed Project/BRPA would likely include a combination of the BMP examples listed above. Final BMPs for the Proposed Project/BRPA construction would be chosen in consultation with the applicable California Stormwater Quality Association (CASQA) Stormwater BMP Handbooks and implemented by the project contractor.

In accordance with the Construction General Permit, the project site/BRPA site would also be inspected during construction before and after storm events and every 24 hours during extended storm events in order to identify maintenance requirements for the implemented BMPs and to determine the effectiveness of the implemented BMPs. As a "living document", the site-specific SWPPP that would be prepared for the Proposed Project/BRPA would be modified as construction activities progress. A Qualified SWPPP Practitioner (QSP) would ensure compliance with the SWPPP through regular monitoring and visual inspections during construction activities. The QSP would amend the SWPPP and revise project BMPs, as determined necessary through field inspections, to protect against substantial erosion or siltation on- or off-site.

Conclusion

Compliance with the State NPDES Construction General Permit would minimize the potential degradation of stormwater quality and downstream surface water associated with construction of the Proposed Project/BRPA. In addition, BMPs would be required to be designed in accordance with the CASQA Stormwater BMP Handbook for New Development and Redevelopment. However, because a SWPPP has not yet been prepared for the Proposed Project/BRPA, proper compliance with the aforementioned regulations cannot be ensured at this time, and the Proposed Project/BRPA's construction activities could violate water quality standards or waste discharge requirements or

otherwise degrade water quality. Therefore, the Proposed Project/BRPA could result in a ***significant*** impact related to short-term construction-related water quality.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

Proposed Project, Biological Resources Preservation Alternative

4.8-1 *Prior to commencement of construction, the applicant shall obtain a NPDES General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit), which pertains to pollution from grading and project construction. Compliance with the Permit requires the project applicant to file a Notice of Intent (NOI) with the State Water Resources Control Board (SWRCB) and prepare a Storm Water Pollution Prevention Plan (SWPPP) prior to ground disturbance. The SWPPP would incorporate Best Management Practices (BMPs) in order to prevent, or reduce to the greatest extent feasible, adverse impacts to water quality from erosion and sedimentation. A copy of the SWPPP including BMP implementation provisions shall be submitted to the City of Davis Public Works – Utilities and Operations Department.*

4.8-2 Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality during operations. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

Given that both the Proposed Project and BRPA would result in the development of similar land uses within the same site, the following discussion applies to the potential for both development scenarios to violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality during operations. In addition, the analysis includes evaluation of the proposed off-site improvements.

Proposed Project, Biological Resources Preservation Alternative

Development of the Proposed Project/BRPA would result in the conversion of an undeveloped area to a mixed-use development community, including a total of 1,800 dwelling units; neighborhood services; public, semi-public, and educational uses; associated on-site roadway improvements; utility improvements; and parks, open space, greenbelts, and landscaping. Such new land uses could result in new stormwater pollutants being introduced to the project area. Pollutants associated with the operational phase of the Proposed Project/BRPA could include nutrients, oil and grease, metals, organics, pesticides, bacteria, sediment, trash, and other debris. Nutrients that could be present in post-construction stormwater include nitrogen and phosphorous resulting from fertilizers applied to landscaping. Excess nutrients could affect water quality by promoting excessive and/or a rapid growth of aquatic vegetation, which reduces water clarity and results in oxygen depletion. Pesticides, which are toxic to aquatic organisms and can bioaccumulate in larger species, such

as birds and fish, can potentially enter stormwater after application to landscaped areas within the project site. Oil and grease could enter stormwater from vehicle leaks, traffic, and maintenance activities. Metals could enter stormwater as surfaces corrode, decay, or leach. Clippings associated with landscape maintenance and street litter could be carried into storm drainage systems. Pathogens (from pets, wildlife, and human activities) have the potential to affect downstream water quality.

Development of the Proposed Project/BRPA could also increase polluted non-stormwater runoff (e.g., car wash water, other wash water, and landscape irrigation runoff). Such non-stormwater runoff could flow down sidewalks, parking areas, and streets, and pick up additional pollutants deposited on impervious surfaces prior to discharge into the storm drain system and surface waters. Discharge of polluted stormwater or non-stormwater runoff could violate waste discharge requirements.

In addition, as discussed above in the Existing Setting section, PFAS and manganese concentrations that originate from the Old Davis Landfill have been detected in groundwater beneath the project site/BRPA site. On-site excavation to create the project's storm water system could expose contaminated groundwater.

Phase II MS4 Permit Requirements

As discussed previously, the project site/BRPA site is located within the permit area covered by the City of Davis' MS4 Permit (NPDES General Permit No. CAS000004, Order No. 2013-0001-DWQ), pursuant to the NPDES Phase II program. Project-related stormwater discharges are subject to all applicable requirements of said permit. Specifically, as noted above, regulated projects are required to divide the project area into DMAs and implement and direct water to appropriately-sized SDMs and Baseline Hydromodification Measures to each DMA. Source control measures must be designed for pollutant-generating activities or sources consistent with recommendations from the CASQA Stormwater BMP Handbook for New Development and Redevelopment, or equivalent manual, and must be shown on the Improvement Plans. Additional details related to hydromodification management requirements associated with the Phase II MS4 permit are discussed under Impact 4.8-4 below.

Proposed Storm Drain System

The City of Davis requires all development projects to comply with the Stormwater Phase II General Permit Development Standards Guidance Document.[17] The Proposed Project/BRPA would create more than one acre of impervious surface and would therefore qualify as a regulated project under Section 5 of the design standards. LID measures would be integrated throughout the project site/BRPA site to provide stormwater quality treatment. LID components refer to systems and practices that use or mimic natural processes that result in the infiltration, evapotranspiration or use of stormwater in order to protect water quality and associated aquatic habitat. The LID measures are anticipated to include both volume-based BMPs (e.g., bioretention, infiltration features, pervious pavement, etc.) and flow-based BMPs (e.g., vegetated swales, stormwater planter, etc.). The use of the features would be dependent upon location and setting within the project. The BMPs

[17] City of Davis. *City of Davis Stormwater Phase II General Permit Design Standard Guidance Document*. November 2015.

would be designed in accordance with the stormwater quality control standards established by Davis Municipal Code Article 30.03 and the CASQA – California Stormwater BMP Handbook.

The primary on-site storm water feature that would address both water quality and peak flow attenuation of runoff is the proposed centralized detention basin. As discussed in Chapter 3, Project Description, Channel A would be rerouted from the northwest corner of the project site/BRPA site to convey flows along the northern site boundary to a new centralized stormwater detention basin. From the new detention basin to Pole Line Road, Channel A would be expanded and have a drainage capacity capable of accommodating the existing flows of the tributary to Channel A within Wildhorse. These proposed drainage features are discussed further in Impact 4.8-4 below.

In an effort to ensure that contaminated groundwater associated with the Old Davis Landfill does not enter the proposed storm water system for the Proposed Project/BRPA, Geocon prepared a Channel Evaluation Report to assess the depth at which contaminated groundwater could be encountered on-site during excavation of the drainage system, including channel and detention basin. As previously discussed, and shown in Figure 4.8-3, the substantial majority of groundwater elevation data points are below 26.5 feet amsl. Thus, the Drainage Channel Evaluation prepared for the Proposed Project/BRPA by Geocon recommended the proposed drainage channel be designed with a base elevation above the groundwater elevation (i.e., 26.5 feet amsl) to limit the infiltration of groundwater into the channel that may be impacted by PFAS or manganese. As such, Cunningham Engineering designed the drainage channel and detention basin to comply with the recommended elevation to ensure that contaminated groundwater is not infiltrated into the channel and does not impact the water quality of off-site flows. The proposed channel/detention basin base elevations of 26.5 feet amsl are consistent with the existing Channel A elevation and the existing Cannery basin elevations, both of which have been reported by the City not to have standing ground water at any time during winter months.[18] Therefore, substantial evidence exists to conclude that potentially contaminated groundwater from the Old Davis Landfill would not come into contact with the Proposed Project/BRPA storm water system. As a result, substantial exists to support the conclusion that the project's runoff would not transport contaminated water into the downstream system.

Maintenance and Inspection

In order to ensure continued operation of the proposed LID control features, there would be regular inspection and maintenance of such features. For example, plants and vegetation within the detention basins would be inspected monthly, and the basins would be inspected for the presence of standing water 72 hours after rain events. Maintenance activity would include, but not necessarily be limited to, removal of debris from basins and removal of debris from outlets of basins. In addition, any method of trash capture would require frequent monitoring and cleaning to keep the pump station fully operational.

[18] Geocon Consultants, Inc. *Drainage Channel Evaluation, Village Farms Davis, Davis, California* [page 9]. July 2024.

Conclusion

Based on the above, the Proposed Project/BRPA would include site design measures to ensure that stormwater runoff is properly treated prior to discharge. Thus, urban pollutants entering and potentially degrading local water quality would not be expected to occur as a result of the Proposed Project/BRPA. However, because a final Stormwater Control Plan has not been prepared, ongoing maintenance of the proposed stormwater treatment system and incorporation of proper source-control measures cannot be ensured at this time. Thus, project operation could violate water quality standards or waste discharge requirements or otherwise degrade water quality, and a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

Proposed Project, Biological Resources Preservation Alternative

4.8-2 *Prior to approval of final project improvement plans, a final Stormwater Control Plan shall be submitted to City of Davis Public Works – Utilities and Operations Department for review and approval. The final Stormwater Control Plan shall be in compliance with all applicable provisions of the National Pollutant Discharge Elimination System (NPDES) Phase II MS4 General Permit (NPDES General Permit No. CAS612008, Order No. R2-2022-0018) and shall meet the standards of the California Stormwater Quality Association (CASQA) Stormwater BMP Handbook for New Development and Redevelopment. Site design measures, source-control measures, hydromodification management, and Low Impact Development (LID) standards, as necessary, shall be incorporated into the design and shown on the improvement plans. The final plans shall include calculations demonstrating that the water quality BMPs are appropriately sized, using methodology in the CASQA Stormwater BMP Handbook for New Development and Redevelopment. The final plans shall also incorporate the proposed components for maintaining the stormwater-treatment facilities.*

4.8-3 Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin or conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Based on the analysis below, the impact is *less than significant*.

Given that the Proposed Project and BRPA are located within the same groundwater subbasin and would be provided water from the same source, the following discussion applies to the potential for both development scenarios to substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the Proposed Project/BRPA may impede sustainable groundwater management of the

basin or conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Proposed Project, Biological Resources Preservation Alternative

The Proposed Project/BRPA would result in an increase in on-site impervious surfaces, which would reduce the infiltration of groundwater as compared to existing conditions. Groundwater relies on annual rainfall and percolation through pervious soils to recharge the system. As discussed above, however, soils throughout the project area have very slow infiltration rates with high runoff potential during storm events. Thus, the project site/BRPA site would not be considered an area of substantial contribution to groundwater recharge in the region. Given the limited recharge potential of the portions of the site that would be developed with impervious surfaces, the Proposed Project/BRPA would not interfere substantially with groundwater recharge. Furthermore, both the Proposed Project and the BRPA would include a new stormwater detention basin and open channel, which would be located between the North and East Villages. The detention basin and associated open channel would allow partial infiltration of runoff into on-site soils.

In addition, while the City pumps groundwater supplies from the Yolo Subbasin, the groundwater subbasin is not currently in a state of overdraft, and as further discussed in Chapter 4.14, Utilities and Service Systems, of this EIR, the City's projected available annual potable surface water supplies would be sufficient to serve the demands of the City's existing water service plus the Proposed Project/BRPA.

Considering that the project site/BRPA site is not considered an important groundwater recharge area and that the Proposed Project/BRPA would not involve increased demand on groundwater supplies within an area in a state of overdraft, the Proposed Project/BRPA would not create a conflict with, or impede the implementation of, a sustainable groundwater plan. Thus, impacts related to groundwater would be ***less than significant***.

Mitigation Measure(s)

None required.

4.8-4 Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: 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. Based on the analysis below, and with implementation of mitigation, the impact is *less than significant*.

The following discussions include an analysis of the potential for both the Proposed Project and the BRPA to substantially alter the drainage pattern of the site or area, or increase the rate or amount of surface runoff within the project area.

The potential for the Proposed Project or the BRPA to result in substantial additional sources of polluted runoff, including erosion, is addressed under Impacts 4.8-1 and 4.8-2 above. Further discussion regarding erosion is provided in Chapter 4.6, Geology and Soils, of this EIR.

Proposed Project

The following section includes a discussion of peak stormwater flows associated with the Proposed Project and the downstream volumetrics of the stormwater system under existing conditions and Proposed Project conditions.

Peak Flows

The only impervious surfaces that currently exist within the project site are those related to a private access road, L Street, as well as the impervious surfaces associated with the one existing agricultural structure. Implementation of the Proposed Project would result in a substantial increase in the amount of impervious surfaces related to roofs, driveways, and roadways. Increases to peak runoff rates resulting from alterations to the existing drainage pattern of the site have the potential to result in exceedance of existing or planned stormwater drainage systems or flooding on- or off-site.

The proposed drainage patterns would largely follow the overall existing west-to-east trend, with major internal pipeline conveyances routed along the new street corridors. The proposed surface improvements would result in impervious ground cover ranging from 10 percent impervious in parks and greenbelt areas to 90 percent impervious in residential areas. The Proposed Project would result in a total of approximately 53 percent new impervious surfaces within the project site. The estimate of new impervious surfaces excludes the depressed agricultural buffer at the north edge of the project site. The agricultural buffer area would remain pervious and is not a part of the proposed drainage sheds.

Based on the proposed land use plan and preliminary mass grading design, the Proposed Project sub-sheds would direct surface runoff to the internal major drainage conveyances (see Figure 4.8-4). The main drainage conveyance piping would carry runoff from the developed areas to the new detention basin, which would outlet to the reconstructed Channel A and into the Wildhorse Channel. The major storm drain pipes would generally be routed within the backbone roadway corridors. Final sizing of the pipes would be detailed later during the subdivision mapping and improvement plan design phases of the Proposed Project.

The primary inflow to the project site is from the Covell Drain (Flow #1 as shown on Figure 4.8-2), which would remain unchanged with the Proposed Project improvements; entering the project site at the northwest corner through dual box culverts at F Street and the UPRR tracks. Flows entering the project site from the F Street Channel (Flow #6 as shown on Figure 4.8-2) and Northstar Pond Discharge

(Flow #5 as shown on Figure 4.8-2) would also remain unchanged at the grade-separated crossing of the UPRR tracks.

Inflow from the trestle crossing would be split and portions rerouted northerly parallel to the UPRR tracks approximately 1,400-feet to the Channel A box culverts, flowing into the rerouted on-site Channel A (see Figure 4.8-4). Inflow from the trestle crossing would also continue directly east through on-site Channel A that will remain in its current alignment (Flow #P3, see Figure 4.8-5). Channel flow from both the re-routed and intact portions of Channel A (Flow P2 and P3, Figure 4.8-5 would flow to the proposed detention basin.

Overflow from the Cannery detention basin would continue to discharge at the existing concrete weir and would be routed through the project site in a new drainage channel within the proposed greenbelt (Flow #P4). Flow from the Cannery would be directed north into Channel A to remain and continue to the proposed detention basin.

Under high flow conditions, stormwater north of the project site from the North Davis Channel currently overwhelms the capacity of the existing channel and spills south into the existing farm field (Flow #7). The North Davis Drain channelized flow (Flow #2) also overwhelms the channel capacity west of F Street, resulting in shallow flooding of the farm fields and ultimately overtopping F Street and the Railroad (Flow #8). Storm water flows from the aforementioned locations continue as shallow overland flow southerly toward the project site. The Proposed Project includes excavation of the northern approximately 118 acres of farmland to be excavated for use as fill soil on-site. Excavations would generally be 10 feet deep targeting an elevation of 28 feet. A berm would be constructed on the northern edge between the North Channel (Flow P1) and the new urban agricultural transition area (UATA), with drains provided to facilitate the flow from the UATA into the northern channel.

The depressed agricultural buffer (Area AB as shown on Figure 4.8-5) is contiguous to the proposed realigned North Channel (Flow #P1) with the weir provided at the top of the berm at an elevation of 31 feet. During smaller storm events (two-year, 24-hour), storm water within the Channel A system would be contained and conveyed within the channelized portion of the project site and directed to the detention basin.

Larger storm events resulting in additional runoff would begin shallow inundation of the depressed agricultural buffer during the storm event and then receding by passive gravity flow after the storm has passed. The storage within the depressed agricultural buffer would result in large reductions downstream of the project, particularly in the flow overtopping Pole Line Road and the ponding in East Davis,[19] which is further discussed below.

[19] Rick Engineering. *Village Farms Project: 2-Dimensional Hydraulic Modeling* [page 11]. Revised July 8, 2024.

Figure 4.8-4
Proposed Project Drainage System

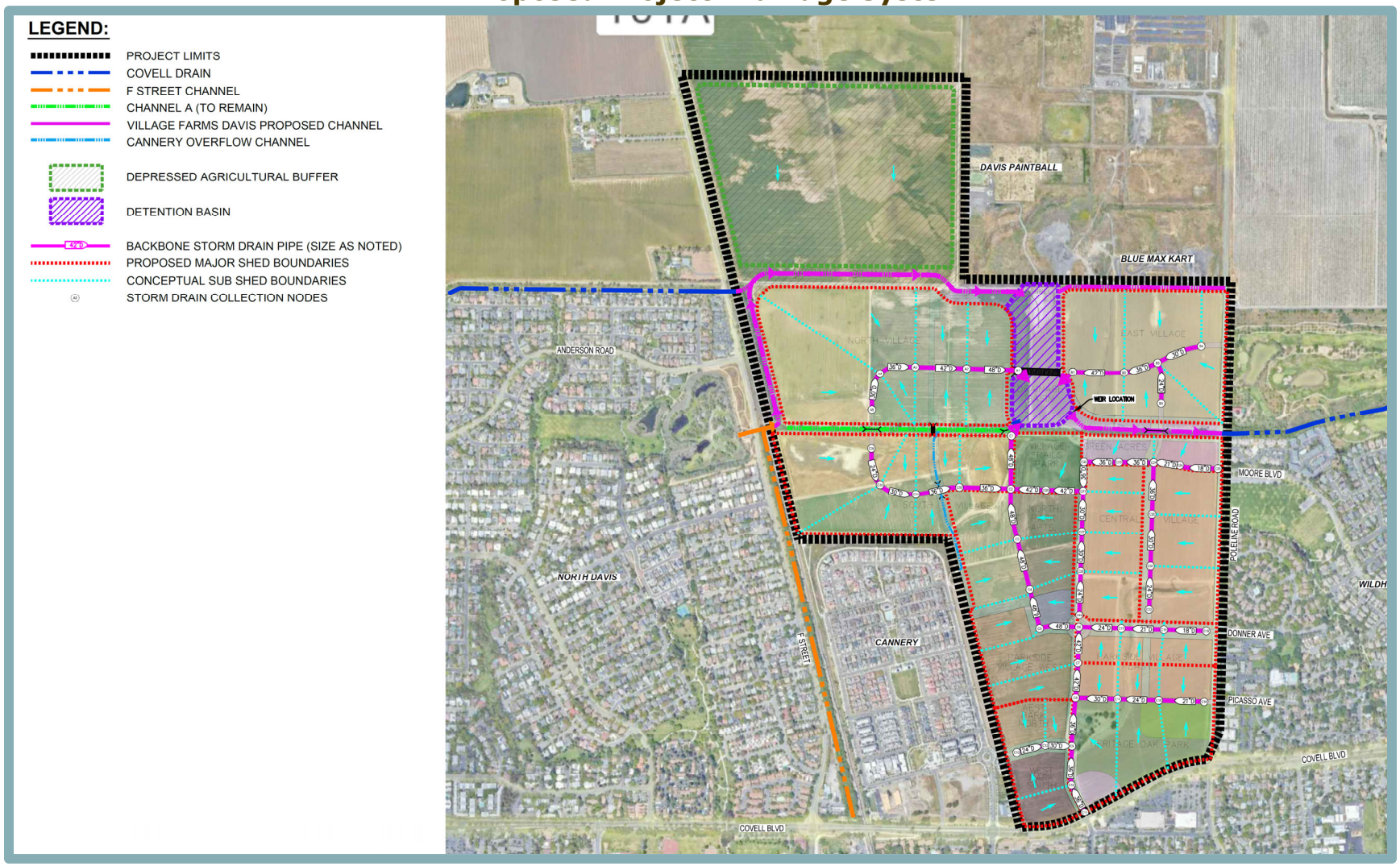
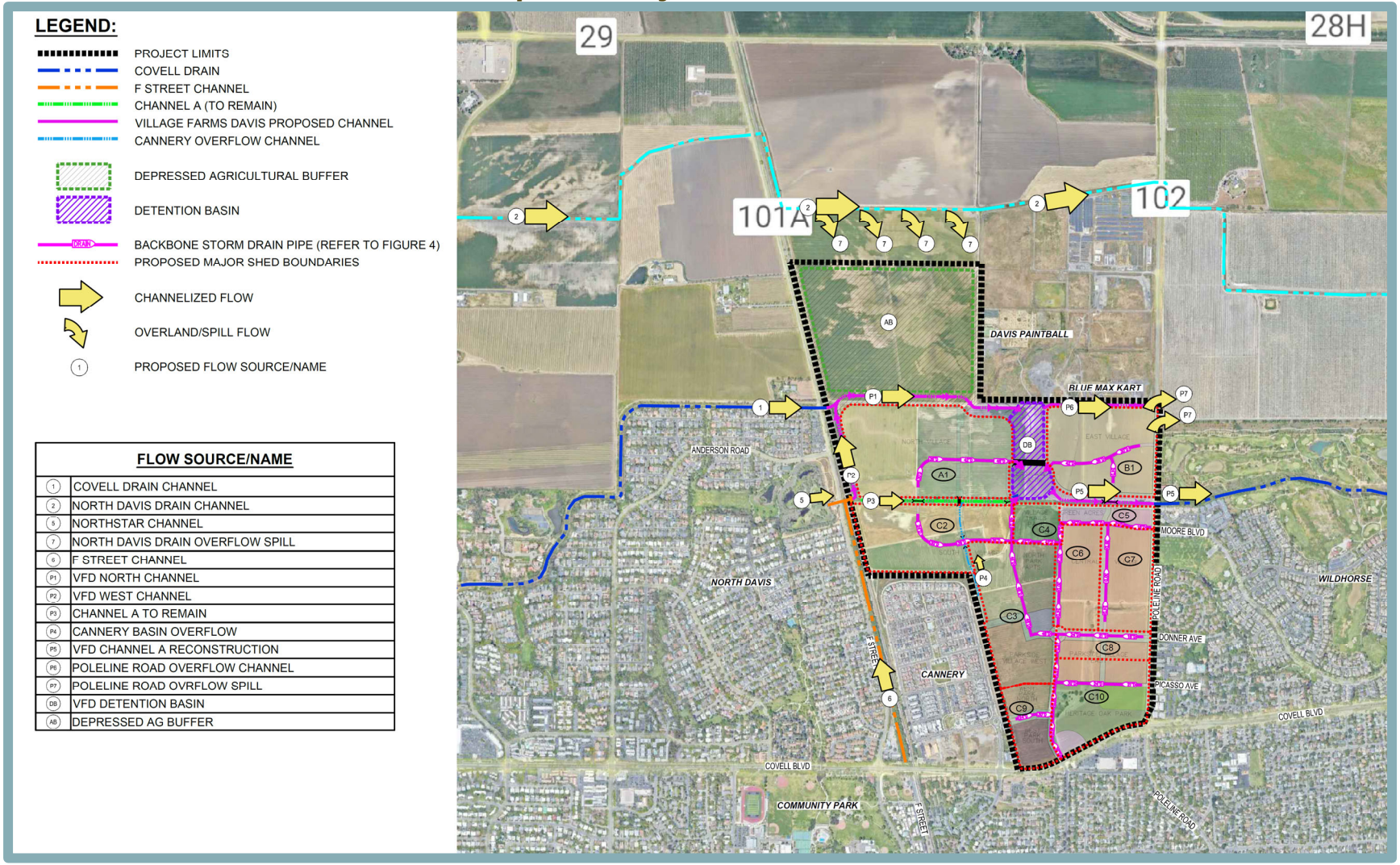


Figure 4.8-5
Proposed Project Stormwater Flow



The proposed detention basin would be located within the north-central region of the project site. The outlet from the detention basin would be located at the southeast corner of the detention basin connecting to the Channel A reconstruction (Flow #P5). Flow would be regulated at the outlet from the detention basin with a weir structure and a low flow pipe.

The Proposed Project would include development of on-site detention to handle the on-site flow volumes and reduce the peak discharges from the site to match existing conditions for both the 10-year, 24 hour storm and the 100-year, 24 hour storm. Furthermore, the 200-year, 10-day storm is addressed through the on-site detention basin, channel system, and the storage that would be provided by the depressed UATA. With the combination of these features, peak discharge from the project site would not exceed existing conditions under the 200-year, 10-day storm event.

Volumetric Analysis

Rick Engineering performed 2-Dimensional Hydraulic Modeling for the Proposed Project to compare downstream volumetrics of the system under existing conditions and Proposed Project conditions for the 200-year, 10-day storm event, 100-year, 10-day storm event, 100-year, 24-hour storm event, and 10-year, 24-hour storm event (discussed further in the Method of Analysis section above).

As shown in Table 4.8-1 and Table 4.8-2, the Proposed Project is anticipated to result in peak flows and water surface elevations upstream and downstream of the project site that are equal to or reduced in the proposed condition. Figure 4.8-6 and Figure 4.8-7 show the locations referenced in the tables. Peak flows and water surface elevations downstream from the project site are anticipated to be similar for larger storm events in the existing and proposed condition.

However, the Proposed Project is anticipated to result in significantly reduced peak flows and water surface elevations in the smaller, more frequent storm events.

In general, the Proposed Project would result in equal to or reduced water surface elevations outside of the project site, with some areas in the undeveloped farmland showing small increases. Generally, the increases are less than 0.05-foot with the majority of increases being 0.01-foot or less. The 100-year, 24-hour storm event does show some isolated areas with larger increases that would occur within drainage features along Covell Drain in the Wildhorse golf course. The largest increase shown is approximately 0.4-foot to 0.5-foot, directly over the pond in the northeast corner of the golf course, which would not impact structures.

Table 4.8-1
Proposed Project Hydraulic Modeling Results: Upstream

Storm Event	Condition	Upstream Boundary Conditions					
		Covell Drain		H Street Channel		North Davis Drain	
		Peak Flow (cfs)	Peak Stage (ft)	Peak Flow (cfs)	Peak Stage (ft)	Peak Flow (cfs)	Peak Stage (ft)
200-year, 10-day	Existing	1,326.16	43.23	411.27	41.10	1,950.28	45.12
	Proposed	1,326.16	41.50	411.27	39.08	1,950.28	45.11
100-year, 10-day	Existing	1,317.73	43.21	411.56	41.08	1,950.28	45.12
	Proposed	1,317.73	41.47	411.56	39.06	1,950.28	45.11
100-year, 24-hour	Existing	780.99	41.02	408.30	40.11	785.03	44.81
	Proposed	780.99	39.14	408.30	37.73	785.03	44.81
10-year, 24-hour	Existing	220.56	39.42	441.40	39.55	215.60	44.17
	Proposed	220.56	35.95	441.40	37.86	215.60	44.17

Source: Rick Engineering, Village Farms Project: 2-Dimensional Hydraulic Modeling, July 8, 2024.

Table 4.8-2
Proposed Project Hydraulic Modeling Results: Internal and Downstream

Storm Event	Condition	Internal Points of Interest, Downstream of Proposed Improvements, Conditions			Downstream Boundary Conditions
		Pole Line Culvert at Channel A	Pole Line Overflow	North Davis Drain	Willow Slough
		Peak Flow (cfs)	Peak Flow (cfs)	Peak Flow (cfs)	Peak Flow (cfs)
200-year, 10-day	Existing	647.32	1,202.16	2,759.80	10,024.59
	Proposed	627.97	1,112.20	2,737.66	10,024.59
100-year, 10-day	Existing	641.68	1,126.58	2,728.97	10,024.54
	Proposed	620.81	1,103.53	2,703.09	10,024.54
100-year, 24-hour	Existing	579.05	349.89	726.23	5,693.07
	Proposed	548.68	118.65	639.27	5,693.07
10-year, 24-hour	Existing	488.89	15.81	206.73	3,523.60
	Proposed	298.27	0.66	177.35	3517.71

Source: Rick Engineering, Village Farms Project: 2-Dimensional Hydraulic Modeling, July 8, 2024.

Figure 4.8-6
Upstream Boundaries and Internal Points of Interest

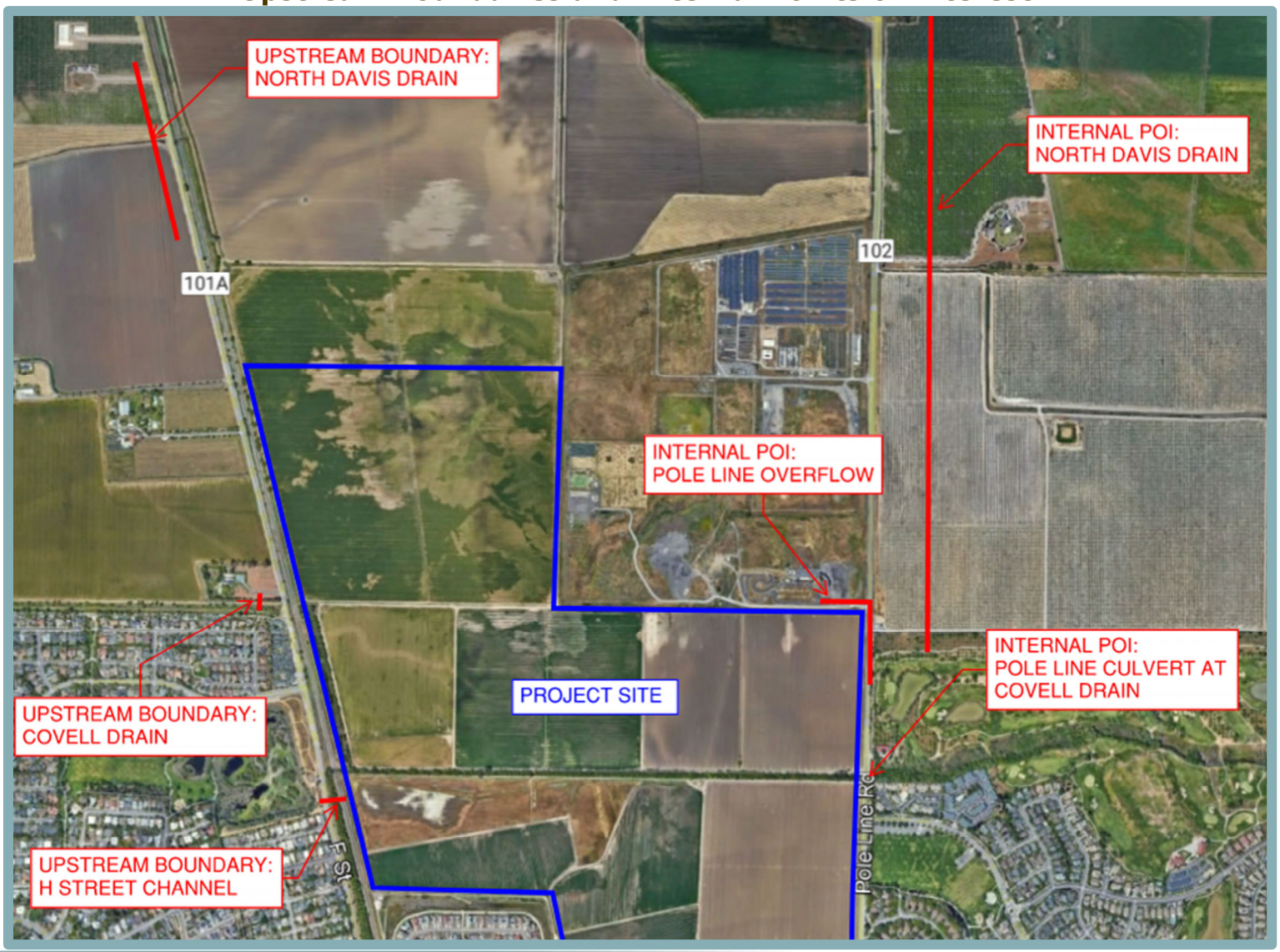
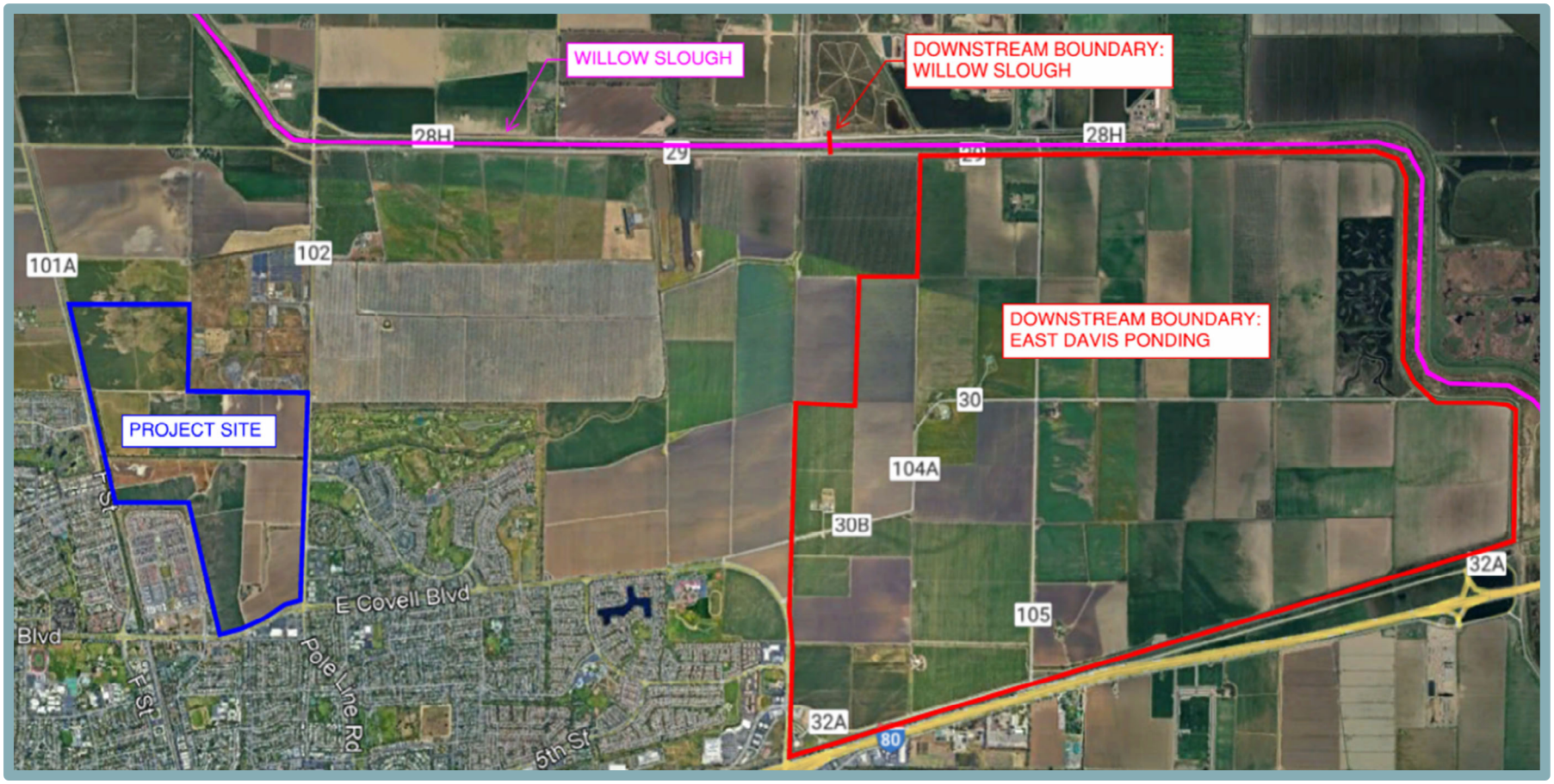


Figure 4.8-7
Downstream Boundaries



East Davis Ponding

As shown in Table 4.8-3, the Proposed Project is anticipated to result in approximately 0.01-foot of increase to water surface elevations in the 100- and 200-year, 10-day storm event. The increase is based on an analysis that is anticipated to be conservative for the combined hydrologic and hydraulic impacts of the Proposed Project. The Proposed Project would result in reductions in ponding depths in smaller, more frequent storm events within the watershed as shown with the net reductions in ponding depths for the 10- and 100-year, 24-hour storm events.

Biological Resources Preservation Alternative

The following section includes a discussion of peak stormwater flows associated with the BRPA and the downstream volumetrics of the stormwater system under existing conditions and BRPA conditions.

Peak Flows

Similar to the Proposed Project, the only impervious surfaces that currently exist within the BRPA site are those related to a private access road, L Street, as well as the impervious surfaces associated with the one existing agricultural structure. Implementation of the BRPA would result in a substantial increase in the amount of impervious surfaces related to roofs, driveways, and roadways. Increases to peak runoff rates resulting from alterations to the existing drainage pattern of the site have the potential to result in exceedance of existing or planned stormwater drainage systems or flooding on- or off-site.

The proposed drainage patterns would largely follow the overall existing west-to-east trend, with major internal pipeline conveyances routed along the new street corridors (see Figure 4.8-8). Similar to the Proposed Project, the BRPA would result in a total of approximately 53 percent new impervious surfaces within the BRPA site. The estimate of new impervious surfaces excludes the depressed agricultural buffer at the north edge of the project site. The agricultural buffer area would remain pervious and is not a part of the proposed drainage sheds.

The BRPA sub-sheds would direct surface runoff to the internal major drainage conveyances (see Figure 4.8-8).

The main drainage conveyance piping would carry runoff from the developed areas to the new detention basin, which would outlet to the reconstructed Channel A and into the Wildhorse Channel. The major storm drain pipes would generally be routed within the backbone roadway corridors. Final sizing of these pipes will be detailed later during the subdivision mapping and improvement plan design phases of the BRPA.

The inflow into the BRPA site would be similar as inflow to the Proposed Project site, as described above (see Figure 4.8-9). In addition, the proposed BRPA detention basin would be the same design as the Proposed Project detention basin, as described above, and the BRPA would include excavation of the northern approximately 118 acres of farmland to a depth of approximately 9-10 feet for use as fill soil on-site.

Table 4.8-3
Proposed Project Net Impacts to East Davis Pond Storage

Storm Event	East Davis Ponding Peak Stage (feet)						
	HEC-1 Hydrologic Analysis			HEC-RAS Hydraulic Analysis			Total Net Impact to East Davis Pond Storage
	Existing	Proposed	Change	Existing	Proposed	Change	
200-year, 10-day	27.29	27.34	0.05	25.34	25.50	-0.04	0.01
100-year, 10-day	27.05	27.10	0.05	25.31	25.27	-0.04	0.01
100-year, 24-hour	20.78	20.84	0.06	19.16	18.79	-0.37	-0.31
10-year, 24-hour	17.91	17.98	0.07	18.28	17.79	-0.49	-0.42

Source: Rick Engineering, Village Farms Project: 2-Dimensional Hydraulic Modeling, July 8, 2024.

Figure 4.8-8
Biological Resources Preservation Alternative Drainage System

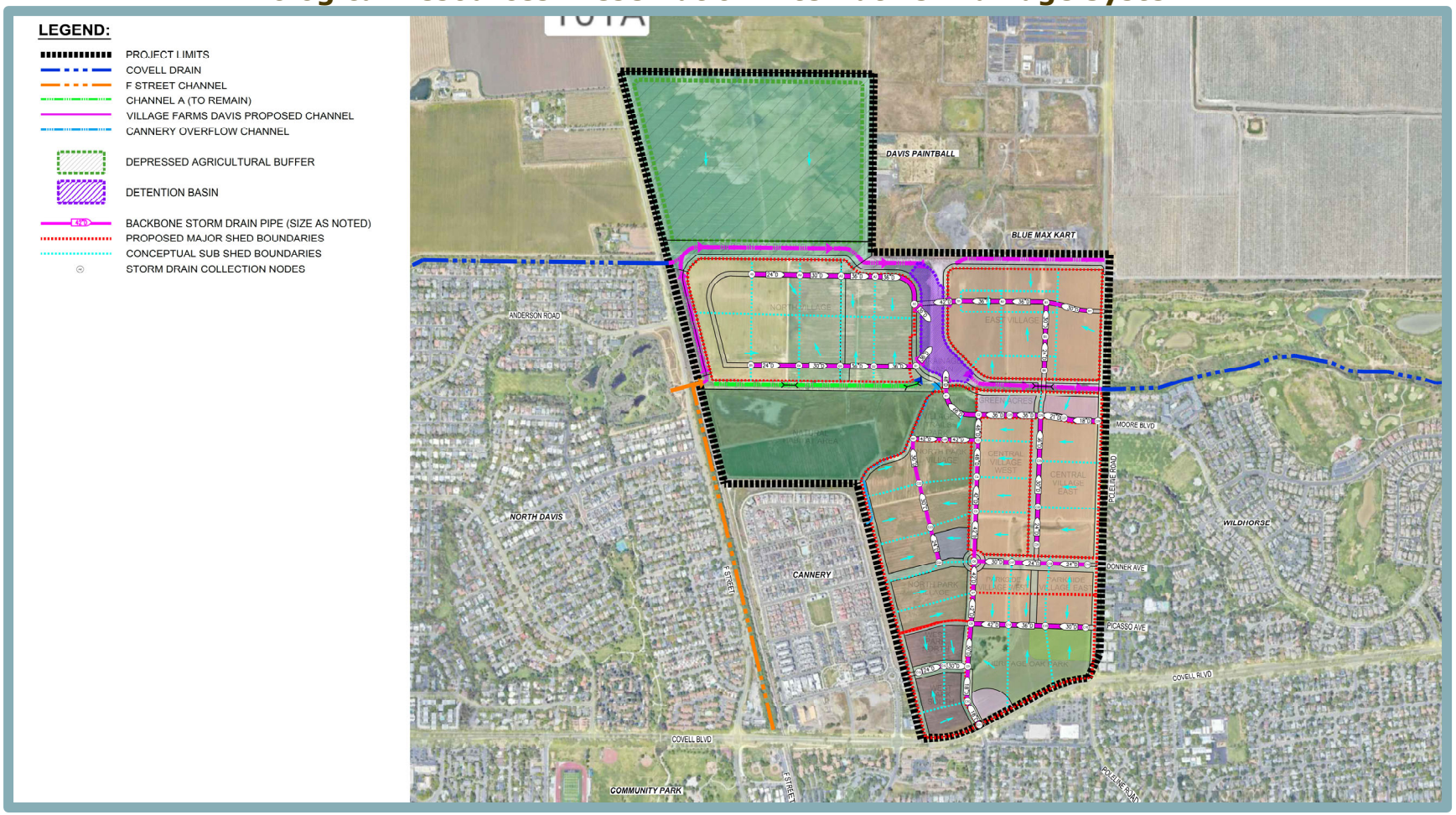
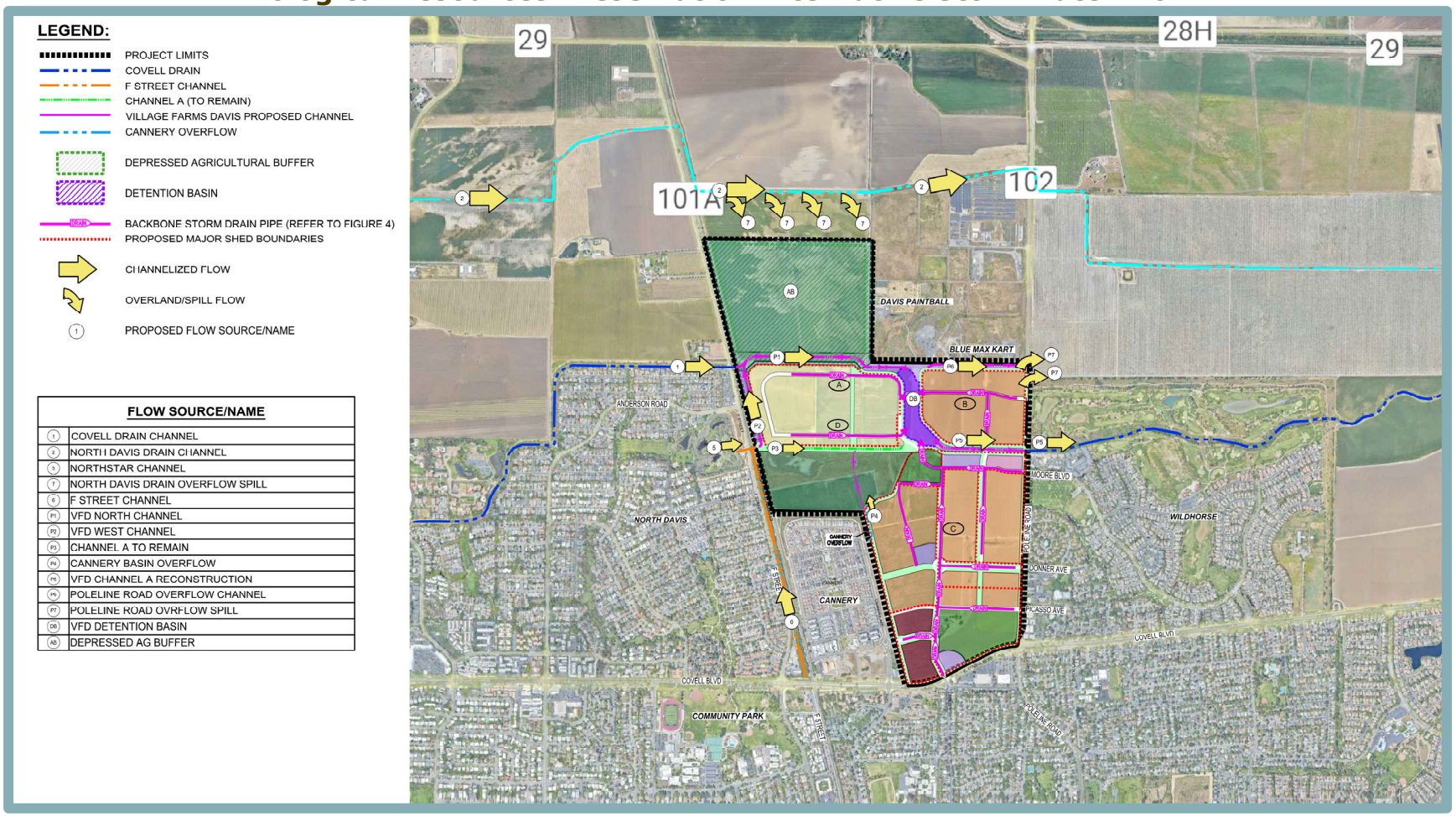


Figure 4.8-9
Biological Resources Preservation Alternative Stormwater Flow



Volumetric Analysis

Similar to the Proposed Project, Rick Engineering conducted 2-Dimensional Hydraulic Modeling for the BRPA under existing and post-project conditions for the 200-year, 10-day storm event, the 100-year, 10-day storm event, the 100-year, 24-hour storm event, and the 10-year, 24-hour storm event using the HEC-RAS 2D hydraulic modeling (discussed further in the Method of Analysis section above).

As shown in Table 4.8-4 and Table 4.8-5, the BRPA is anticipated to result in peak flows and water surface elevations upstream and downstream of the BRPA site that are equal to or reduced in the proposed condition. Figure 4.8-6 and Figure 4.8-7 show the locations referenced in the tables. Peak flows and water surface elevations downstream from the project site are anticipated to be similar for larger storm events in the existing and proposed condition. However, the BRPA is anticipated to result in significantly reduced peak flows and water surface elevations in the smaller, more frequent storm events.

In general, the BRPA would result in equal to or reduced water surface elevations outside of the BRPA site, with some areas in the undeveloped farmland showing small increases. Generally, the increases are less than 0.05-foot with the majority of increases being 0.01-foot or less. The 100-year, 24-hour storm event does show some isolated areas with larger increases that would occur within drainage features along Covell Drain in the Wildhorse golf course. The largest increase shown is approximately 0.4-foot to 0.5-foot, directly over the pond in the northeast corner of the golf course, which would not impact structures.

East Davis Ponding

As shown in Table 4.8-6, the BRPA is anticipated to result in approximately 0.02-foot of increase to water surface elevations in the 100- and 200-year, 10-day storm event. The increase is based on an analysis that is anticipated to be conservative for the combined hydrologic and hydraulic impacts of the BRPA. The BRPA would result in reductions in ponding depths in smaller, more frequent storm events within the watershed as shown with the net reductions in ponding depths for the 10- and 100-year, 24-hour storm events.

Conclusion

Based on the above, the Proposed Project or the BRPA would result in a ***significant*** impact related to substantially altering the drainage pattern of the site or area, or increasing the rate or amount of surface runoff.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce to a *less-than-significant* level the impacts associated with substantially altering the existing drainage pattern of the site or area, creating or contributing runoff water which would exceed the capacity of existing or planned stormwater drainage systems, and substantially increasing the rate or amount of surface runoff in a manner that would result in flooding on- or off-site.

Table 4.8-4
Biological Resources Preservation Alternative Hydraulic Modeling Results: Upstream

Storm Event	Condition	Upstream Boundary Conditions					
		Covell Drain		H Street Channel		North Davis Drain	
		Peak Flow (cfs)	Peak Stage (ft)	Peak Flow (cfs)	Peak Stage (ft)	Peak Flow (cfs)	Peak Stage (ft)
200-year, 10-day	Existing	1,326.16	43.23	411.27	41.10	1,950.28	45.12
	Proposed	1,326.16	41.50	411.27	39.08	1,950.28	45.11
100-year, 10-day	Existing	1,317.73	43.21	411.56	41.08	1,950.28	45.12
	Proposed	1,317.73	41.48	411.56	39.00	1,950.28	45.11
100-year, 24-hour	Existing	780.99	41.02	408.30	40.11	785.03	44.81
	Proposed	780.99	39.20	408.30	37.80	785.03	44.81
10-year, 24-hour	Existing	220.56	39.42	441.40	39.55	215.60	44.17
	Proposed	220.56	35.95	441.40	37.90	215.60	44.18

Source: Rick Engineering, Village Farms Project: 2-Dimensional Hydraulic Modeling, July 8, 2024.

Table 4.8-5
Biological Resources Preservation Alternative Hydraulic Modeling Results: Internal and Downstream

Storm Event	Condition	Internal Points of Interest, Downstream of Proposed Improvements, Conditions			Downstream Boundary Conditions
		Pole Line Culvert at Channel A	Pole Line Overflow	North Davis Drain	Willow Slough
		Peak Flow (cfs)	Peak Flow (cfs)	Peak Flow (cfs)	Peak Flow (cfs)
200-year, 10-day	Existing	647.32	1,202.16	2,759.80	10,024.59
	Proposed	631.95	1,091.12	2,735.71	10,024.59
100-year, 10-day	Existing	641.68	1,126.58	2,728.97	10,024.54
	Proposed	625.40	1,079.67	2,699.20	10,024.54
100-year, 24-hour	Existing	579.05	349.89	726.23	5,693.07
	Proposed	553.69	102.25	623.33	5,693.07
10-year, 24-hour	Existing	488.89	15.81	206.73	3,523.60
	Proposed	299.49	0.80	177.59	3517.75

Source: Rick Engineering, Village Farms Project: 2-Dimensional Hydraulic Modeling, July 8, 2024.

Table 4.8-6
Biological Resources Preservation Alternative
Net Impacts to East Davis Pond Storage

Storm Event	East Davis Ponding Peak Stage (feet)						
	HEC-1 Hydrologic Analysis			HEC-RAS Hydraulic Analysis			Total Net Impact to East Davis Pond Storage
	Existing	Proposed	Change	Existing	Proposed	Change	
200-year, 10-day	27.29	27.34	0.05	25.54	25.51	-0.03	0.02
100-year, 10-day	27.05	27.10	0.05	25.31	25.28	-0.03	0.02
100-year, 24-hour	20.78	20.84	0.06	19.16	18.81	-0.35	-0.29
10-year, 24-hour	17.91	17.98	0.07	18.28	17.82	-0.46	-0.39

Source: Rick Engineering, Village Farms Project: Biological Wetland Avoidance Alternative: 2-Dimensional Hydraulic Modeling, July 8, 2024.

Proposed Project, Biological Resources Preservation Alternative

4.8-4 *In conjunction with submittal of the first tentative subdivision map for the Proposed Project or BRPA, a design-level drainage report shall be submitted to the City of Davis Public Works – Utilities and Operations Department for review and approval. The drainage report shall identify specific storm drainage design features to control the 200-year, 10-day increased runoff from the project site to ensure that the rate of runoff leaving the developed site does not exceed the pre-project condition. This may be achieved through: on-site conveyance and detention facilities, storage within the on-site UATA, or equally effective measures to control the rate and volume of runoff.*

The design-level drainage report shall perform an updated net impact evaluation of downstream East Davis Ponding, taking into consideration the final on-site storm water system design, when the downstream flow is blocked by high water levels in the Willow Slough Bypass. The final amount of runoff volume to be detained would be determined with the design-level drainage report. This could result in detaining run-off volume for an extended time period.

Design-level recommendations provided in the drainage report shall be included in the improvements plans prior to their approval by the City of Davis Public Works Utilities and Operations Department.

4.8-5 Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows, or in flood hazard, tsunami, or seiche zone, risk release of pollutants due to project inundation. Based on the analysis below, and with implementation of mitigation, the impact is *less than significant*.

Given that the Proposed Project and BRPA are located within the same FEMA Flood Zone, the following discussion applies to the potential for both development scenarios to substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows, or in flood hazard, tsunami, or seiche zone, risk release of pollutants due to project inundation.

Proposed Project, Biological Resources Preservation Alternative

As shown in Figure 4.8-2, the northern portion of the project site/BRPA site is within a FEMA mapped A floodplain zone. The FEMA Zone A is defined as areas which are determined to flood during the one percent annual flood event. The City of Davis Design Standards require that development areas elevate pads for structures one foot above the BFE for the area.

However, as discussed in the Regulatory Context section of this chapter, the Proposed Project/BRPA meets all five criteria to be subject to SB 5. Therefore, the Proposed Project/BRPA would be subject to the requirements of the ULOP, and would be prohibited from developing residential uses within a 200-year floodplain with a potential flood depth above three feet. While the City of Davis requires elevation of the pads one foot above the BFE, final grades for the Proposed Project/BRPA would be based upon the elevations resulting from the Hydraulic Modeling conducted for the Proposed Project and BRPA, which is based on the 200-year recurrence interval storm.

The soil from the on-site agricultural buffer/UATA in the northern portion of the project site/BRPA site would be utilized as fill material within the development area to raise the building sites above the 200-year flood plain. Importation of fill within the floodplain would require approval by FEMA.

All of the proposed improvements would be subject to Article 8.03, Flood Prevention Standards: Authorization, Purpose, and Methods, of the City of Davis Code, which is intended to minimize public and private losses due to flood conditions. The Flood Prevention Standards provide methods for reducing flood losses.

With respect to risking release of pollutants due to project inundation, residential projects do not involve the storage of large amounts of pollutants, and all stormwater exiting the project site would be directed to on-site stormwater quality features to ensure that any pollutants entrained within stormwater from the project site are removed prior to discharge.

Conclusion

Considering the above, the Proposed Project and BRPA are not anticipated to result in the impediment or redirection of flood flows such that on- or off-site structures would be exposed to flood risk. However, a Conditional Letter of Map Revision (CLOMR) would be required prior to improvement plan approval in order to ensure the project's compliance with existing regulations. Therefore, in the absence of a CLOMR submitted to FEMA, a ***significant*** impact could occur related to alteration of the existing drainage pattern of the site or area, including through alteration of a course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level by ensuring that the project complies with all regulations needed to ensure that new impervious surfaces created by the project do not impede or redirect flood flows.

Proposed Project, Biological Resources Preservation Alternative

4.8-5 *Prior to improvement plan approval, and if required by the Federal Emergency Management Agency (FEMA), the Yolo County Flood Control and Water Conservation District, or the County Floodplain Administrator, the applicant shall obtain from FEMA a Conditional*

Letter of Map Revision (CLOMR) or Conditional Letter of Map Revision based on Fill (CLOMR-F) for fill within a Special Flood Hazard Area. A copy of the letter shall be provided to the City of Davis Public Works Engineering and Transportation Department. A Letter of Map Revision (LOMR), or a Letter of Map Revision based on Fill (LOMR-F) from FEMA shall be provided to the City of Davis Public Works Engineering and Transportation Department prior to acceptance of project improvements as complete.

Cumulative Impacts and Mitigation Measures

As defined in Section 15355 of the CEQA Guidelines, "cumulative impacts" refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.

The cumulative setting for impacts related to hydrology and water quality encompasses the Covell Drain watershed, which, as discussed above, spans a total of approximately 17 square miles, and includes the entirety of the project site, as well as additional land in the project vicinity.

4.8-6 Cumulative impacts related to the violation of water quality standards or waste discharge requirements, groundwater quality, management, and recharge, and impacts resulting from the alteration of existing drainage patterns. Based on the analysis below, the project's incremental contribution to this significant cumulative impact is *less than cumulatively considerable*.

The following discussion includes an analysis of potential cumulative impacts related to the violation of water quality standards or waste discharge requirements, groundwater quality, management, and recharge, and impacts resulting from the alteration of existing drainage patterns associated with the development of the Proposed Project and the BRPA. Because the components of the Proposed Project and the BRPA would both include components with potential to cumulatively impact water quality, groundwater, and drainage patterns, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

Impacts related to stormwater quality, groundwater, and drainage patterns are discussed separately below.

Stormwater Quality

Construction activities have the potential to affect water quality and contribute to localized violations of water quality standards if stormwater runoff from construction activities enters receiving waters. Runoff from additional construction sites within the project area could carry sediment from erosion of graded or excavated surface

materials, leaks or spills from equipment, or inadvertent releases of building products, which could result in water quality degradation if runoff containing such sediment or contaminants should enter receiving waters in sufficient quantities. Thus, construction activities associated with the Proposed Project/BRPA, in combination with construction activities associated with other reasonably foreseeable projects in the Covell Drain watershed, could result in cumulative impacts related to water quality. However, all construction projects resulting in disturbance of more than one acre of land are required to comply with the most current Construction General Permit requirements. Conformance with the Construction General Permit would require preparation of SWPPPs for all such projects, and subsequent implementation of BMPs to prevent the discharge of pollutants. Considering the existing permitting requirements for construction activity in the project area, cumulative construction within the Covell Drain watershed would be heavily regulated and impacts related to the degradation of water quality would be minimized to the extent feasible.

Similar to the Proposed Project/BRPA, cumulative development within the City of Davis would be subject to Phase II MS4 stormwater requirements, including source control and treatment control features. Specifically, regulated projects are required to divide the project area into DMAs and implement and direct water to appropriately-sized SDMs and Baseline Hydromodification Measures to each DMA. Source control measures must be designed for pollutant-generating activities or sources consistent with recommendations from the CASQA Stormwater BMP Handbook for New Development and Redevelopment, or equivalent manual, and must be shown on improvement plans.

Based on the conceptual stormwater design, during operations, the stormwater runoff would be properly treated prior to discharge from the site. Thus, urban pollutants entering and potentially polluting the local drainage system would not be expected to occur as a result of the Proposed Project/BRPA. A final drainage report would be required with submittal of the Improvement Plans for City review and approval to substantiate the preliminary report's LID sizing calculations. In addition, pursuant to Phase II MS4 requirements, a Post Construction Stormwater Control Plan would be required for the Proposed Project/BRPA. The Proposed Project/BRPA would be subject to NPDES Construction General Permit requirements, including implementation of BMPs and preparation of a site-specific SWPPP. Cumulative development projects within the project area would also be subject to Phase II MS4 stormwater requirements, as well as all City requirements related to stormwater treatment and control. Compliance with the foregoing regulations would ensure that impacts related to the alteration of drainage patterns, the discharge of pollutants, and flooding are minimized to the extent feasible.

Groundwater

Cumulative development within the project region would result in increased amounts of impervious surfaces, which would reduce the infiltration of groundwater within the project region. Although cumulative development would increase the amount of impervious surfaces in the project region, stormwater would continue to be discharged to the Covell Drain, and other local waterways, where stormwater could partially infiltrate into the soil and recharge groundwater. Furthermore, the project site/BRPA site itself is not considered a site of substantial groundwater recharge; thus,

development of the Proposed Project/BRPA would not result in a significant cumulative loss of groundwater recharge.

Groundwater in the project region is managed on a subbasin level. The Yolo Subbasin, within which the project is located, is not in a state of overdraft, and the Yolo Subbasin Groundwater Sustainability Plan (GSP) will continue to manage groundwater in the region.

Because groundwater is managed on a subbasin level, and the Proposed Project/BRPA would not result in a substantial site-specific loss of groundwater recharge, the Proposed Project/BRPA, in combination with cumulative development within the region, would not result in a significant cumulative impact to groundwater recharge.

Cumulative Flows and Volumetrics

As discussed, the treated stormwater runoff from the Proposed Project/BRPA site would be routed to Channel A. There are two other reasonably foreseeable cumulative projects whose treated runoff would be discharged to Channel A, downstream of the Village Farms site. These reasonably foreseeable projects are Palomino Place and Shriners Property. A Cumulative Storm Drainage Impacts Memorandum was prepared by Cunningham Engineering to evaluate the cumulative hydrologic impacts downstream of the Proposed Project/BRPA.[20] Specifically, Cunningham Engineering assessed the volumetric impact on East Davis Ponding, located downstream of the Proposed Project/BRPA, Palomino Place, and Shriners Property. The Memorandum notes that the Davis Innovation and Sustainability Campus (DiSC) 2022 Project was also considered; however, because the DiSC 2022 project would result in zero net discharge to the East Davis ponding, it was therefore not included in the cumulative evaluation. The BRPA's impact to the East Davis ponding was considered the governing project condition, and was utilized below to establish, qualitatively, the effective volumetric cumulative impacts on the East Davis ponding.

Using available data from the Village Farms drainage study, Cunningham Engineering qualitatively compared the peak stage effects from the Village Farms Davis project and extrapolated an equivalent impact resulting from the Palomino Place and the Shriners Property projects using computations. The results are shown in Table 4.8-7, which illustrate that the Proposed Project/BRPA, in combination with cumulative development, is anticipated to result in approximately 0.036-foot of increase to water surface elevations within the East Davis ponding area in the 200-year, 10-day storm event.

[20] Cunningham Engineering. *Village Farms Davis – Cumulative Storm Drainage Impacts Memorandum*. November 27, 2024.

Table 4.8-7
Cumulative 200-Year, 10-Day Peak Stage
East Davis Ponding

Village Farms Davis	Shriners Property	Palomino Place	Total Cumulative Net Impact to East Davis Pond Storage
0.02 feet	0.01424 feet	0.00192 feet	0.03616 feet

Source: Cunningham Engineering, 2024.

This is a slight increase over the East Davis Ponding increase estimates attributable to the Proposed Project alone (0.01 feet) and the BRPA alone (0.02 feet). Should additional design level detail become available for the Palomino Place and Shriners Property projects stormwater systems, this information would be accounted for in the design-level drainage report required by Mitigation Measure 4.8-4.

Similar to the Proposed Project/BRPA, additional cumulative development that could occur within the Covell Drain watershed would be subject to the applicable provisions of the City's NPDES Phase II MS4 general permit. Regulated projects are required to divide the project area into DMAs and implement and direct water to appropriately sized DMAs and Baseline Hydromodification Measures within each DMA. Source-control measures must be designed for pollutant-generating activities or sources consistent with recommendations from the CASQA Stormwater BMP Handbook for New Development and Redevelopment, or equivalent manual, and must be shown on the improvement plans. In addition, new storm drain infrastructure would be required to be designed consistent with applicable standards set forth by the City of Davis Public Works Revised Design Standards, ensuring that new drainage features limit the potential for on- or off-site site flooding to occur. Overall, based on compliance with the foregoing regulations and the cumulative impact to the peak stage water surface elevations within the East Davis ponding area, cumulative development within the watershed would not substantially alter the existing drainage pattern of the area in a manner which would result in substantial adverse effects, and a less-than-significant impact would occur.

Conclusion

As discussed throughout this chapter, implementation of the Proposed Project/BRPA would include LIDs and BMPs to minimize the potential for the Proposed Project/BRPA to result in impacts related to hydrology and water quality. Moreover, implementation of the Proposed Project/BRPA would not result in a significant incremental contribution to cumulative impacts related to peak flows or flooding due to changes in drainage patterns at the project site/BRPA site. Given the analysis presented in this chapter, the conclusions reached by Cunningham Engineering, and the highly regulated nature of cumulative development in the project region, the project's incremental contribution to the significant cumulative impact would be ***less than cumulatively considerable***.

Mitigation Measure(s)

None required.

4.9. Land Use and Planning

4.9 LAND USE AND PLANNING

4.9.1 INTRODUCTION

The purpose of the Land Use and Planning chapter is to examine the Proposed Project's and Biological Resources Preservation Alternative's (BRPA) compatibility with existing and planned land uses in the area and to assess any inconsistency with applicable planning documents. This chapter includes a description of the existing land use setting of the project site/BRPA site and the adjacent area, including the identification of existing land uses and current Davis General Plan policies and zoning designations. The information contained in this analysis is primarily based on the City of Davis General Plan[1] and City of Davis General Plan EIR,[2] as well as the Davis Municipal Code.

In addition, the reader is referred to the various environmental resource evaluations presented in the other technical chapters of this EIR for a discussion of potential physical/environmental effects that may result from land use changes.

4.9.2 EXISTING ENVIRONMENTAL SETTING

The following section describes the existing land uses on the project site/BRPA site, at the time the Notice of Preparation (NOP) was published on October 24, 2023, as well as the existing plans and policies that guide the development of the project site/BRPA site.

Project Site Characteristics

The approximately 497.6-acre project site/BRPA site is located north of East Covell Boulevard, east of F Street, and west of Pole Line Road in a currently unincorporated portion of Yolo County, California. The project site/BRPA site consists of a 382.72-acre parcel identified by Assessor's Parcel Number (APN) 035-970-033, and a 114.88-acre portion of a larger 169.9-acre parcel (APN 042-110-029) located in the northwest corner of the site. With the exception of APN 042-110-029, the project site/BRPA site is within the City of Davis Sphere of Influence (SOI).

The project site/BRPA site consists of generally flat, agricultural land. Agricultural-related uses (i.e., dirt roadways, graded surfaces, and agricultural structures) provide access to recently planted fields located within the surrounding area. Fields in the western portion of the project site/BRPA site were planted with wheat for the 2024 growing season and the eastern on-site fields were planted with tomatoes. Two agricultural structures are located in the southern portion of the project site/BRPA site. In addition, fields to the northeast are actively farmed with orchard crops, while lands to the north and northwest are considered agricultural fields.

The project site/BRPA site is bisected by a north-to-south private access road ("L Street"), which also pivots to proceed in an east-to-west direction through a portion of the site. A City of Davis drainage course ("Channel A") also flows east to west through the site. Additionally, a Pacific Gas and Electric Co. (PG&E) easement occurs along the western and northern site boundaries.

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1 City of Davis. *City of Davis General Plan*. Adopted May 2001, Amended January 2007.
2 City of Davis. *Final Program EIR for the City of Davis General Plan Update and Final Project EIR for Establishment of a New Junior High School*. Certified May 2001.

Surrounding Land Uses

The project site/BRPA site is bounded by Pole Line Road to the east; East Covell Boulevard to the south; the Union Pacific Railroad (UPRR) mainline, F Street, and Cannery development to the west; and Davis Paintball, Blue Max Kart Club, and agricultural land to the north. Other surrounding uses include single- and multi-family residences, the Nugget Fields sports center, Wildhorse Golf Club, and commercial offices to the east, across Pole Line Road; and commercial uses, single- and multi-family residences, and commercial offices to the south, across East Covell Boulevard. It should be noted that the Davis Paintball business is located on the City's former wastewater treatment plant (WWTP) site and the Blue Max Kart Club is located at the site of a former landfill, the Old Davis Landfill.

Existing Sphere of Influence

While APN 035-970-033 is located within the City of Davis SOI, the 114.88-acre portion of the project site/BRPA site identified by APN 042-110-029 is located outside of the City's SOI (see Figure 4.9-1).

Existing General Plan Land Use Designations

The 497.6-acre project site/BRPA site is located within unincorporated Yolo County, and as a result, the Proposed Project and BRPA include a request for annexation of the site to the City of Davis. The applicable General Plan land use designations are discussed in the following section.

Yolo County General Plan

The majority of the project site/BRPA site (APN 035-970-033) is designated by Yolo County as Specific Plan (SP), with the 114.88-acre portion of the site (APN 042-110-029) designated by the County as Agricultural (AG) (see Figure 4.9-2).

Agriculture

The AG designation includes the full range of cultivated agriculture, such as row crops, orchards, vineyards, dryland farming, livestock grazing, forest products, horticulture, floriculture, apiaries, confined animal facilities and equestrian facilities. The AG land use designation also includes agricultural industrial uses (e.g. agricultural research, processing and storage; supply; service; crop dusting; agricultural chemical and equipment sales; surface mining; etc.) as well as agricultural commercial uses (e.g. roadside stands, "Yolo Stores," wineries, farm-based tourism (e.g. u-pick, dude ranches, lodging), horseshows, rodeos, crop-based seasonal events, ancillary restaurants and/or stores) serving rural areas. The AG designation also includes farmworker housing, surface mining, and incidental habitat.

Specific Plan (SP)

The SP designation allows uses in the AG designation to continue temporarily until such time as a Specific Plan has been adopted, or the land use designation is otherwise amended. Ultimate land uses must be consistent with the adopted Specific Plan. Capital intensive agricultural uses are discouraged in lands designated SP so as not to preclude later planned uses.

Existing Zoning

Corresponding with the project site/BRPA site's current Yolo County land use designations, the site is zoned by Yolo County as Specific Plan (S-P) and Agricultural, specifically, Agricultural Intensive (A-N) (see Figure 4.9-3).

Figure 4.9-1
Existing Sphere of Influence

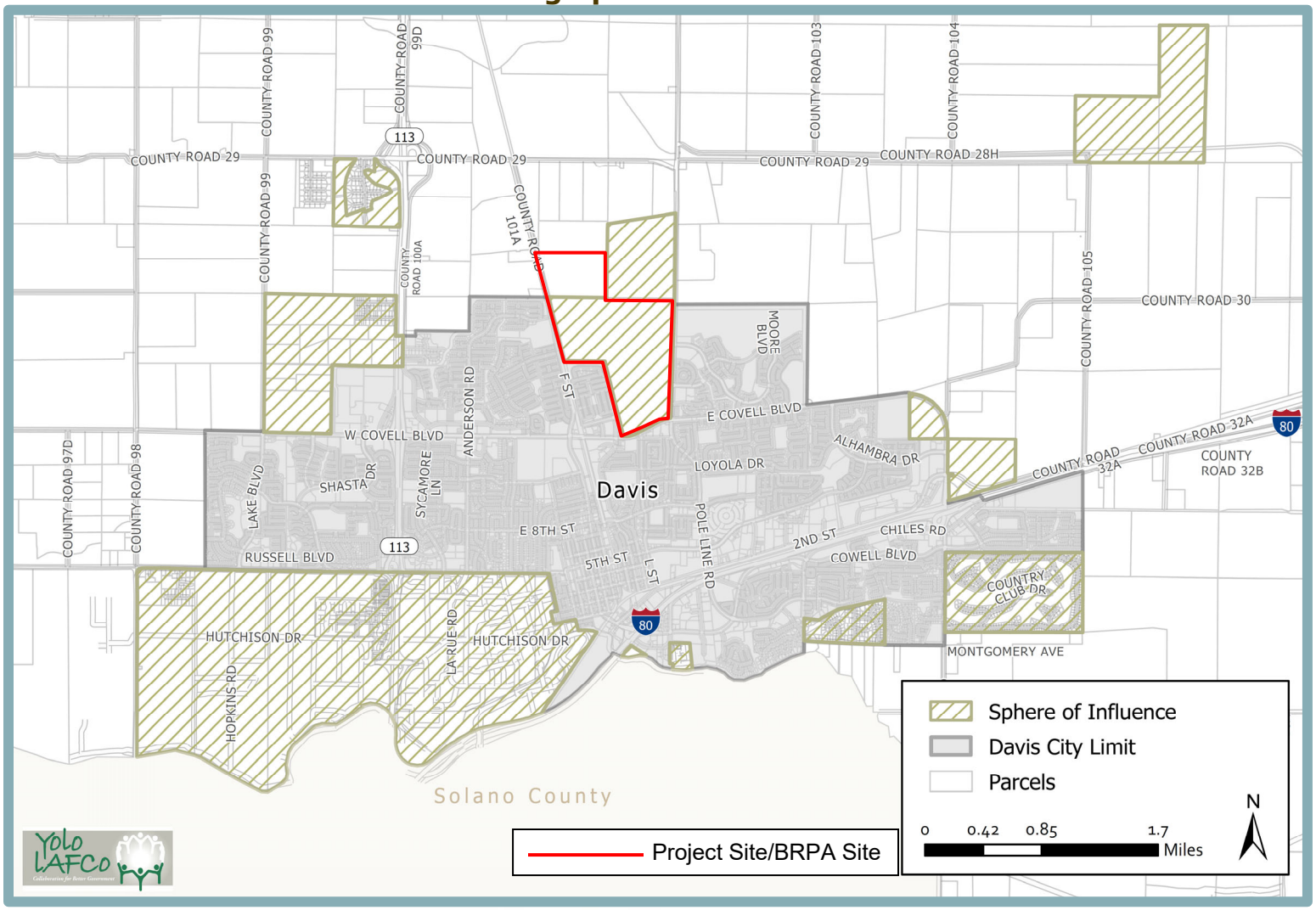


Figure 4.9-2
Existing General Plan Land Use Designations

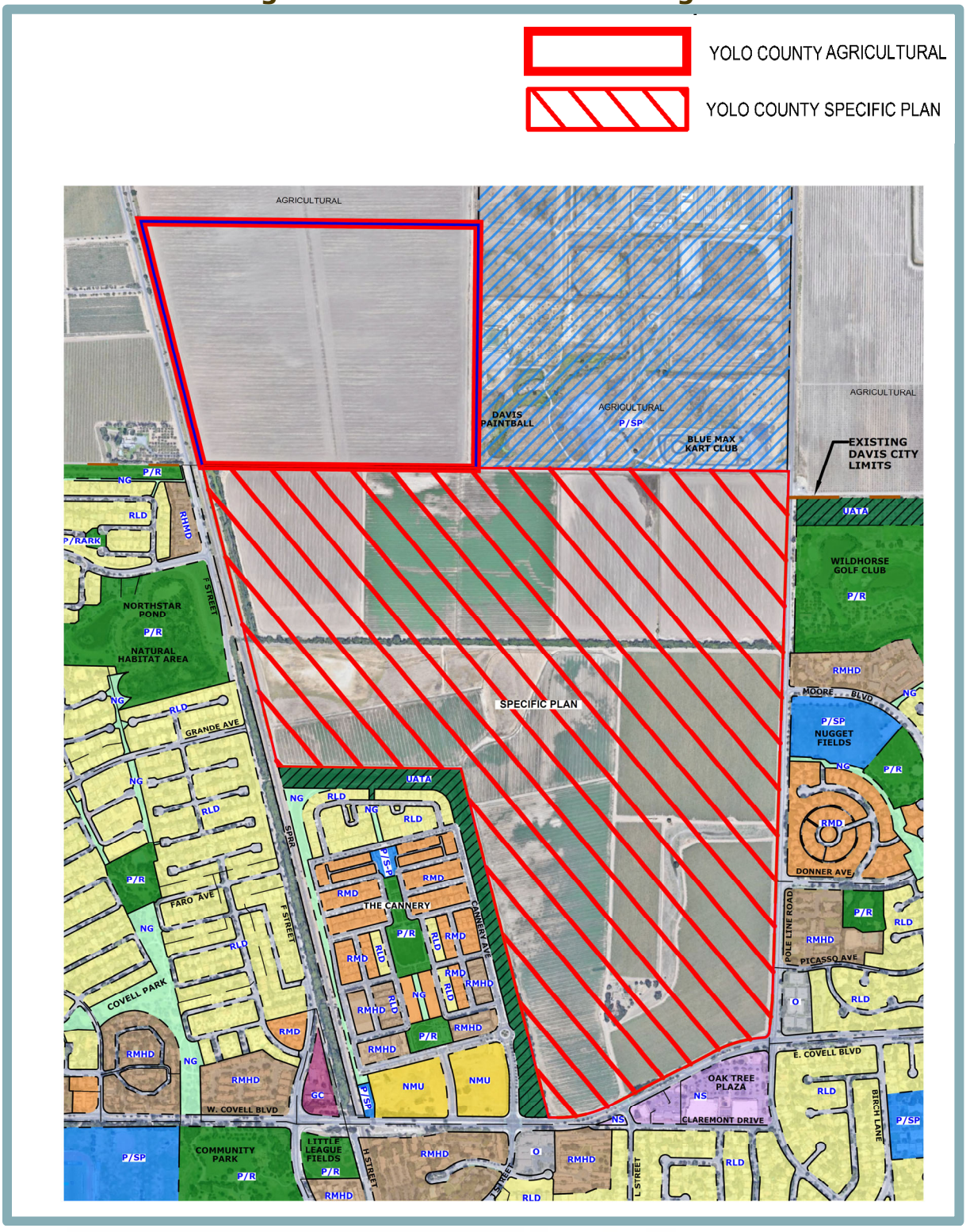
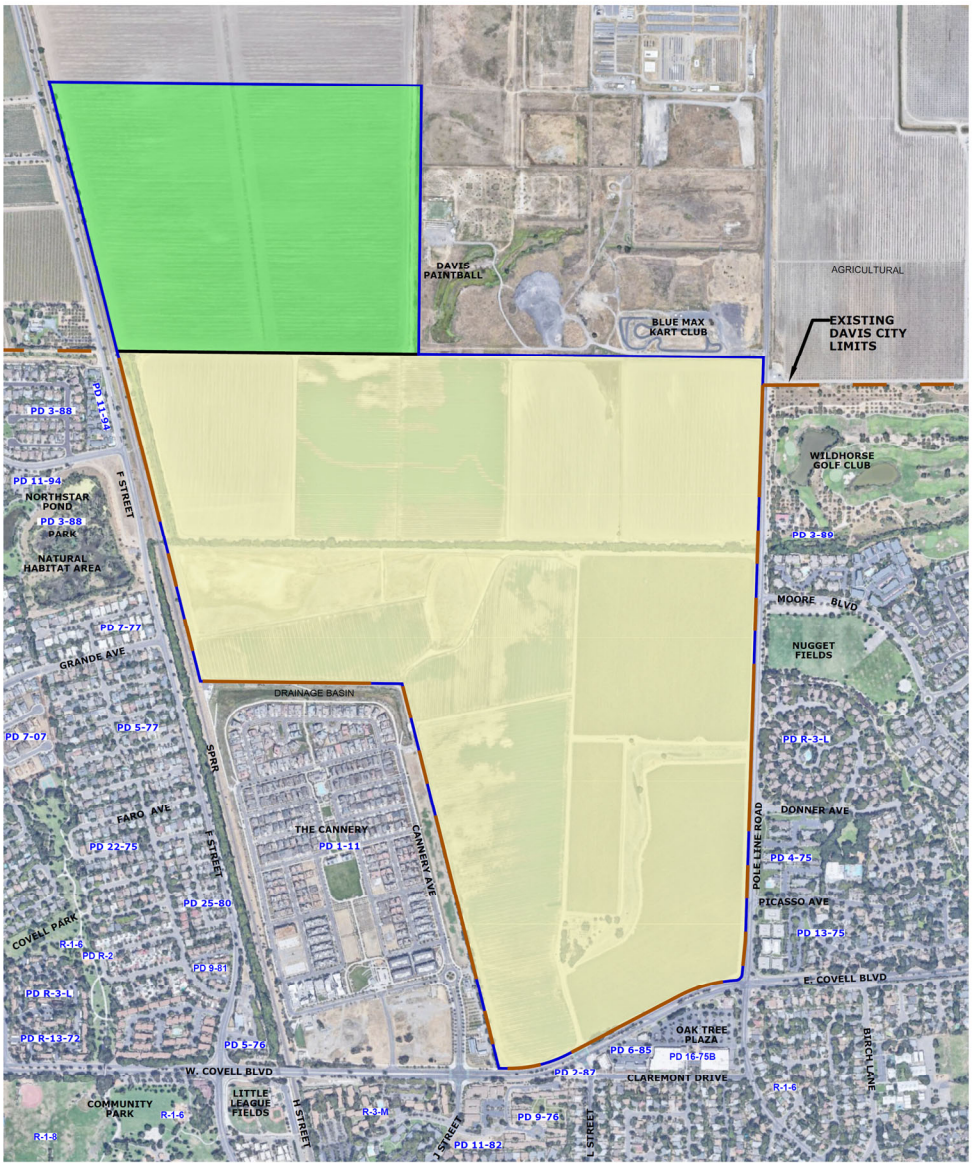


Figure 4.9-3
Existing Zoning



EXISTING ZONING DESIGNATION

SPECIFIC PLAN (S-P)

AGRICULTURAL INTENSIVE (A-N)

Agricultural Intensive (A-N)

The A-N zone is applied to preserve lands best suited for intensive agricultural uses typically dependent on higher quality soils, water availability, and relatively flat topography. The purpose of the zone is to promote those uses, while preventing the encroachment of nonagricultural uses. Uses in the A-N zone are primarily limited to intensive agricultural production and other activities compatible with agricultural uses, including agriculturally related support uses, excluding incompatible uses, and protecting the viability of the family farm. Minimum lot size for new parcels in the A-N zone is 40 acres for irrigated parcels primarily planted with permanent crops, such as orchards or vineyards; 80 acres for irrigated parcels that are cultivated; and 160 acres for parcels that are generally uncultivated and/or not irrigated.

Specific Plan (S-P)

The purpose of the S-P zone is to identify lands that are planned for future urban growth but which cannot be developed until detailed development standards as outlined in a Specific Plan are adopted. The required contents of a Specific Plan are defined under State law (Government Code Section 64540 et seq). In addition, the 2030 Yolo Countywide General Plan includes policies that set parameters or requirements for development in each specific plan area, including approximate acres of planned uses and ranges of residential and commercial unit counts.

Surrounding Land Use and Zoning Designations

The existing General Plan land use and zoning designations of each of the surrounding areas is summarized in Table 4.9-1 below. Each of the General Plan land use and zoning designations are described in the following sections. The area to the north of the project site/BRPA site is located within unincorporated Yolo County.

City of Davis General Plan Land Use Categories

The City's General Plan defines the above land use designations as follows:

Neighborhood Retail

The Neighborhood Retail land use designation is intended to provide shopping opportunities to meet Davis residents' daily needs within areas conveniently located to each neighborhood. The City supports many smaller neighborhood commercial centers each at a focal point instead of fewer larger centers. Residential uses would be conditionally allowable.

Parks/Recreation

The intent of the Parks/Recreation land use designation is to offer a full range of park amenities to City residents. Allowable uses for the Parks/Recreation land use designation include neighborhood, community, and regional parks, as well as outdoor recreational facilities within urban development, such as golf courses. Specific uses include, but are not limited to, baseball fields, tot lots and play apparatus, soccer fields, swimming pools, community center buildings, libraries, art centers, after school care facilities, trails, picnic areas, barbecue facilities, water fountains, and natural habitat areas.

Table 4.9-1
Summary of Adjacent Land Use and Zoning Designations

Relationship to Site	Existing Use	General Plan Land Use Designation(s)	Zoning Designation(s)
North	Agricultural Old City Landfill; Former WWTP	Agricultural (Yolo County) Public/Semi-Public (City)	A-N (Yolo County)
South	Oak Tree Plaza (Nugget Market)	Neighborhood Retail	PD (2-87, 6-85, and 16-75B)
West	Northstar Park	Parks/Recreation	PD 3-88
	The Cannery Development	Residential (Low Density, Medium Density, Medium High Density) Neighborhood Mixed-Use Public/Semi-Public Parks/Recreation	PD (1-11, 3-88, 7-77, 11-94)
	Natural Habitat Area	Natural Habitat Area	PD 3-88
	Urban Agricultural Transition Area	Urban Agricultural Transition Area	PD 1-11
	Neighborhood Green Belt	Neighborhood Green Belt	PD 1-11
East	La Buena Vida Neighborhood	Residential-Medium Density	PD, R-3-L
	Office	Office	PD 13-75
	Nugget Fields	Public/Semi-Public	PD 3-89
	Green Meadows Neighborhood	Residential Medium High Density	PD 4-75
	Wildhorse Golf Club	Parks/Recreation	PD 3-89
	Urban Agricultural Transition Area	Urban Agricultural Transition Area	PD 3-89
	Agricultural	Agricultural (Yolo County)	A-N (Yolo County)

Residential

The Residential land use categories presented in the City's General Plan are intended to allow for residential development emphasizing compact clustered development in new areas and infill in existing neighborhoods, together with a mixture of local-serving retail and institutional uses, to meet housing demands, reduce pressure for peripheral growth and facilitate transit and bicycle/pedestrian travel. Allowable uses for the Residential land use designations include a mix of all types of housing, including single-family, mobile homes, split lots, and multi-family units.

Low Density Residential
Allowable densities for the Low Density Residential category range from 3.00 to 5.99 units per gross acre, accounting for a 25 percent density bonus. Without a density bonus, allowable densities range from 2.40 to 4.79 units per gross acre.

Medium Density Residential
Allowable densities for the Medium High Density Residential category range from 6.00 to 13.99 units per gross acre, accounting for a 25 percent density bonus. Without a density bonus, allowable densities range from 4.80 to 11.20 units per gross acre.

Medium High Density Residential
Allowable densities for the Medium High Density Residential category range from 6.00 to 25.00 units per gross acre, accounting for a 25 percent density bonus. Without a density bonus, allowable densities range from 4.80 to 20 units per gross acre.

Natural Habitat Area
The intent of the Natural Habitat Area is to preserve existing wildlife habitat and develop new wildlife habitat. Allowable uses within the Natural Habitat Area designation include wildlife preserves, habitat for permanent and migratory waterfowl and other species, native tree and plant areas, seasonal and permanent wetlands, and drainage facilities. In addition, agricultural, low-intensity recreation, nature study centers, and interpretive centers are also allowed within the Natural Habitat Area land use designation, provided such uses are compatible with habitat uses.

Urban Agricultural Transition Area
The intent of the City of Davis UATA land use designation is:

1) To provide a buffer and minimize conflicts between urban and agricultural areas.
2) To provide public open space.
3) To define the planned urbanized edge of the City, as one of many useful growth management tools.

Neighborhood Greenbelt
The Neighborhood Greenbelt land use designation is intended to provide safe and secure linear parkways and connectors close to residences as alternatives to biking or walking on streets. Neighborhood greenbelts connect to UATAs, greenstreets, parks, other open space network elements, activity centers, and public facilities.

Neighborhood Mixed Use
The Neighborhood Mixed Use land use designation is intended to provide a mix of non-residential and residential uses in areas conveniently located to neighborhoods and to facilitate transit and bicycle/pedestrian travel through a blending of retail, job-generating, and residential uses. The designation is distinguished from other General Plan land use categories by expecting a mix of uses allowed in Neighborhood Retail, Office, Business Park, and Residential land uses.

Public/Semi-Public
The Public/Semi-Public land use designation is intended to provide appropriate, centrally-located sites for community facilities, including offices, schools, childcare facilities, hospitals and accessory medical offices, religious institutions, and drainage facilities and utilities.

Office

The Office land use designation is intended to provide locations for small administrative, professional, and medical offices in centrally located areas near the downtown and/or residential neighborhoods of the City. Residential uses are conditionally allowable.

City of Davis Zoning Designations

The Davis Municipal Code defines the Planned Development (P-D) as follows:

P-D

The P-D district is intended to allow diversification in the relationship of various buildings, structures and open spaces in order to be relieved from the rigid standards of conventional zoning. Pursuant to Section 40.22.120 of the City of Davis Municipal Code, a P-D district is indicated on the official zoning map by "P-D," followed by an identifying serial number that refers to the preliminary development plans for the particular zone. Table 4.9-1 includes the specific serial numbers of the surrounding parcels currently zoned P-D.

Applicable Special Districts

The project site/BRPA site is currently located within the Springlake Fire Protection District. The Springlake Fire Protection District encompasses a portion of eastern Yolo County, largely north of the City of Davis and south of the City of Woodland. The Springlake Fire Protection District consists of mostly agricultural land uses, but also commercial and industrial uses that are mainly oriented toward agriculture. Annexation of the project site/BRPA site to the City of Davis would also require Yolo County LAFCo approval of detachment of the project site/BRPA site from the Springlake Fire Protection District, as the City of Davis Fire Department (DFD) would provide fire protection services to the site upon annexation.

4.9.3 REGULATORY CONTEXT

The following is a description of the regulatory context under which land use and planning is managed at a State and local level.

State Regulations

The following are applicable State regulations related to land use and planning related to the Proposed Project and BRPA.

Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (Government Code Section 56000 et seq.)

In California, the establishment and revision of local government boundaries is governed by the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (CKH). The CKH was a comprehensive revision of the Cortese-Knox Local Government Reorganization Act of 1985, which was itself a consolidation of three major laws governing boundary changes. The three laws that governed changes in the boundaries and organization of cities and special districts prior to 1986 were:

- The Knox-Nisbet Act of 1963, which established Local Agency Formation Commissions (LAFCos) with regulatory authority over local agency boundary changes.
- The District Reorganization Act of 1965 (DRA), which combined separate laws governing special district boundaries into a single law.

- The Municipal Organization Act of 1977 (MORGA), which consolidated various laws on city incorporation and annexation into one law.

CKH established procedures for local government changes of organization, including City incorporations, annexations to a City, and special district consolidations. LAFCos have numerous powers under CKH, the most significant of which is the power to act on local agency boundary changes and to adopt SOIs for local agencies. Secondary purposes of LAFCos include the discouragement of urban sprawl and the encouragement of the orderly formation and development of local agencies.

Local Regulations

The following are local regulations related to land use and planning applicable to the Proposed Project and BRPA.

Sacramento Area Council of Governments

The Sacramento Area Council of Governments (SACOG) is an association of local governments from six counties and 22 cities within the Sacramento Region. The counties include El Dorado, Placer, Sacramento, Sutter, Yolo, and Yuba. SACOG is responsible for the preparation of, and updates to, the Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) for the region and the corresponding Metropolitan Transportation Improvement Program (MTIP). The MTP/SCS provides a 20-year transportation vision and corresponding list of projects, while the MTIP identifies short-term projects within a seven-year horizon in more detail.

Metropolitan Transportation Plan/Sustainable Communities Strategy

The 2020 MTP/SCS was adopted by the SACOG board on November 18, 2019. The MTP/SCS is a long-range plan for transportation improvements in the region and provides a 20-year transportation vision and corresponding list of projects. The plan is based on projections for growth in population, housing, and jobs. SACOG determines the regional growth projections by evaluating baseline data (existing housing units and employees, jobs/housing ratio, and percent of regional growth share for housing units and employees), historic reference data (based upon five- and ten-year residential building permit averages and historic county-level employment statistics), capacity data (General Plan data for each jurisdiction), and current MTP data about assumptions used in the most recent MTP/SCS. SACOG staff then meets with each jurisdiction to discuss and incorporate more subjective considerations about planned growth for each area. Finally, SACOG makes a regional growth forecast for new homes and new jobs, based upon an economic analysis provided by a recognized expert in order to estimate regional growth potential based on market analysis and related economic data, which is incorporated into the MTP/SCS.

Yolo County Local Agency Formation Commission

Yolo County LAFCo is an independent agency responsible for the implementation of the CKH. Yolo County LAFCo is empowered to review, approve, or deny boundary changes, City annexations, consolidations, special district formations, incorporations for cities and special districts, and to establish local SOIs. The SOI for each governmental agency is a plan for the future boundary and service area. As discussed above, the LAFCo function is outlined in Government Code, Section 56000 et seq., known as the CKH.

Yolo County Local Agency Formation Commission Standards of Evaluation

The Yolo County LAFCo is charged with the responsibility of preservation of agricultural land, orderly development, and the efficient provision of urban services through evaluating the loss of

agricultural land to development and the effect the proposed development would have on adjacent agricultural lands, as well as the ability of a City to provide urban services to the property. The Yolo County LAFCo has adopted Standards for Evaluation of Proposals, which include several policies applicable to the Proposed Project and BRPA. Many of the policies provide guidance as to which territories are favored by the Yolo County LAFCo in annexations. The policies also address agricultural preservation and promotion, requirements for pre-zoning and tax sharing agreements, and ability of the annexing agency to provide adequate water supply in a timely fashion.

The Amended and Restated Pass-Through Agreement

The Amended and Restated Pass-Through Agreement, entered into November 20, 2001, between the Redevelopment Agency, the City of Davis, and Yolo County provides the City with the ability to review project proposals in the unincorporated area surrounding the City. The City may withhold tax increment revenue that is passed through to Yolo County if the County approves "urban development" in the identified area. Although the Redevelopment Agency has been dissolved, the City and the County continue to operate under the provisions of the Agreement.

City of Davis General Plan

The applicable Davis General Plan policies and standards adopted for the purpose of avoiding or mitigating an environmental effect are presented below in Table 4.9-2.

Davis Municipal Code

The Davis Municipal Code ordinances related to land use and planning that are applicable to the proposed project are presented below.

Article 41.01 Citizens' Right to Vote on Future Use of Open Space and Agricultural Lands (Commonly known as Measure R)

The City of Davis Zoning Ordinance requires voter approval for changes to land use designations on the Land Use Map from Agricultural or Urban Reserve to Urban land use designations or from Agricultural to Urban Reserve land use designations. The section pertaining to voter approval of the Davis Zoning Ordinance is included below.

> Section 41.01.020 Voter approval.
>
> A. Voter Approval of Changes to Land Use Designations on the Land Use Map from Agricultural or Urban Reserve to Urban land use designations or from Agricultural to Urban Reserve land use designations.
> 1. Each and every proposed amendment or modification of the Land Use Map to modify the land use designation of lands designated for agricultural, open space or urban reserve use on the Land Use Map to an urban or urban reserve designation is a significant change that affects the City and its ability to maintain its vision for a compact urban form surrounded by farmlands and open space. Any such proposal, therefore, requires public participation in the decision, including, but not limited to, voter approval of the proposed amendment or modification of the Land Use Map.
> 2. Any application for an amendment or modification of the Land Use Map that proposes changing the Land Use Map land use designation for any property from an agricultural, open space, or urban reserve land use designation (e.g. agricultural, open space, agricultural reserve, urban reserve, environmentally

sensitive habitat, Davis Greenbelt) to an urban land use designation or from an agricultural designation to an urban reserve designation shall require:

a. Establishment of baseline project features and requirements such as recreation facilities, public facilities, significant project design features, sequencing or phasing, or similar feature and requirements as shown on project exhibits and plans submitted for voter approval, which cannot be eliminated, significantly modified or reduced without subsequent voter approval.
b. Approval by the City Council, after compliance with the California Environmental Quality Act, the State Planning and Zoning laws and any other applicable laws or regulations, and then
c. Approval by an affirmative majority vote of the voters of the City of Davis voting on the proposal. The land use designation amendment or modification shall become effective only after approval by the City Council and the voters. The City shall not submit any application to the voters if the application has not first been approved by the City Council, unless otherwise required by law.

3. If, after compliance with the California Environmental Quality Act and other applicable laws, the City Council modifies or amends the land use designation for any property from an urban land use designation to an agricultural, open space, or urban reserve land use designation, the land use of that property shall not be amended or modified from the agricultural, open space, or urban reserve designation to an urban land use designation without first complying with this Article, including but not limited to the voter approval requirements set forth in subsection A(2), above.

4.9.4 IMPACTS AND MITIGATION MEASURES

The following section describes the standards of significance and methodology used to analyze and determine the Proposed Project's and BRPA's potential impacts related to land use and planning. In addition, a discussion of the potential impacts, as well as mitigation measures where necessary, is also presented.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines, a land use and planning impact may be considered significant if any potential effects of the following conditions, or potential thereof, would result with the Proposed Project's or BRPA's implementation:

- Physically divide an established community (see Chapter 5, Effects Not Found to be Significant); or
- 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.

As noted above, issues related to whether the Proposed Project or BRPA would result in the following impact are discussed in Chapter 5, Effects Not Found to be Significant, of this EIR:

- Physically divide an established community.

Method of Analysis

The section below evaluates the Proposed Project and BRPA for compatibility with existing and planned adjacent land uses and for consistency with the City's adopted plans, policies, and zoning regulations. Physical environmental impacts resulting from development of the Proposed Project

or BRPA are discussed in the environmental resource sections of the various technical chapters within this EIR. The following discussion complies with Section 15125(d) of the CEQA Guidelines, which requires EIRs to discuss inconsistencies with general plans and regional plans as part of the environmental setting. The ultimate determination of consistency rests with the City Council.

Project-Specific Impacts and Mitigation Measures

The following discussion of land use and planning impacts is based on development of the Proposed Project and BRPA in comparison to existing conditions and the standards of significance presented above.

4.9-1 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. Based on the analysis below, the impact is *less than significant*.

The following discussion includes an analysis of potential impacts related to conflicts with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect associated with development of the Proposed Project and the BRPA. Because the Proposed Project and the BRPA would be developed with similar uses within the same overall site boundaries, and request similar approvals from the City of Davis, the below discussion applies to both the Proposed Project and the BRPA.

Proposed Project, Biological Resources Preservation Alternative

The General Plan Guidelines published by the State Office of Land Use and Climate Innovation (LCI) define consistency as follows, "An action, program, or project is consistent with the general plan if, considering all its aspects, it will further the objectives and policies of the general plan and not obstruct their attainment." Therefore, the standard for analysis used in this EIR is in general agreement with the policy language and furtherance of the policy intent (as determined by a review of the policy context).

The determination that the project is consistent or inconsistent with the City of Davis General Plan policies or other plans and policies is ultimately the decision of the Davis City Council. Furthermore, although CEQA analysis may identify some areas of general consistency with City policies, the City has the ability to impose additional requirements or conditions of approval on a project, at the time of its approval, to bring a project into more complete conformance with existing policies. A discussion of the project's general agreement with policy language and furtherance of policy intent is provided in further detail below.

Sphere of Influence Amendment and Annexation

As previously discussed, the project site/BRPA site is currently located in an unincorporated portion of Yolo County. While APN 035-970-033 is located within the City of Davis SOI, the 114.88-acre portion of the project site/BRPA site identified by APN 042-110-029 is located outside of the City's SOI. Thus, the Proposed Project/BRPA includes a request to amend the City of Davis SOI to adjust the City's

SOI boundary lines and annex the 497.6-acre site into the City of Davis. The overall site would encompass 379.2 acres proposed for urban development and a 118.4-acre Urban Agricultural Transition Area (UATA, or Ag Buffer) comprised of 114.88 acres on APN 042-110-029 and 3.52 acres on APN 035-970-033 (see Figure 4.9-4). The SOI Amendment and Annexation would incorporate the urban development area into the City of Davis and the UATA into the City's SOI, and are ultimately subject to approval by the Yolo LAFCo as a responsible agency. The City of Davis would be responsible for approving a resolution authorizing the project applicant to submit an SOI Amendment and Annexation application to Yolo LAFCo.

General Plan Amendment

The majority of the project site/BRPA site (APN 035-970-033) is designated by Yolo County as SP, with the 114.88-acre portion of the site proposed for the UATA (APN 042-110-029) designated by the County as AG (see Figure 4.9-2). The proposed General Plan map amendment would redesignate the project site/BRPA site with City of Davis land use designations, consistent with the uses included as part of each development scenario, which are discussed further below and illustrated in Figure 4.9-5. The General Plan Amendment requested as part of the Proposed Project would redesignate the 497.6-acre project site/BRPA site from Yolo County General Plan land use designations of SP (382.72 acres) and AG (114.88 acres) to the following City of Davis land use designations:

- 157.4 acres of RLD;
- 77.2 acres of RMD;
- 11.6 acres of RMHD;
- 7.9 acres of RHD;
- 33.5 acres of P-SP;
- 2.8 acres of Neighborhood Mixed-Use;
- 27.8 acres of Park/Recreation;
- 39.7 acres of Neighborhood Greenbelt; and
- 118.4 acres of UATA.

The General Plan Amendment requested as part of the BRPA would redesignate the 497.6-acre BRPA site from Yolo County General Plan land use designations of SP (382.72 acres) and AG (114.88 acres) to the following City of Davis land use designations:

- 61.4 acres of RLD;
- 135.9 acres of RMD;
- 12.2 acres of RHD;
- 29.1 acres of P-SP
- 2.9 acres of Neighborhood Mixed-Use;
- 27.1 acres of Park/Recreation;
- 40.8 acres of Neighborhood Greenbelt;
- 47.1 acres of Natural Habitat Area; and
- 118.4 acres of UATA.

Figure 4.9-4
Sphere of Influence Amendment

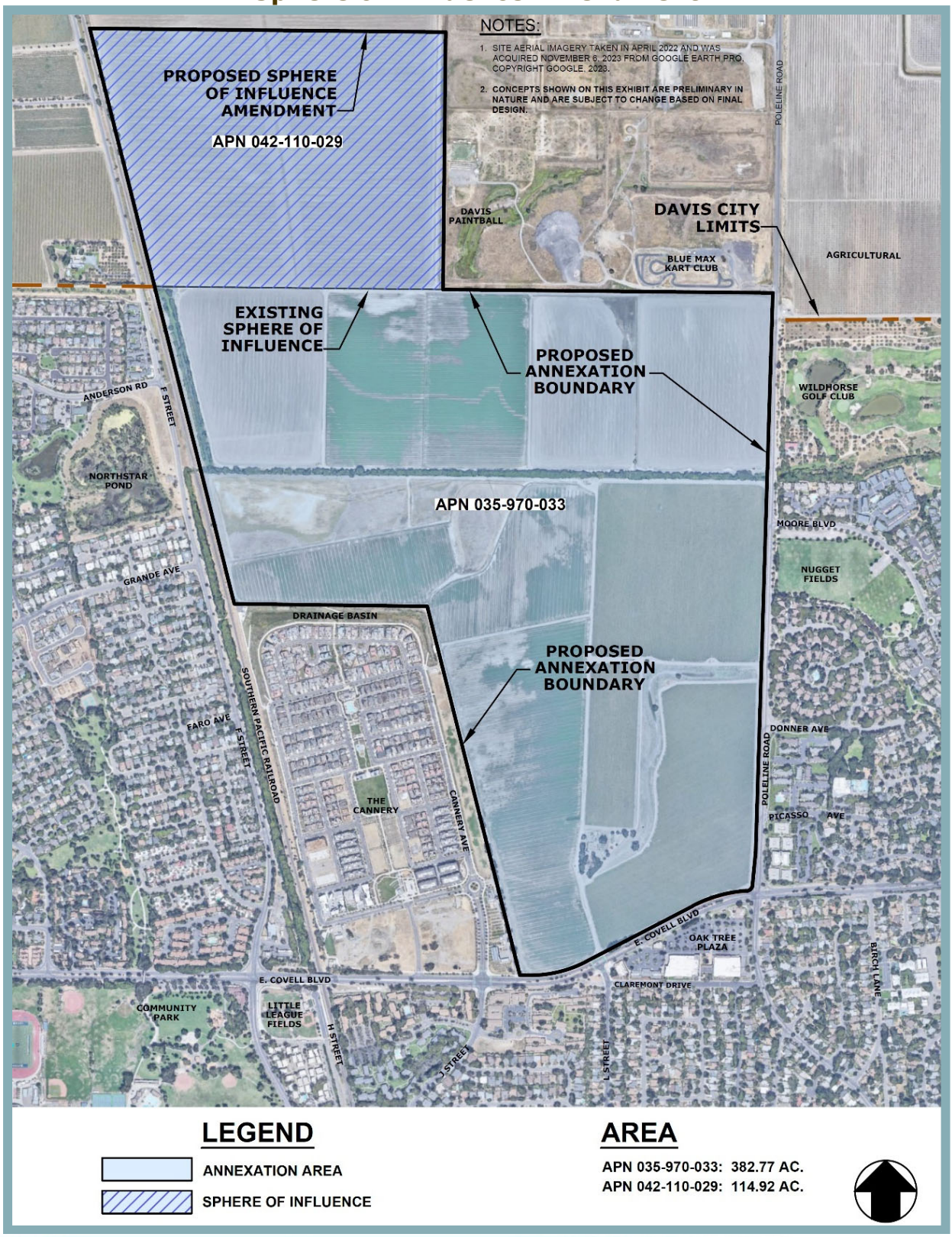


Figure 4.9-5
General Plan Amendment

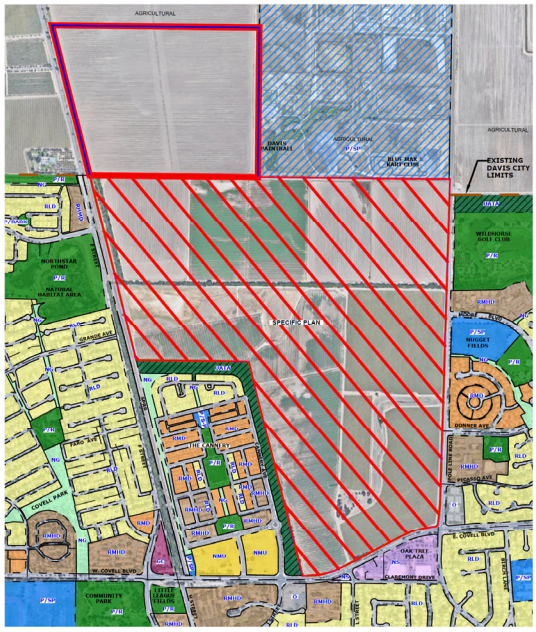
NOTE:

1. CONCEPTS SHOWN ON THIS EXHIBIT ARE PRELIMINARY IN NATURE AND ARE SUBJECT TO CHANGE BASED ON FINAL DESIGN.

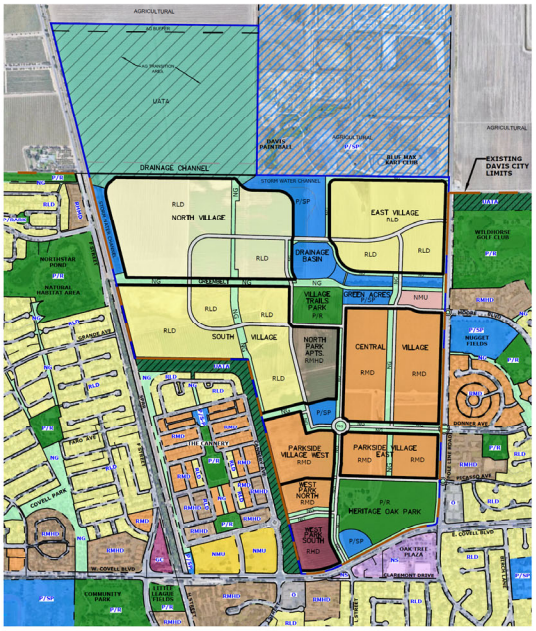
LAND USE SUMMARY:

EXISTING LAND USE	AREA
AGRICULTURAL	114.9 AC. ±
SPECIFIC PLAN	382.7 AC. ±
TOTAL:	497.6 AC. ±

PROPOSED LAND USE	AREA
RESIDENTIAL LOW DENSITY	157.4 AC. ±
RESIDENTIAL MEDIUM DENSITY	77.2 AC. ±
RESIDENTIAL MEDIUM HIGH DENSITY	11.6 AC. ±
RESIDENTIAL HIGH DENSITY	7.9 AC. ±
PUBLIC SEMI- PUBLIC	33.5 AC. ±
NEIGHBORHOOD MIXED USE	2.8 AC. ±
PARK/RECREATION	27.8 AC. ±
NEIGHBORHOOD GREENBELT	39.7 AC. ±
MAJOR ROADS	21.3 AC. ±
URBAN AGRICULTURAL TRANSITION AREA	118.4 AC. ±
TOTAL:	497.6 AC. ±



EXISTING COUNTY



PROPOSED CITY

LEGEND

- COUNTY AGRICULTURAL
- YOLO COUNTY SPECIFIC PLAN
- NHA — NATURAL HABITAT AREA
- P/R — PARKS/RECREATION
- NG — NEIGHBORHOOD GREENBELT
- UATA — URBAN AGRICULTURAL TRANSITION AREA
- NMU — NEIGHBORHOOD MIXED USE
- P/SP — PUBLIC SEMI- PUBLIC
- RHD — RESIDENTIAL HIGH DENSITY
- RMHD — RESIDENTIAL MEDIUM HIGH DENSITY
- RMD — RESIDENTIAL MEDIUM DENSITY
- RLD — RESIDENTIAL LOW DENSITY
- MAJOR ROADS
- AGRICULTURAL (CITY OWNED)
- DAVIS CITY LIMITS
- PROPERTY BOUNDARY/USE AREA
- PS — PUMP STATION
- NORTH VILLAGE — NEIGHBORHOOD NAME
- RLD — LAND USE DESIGNATION

CUNNINGHAM ENGINEERING

VILLAGE FARMS DAVIS
GENERAL PLAN AMENDMENT EXHIBIT

0 1,000 2,000
SCALE: 1" = 2,000

Pre-zoning

Corresponding with the site's current Yolo County land use designations, the project site/BRPA site is zoned by Yolo County as S-P and Agricultural (see Figure 4.9-3). Following annexation into the City limits, the project site/BRPA site would be pre-zoned to the City's Planned Development (P-D) zone (see Figure 4.9-6). The P-D zoning designation is intended to allow for greater flexibility from the development standards established for the City's conventional zoning districts.

As part of approval of the Pre-zoning to P-D, the Proposed Project or the BRPA would be required to adhere to the development standards set forth by the Preliminary Planned Development (PPD). As established by Section 40.22.060 of the Davis Municipal Code, the PPD for the Proposed Project or the BRPA would be required to contain basic information, such as land uses proposed for the zone, location of parks and trails, proposed street layout, and a preliminary study of facilities required, such as drainage, sewage, and public utilities. According to the PPD prepared for the Proposed Project and BRPA, the development standards for each proposed use within the P-D zone would substantially correspond with those established for permitted, accessory, and conditional uses in the Davis Municipal Code for the comparable zoning districts identified in the PPD, with limited exceptions provided therein.

Policy Discussion

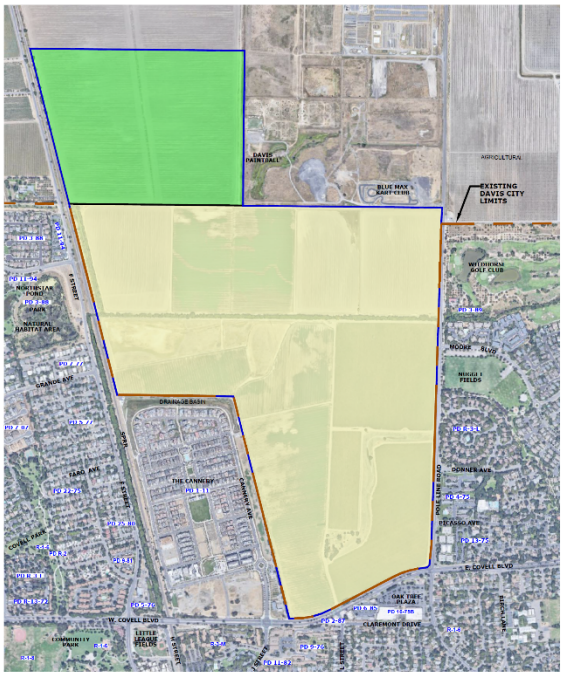
As noted above, the ultimate question of the meaning of particular General Plan policies, and thus the project's consistency with them, lies with the City Council. It is worth noting, however, that the language found in general plans is sometimes susceptible to varying interpretations, and reasonable minds may differ as to the meaning of particular policies and how to apply them to proposed projects. Case law interpreting the Planning and Zoning Law (Gov. Code, Section 65000 et seq.) makes it clear that: (i) the ultimate meaning of such policies is to be determined by the elected legislative body or a lower tier decision-making body such as a planning commission, as opposed to City staff and EIR consultants, applicants, or members of the public; and (ii) the decision-making body's interpretations of such policies will prevail in court (if challenged) if the interpretations are "reasonable," even though other reasonable interpretations are also possible (see *No Oil, Inc. v. City of Los Angeles* (1987) 196 Cal.App.3d 223, 245-246, 249). Courts also have recognized that, because general plans often contain numerous policies adopted to address differing or competing legislative goals, a development project may be "consistent" with a general plan, taken as a whole, even though the project appears to be inconsistent or is arguably inconsistent with some specific policies within a given general plan (*Sequoyah Hills Homeowners Association v. City of Oakland* (1993) 23 Cal.App.4th 704, 719). Furthermore, courts strive to "reconcile" or harmonize seemingly disparate general plan policies to the extent reasonably possible (*No Oil*, *supra*, 196 Cal.App.3d at p. 244). Agencies should do the same.

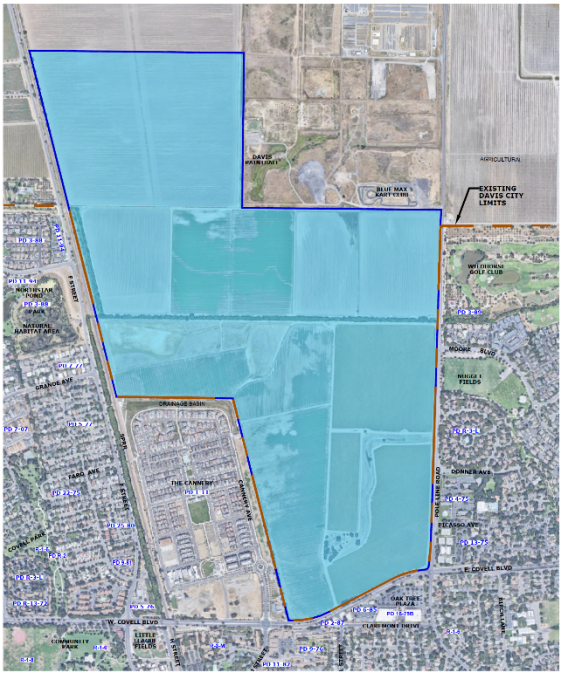
Some policies, in fact, may be irreconcilable. As the courts have said, "it is beyond cavil that no project could completely satisfy every policy stated in the [General Plan], and that state law does not impose such a requirement" (*Sequoyah, supra*, 23 Cal.App.4th 704, 719, citing *Greenebaum v. City of Los Angeles* (1984) 153 Cal.App.3d 391, 406-407 and 59 Ops.Cal.Atty.Gen. 129, 131 (1976)).

Figure 4.9-6
Existing and Proposed Zoning

NOTES:

1. SITE AERIAL IMAGERY TAKEN IN APRIL 2022 AND WAS ACQUIRED NOVEMBER 6, 2023 FROM GOOGLE EARTH PRO. COPYRIGHT GOOGLE, 2023.
2. CONCEPTS SHOWN ON THIS EXHIBIT ARE PRELIMINARY IN NATURE AND ARE SUBJECT TO CHANGE BASED ON FINAL DESIGN.





EXISTING ZONING DESIGNATION

- SPECIFIC PLAN (S-P)
- AGRICULTURAL INTENSIVE (A-N)

PROPOSED PREZONING DESIGNATION

- VILLAGE FARMS DAVIS PLANNED DEVELOPMENT (P-D)

PREZONING SUMMARY

EXISTING PREZONING	AREA	PROPOSED PREZONING	AREA
NEW PLANNED DEVELOPMENT	0.0 AC. ±	NEW PLANNED DEVELOPMENT	497.6 AC. ±
SPECIFIC PLAN	382.7 AC. ±	SPECIFIC PLAN	0.0 AC. ±
AGRICULTURAL	114.9 AC. ±	AGRICULTURAL	0.0 AC. ±

"A general plan must try to accommodate a wide range of competing interests—including those of developers, neighboring homeowners, prospective homebuyers, environmentalists, current and prospective business owners, jobseekers, taxpayers, and providers and recipients of all types of city-provided services—and to present a clear and comprehensive set of principles to guide development decisions. Once a general plan is in place, it is the province of elected [city] officials to examine the specifics of a proposed project to determine whether it would be 'in harmony' with the policies stated in the plan" (*Sequoyah*, *supra*, 23 Cal.App.4th at p. 719, citing *Greenebaum*, *supra*, 153 Cal.App.3d at p. 406). Nevertheless, proposed projects are required to be consistent with all General Plan policies that are "fundamental, mandatory, and clear" (*Families Unafraid to Uphold Rural El Dorado County v. El Dorado County Bd. of Supervisors* (1998) 62 Cal.App.4th 1332, 1341-1342; *Endangered Habitats League, Inc. v. County of Orange* (2005) 131 Cal.App.4th 777, 782 ["[a] project is inconsistent if it conflicts with a general plan policy that is fundamental, mandatory, and clear"]).

Should the City Council choose to approve the Proposed Project or BRPA, the Council may rely on the analysis in Table 4.9-2 as support for the conclusion that the development, which includes General Plan amendments, is consistent with the General Plan as amended. Certification of the Final EIR will be indicative of agreement with the conclusions in the table.

Approval of the aforementioned entitlements for the Proposed Project or BRPA are discretionary actions subject to approval by the Davis City Council. Should the City Council approve the requested entitlements, the development would be rendered consistent with the City's General Plan and Zoning Ordinance.

From a policy perspective, Table 4.9-2 at the end of this chapter sets forth the reasoning for City staff's determination that the Proposed Project and BRPA would be generally consistent with the applicable policies in the Davis General Plan adopted for the purpose of avoiding or mitigating an environmental effect.

Yolo County LAFCo Consistency Discussion

The Proposed Project and BRPA would both require the annexation of the 497.6-acre site into the City of Davis. Should the requested entitlements be approved by the City of Davis City Council, and subsequently, the citizens of Davis through a Measure R vote, an application for annexation would be filed with Yolo County LAFCo for review and consideration for approval. Yolo County LAFCo is considered a responsible agency for the Proposed Project and BRPA, and as such, this EIR includes a discussion of the project's consistency with Yolo County LAFCo's policies related to annexation and SOI Amendment proposals. The following information has been provided, as it relates to several Yolo County LAFCo policies regarding annexation proposals:

1. While APN 035-970-033 is located within the City of Davis SOI, the 114.88-acre portion of the project site/BRPA site identified by APN 042-110-029 is located outside of the City's SOI. Thus, the Proposed Project and BRPA include a request to amend the Davis SOI to adjust the City's SOI boundary lines and annex the 497.6-acre site into the City of Davis.

2. The Proposed Project and BRPA would both include a request for annexation of 497.6 acres from Yolo County to the City of Davis. The new development would be located on the southern 379.2 acres, while the remaining 118.4-acre portion of the project site/BRPA site would function as a UATA.

3. The project site/BRPA site is contiguous to the City limits and can be served by water and sewer lines within adjacent rights of way.

4. Because the project site/BRPA site is currently located within the Springlake Fire Protection District, the Proposed Project and BRPA would also include a request for detachment from the Springlake Fire Protection District. Annexation of the project site/BRPA site into the City of Davis would require Yolo County LAFCo approval of the detachment of the site from the Springlake Fire Protection District, as the DFD would provide fire protection services upon annexation.

5. While the Proposed Project and BRPA would both result in the conversion of agricultural land to urban uses, the discussion in Chapter 4.2, Agricultural Resources, of this EIR confirms the preservation of equivalent acreage of farmland elsewhere at a 2:1 ratio through Mitigation Measures 4.2-1(a) for the Proposed Project and 4.2-1(b) for the BRPA. In addition, the proposed 118.4 acres of UATA would incorporate the minimum 150-foot agricultural buffer required by the City. The permanent agricultural easements to the north would also provide a permanent barrier to further expansion.

6. The project site/BRPA site is currently zoned A-N and S-P by Yolo County. Therefore, as a condition to annexation, the City of Davis proposes to pre-zone the project site/BRPA site to P-D.

Conclusion

Based on the above, neither the Proposed Project nor the BRPA would cause a significant environmental impact due to conflicts with a land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect (including the policies discussed in Table 4.9-2), and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

Cumulative Impacts and Mitigation Measures

As defined in Section 15355 of the CEQA Guidelines, “cumulative impacts” refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.

For more details regarding the cumulative setting, refer to Chapter 6, Statutorily Required Sections, of this EIR.

4.9-2 Cause a significant cumulative 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. Based on the analysis below, the cumulative impact is *less than significant*.

A cumulative analysis of land use is not included because land use plans or policies and zoning generally do not combine to result in cumulative impacts. The determination of significance for impacts is whether a development project would 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. Conflicts are site-specific, and thus, are only addressed on a project-by-project basis. As shown in Table 4.9-2 below, the Proposed Project and BRPA would be generally consistent with relevant policies in the City's General Plan.

Therefore, the Proposed Project and BRPA would not cause a significant cumulative 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, and the cumulative impact would be ***less-than-significant***.

Mitigation Measure(s)

None required.

Table 4.9-2
City of Davis General Plan Consistency Discussion

Policy		Project/BRPA Consistency
Urban Design and Neighborhood Preservation		
Policy UD 2.1	Preserve and protect scenic resources and elements in and around Davis, including natural habitat and scenery and resources reflective of place and history.	As discussed under Impact 4.1-1 in Chapter 4.1, Aesthetics, of this EIR, the project site/BRPA site does not contain any identified natural scenic or historic resources. Therefore, development of the project site/BRPA site with urban uses would not present a conflict with General Plan Policy UD 2.1. Notwithstanding, this EIR acknowledges that panoramic open space/agricultural views available on the project site/BRPA site, while not officially designated by the City as a scenic vista, can nevertheless be considered as such for purposes of CEQA analysis and in recognition of the General Plan EIR's treatment of the issue. Similar to the site conditions when the General Plan EIR was prepared, the site consists almost entirely of uninterrupted active agricultural land. As development along the City's boundaries continues in the future, such areas will become increasingly lost due to conversion to urban uses. Views of the existing scenic vista of the site, as well as the surrounding agricultural area to the northwest, would be substantially affected by development of the Proposed Project or BRPA. While incorporation of the 118.4-acre UATA would preserve a portion of the currently available on-site scenic agricultural vista, the majority of the current scenic vista would be permanently altered by buildout of the Proposed Project or the BRPA. With respect to the BRPA, the incorporation of the 47.1-acre Natural Habitat Area would further minimize the effect on the existing scenic vista. Nonetheless, based on the above, this EIR concludes that the Proposed Project and BRPA could have a substantial adverse effect on a scenic vista.
Policy UD 2.2	Maintain and increase the amount of greenery, especially street trees, in Davis, both for aesthetic reasons and to provide shade, cooling, habitat, air quality benefits, and visual continuity.	As discussed in Chapter 3, Project Description, of this EIR, both the Proposed Project and the BRPA would include on-site parks and a greenbelt. The BRPA would also include the preservation of 47.1 acres of existing on-site natural habitat area. In addition, landscaping within the project site/BRPA site would comply with all applicable policies and regulations. As such, the Proposed Project/BRPA would comply with General Plan Policy UD 2.2.
Policy UD 2.3	Require an architectural "fit" with Davis' existing scale for new development projects.	The Proposed Project and/or the BRPA would prezone the site to the City's P-D zone. Section 40.22.110 of the City's Municipal Code establishes the findings required for approval of a Final Planned Development (FPD). For example, pursuant to Section 40.22.110(c), the FPD shall be reviewed by the Planning Commission or the City Council to ensure that any residential development shall constitute a residential environment of sustained desirability and stability in

Table 4.9-2
City of Davis General Plan Consistency Discussion

Policy		Project/BRPA Consistency
		harmony with the character of the surrounding neighborhood, that sites for public facilities are adequate to serve the anticipated population, and that standards for open space are at least equivalent to standards otherwise specified in the Davis Municipal Code. Compliance with the requirements of Section 40.22.110 would ensure that the FPD for the Proposed Project or the BRPA would include specifications related to requiring development of the Proposed Project or the BRPA to be consistent with all applicable plans and ordinances, and to be compatible with surrounding existing uses. Based on the above, the Proposed Project/BRPA would not conflict with General Plan Policy UD 2.3.
Policy UD 2.4	Create affordable and multi-family residential areas that include innovative designs and on-site open space amenities that are linked with public bicycle/pedestrian ways, neighborhood centers, and transit stops.	Both the Proposed Project and the BRPA would include the development of both single- and multi-family residences, including at least 270 affordable multi-family residential units. In addition, both the Proposed Project and the BRPA would include parks, open space, and greenbelts. The Proposed Project and BRPA would include a total of approximately 186 acres of parks, open space, and greenbelts, including the Heritage Oak Park and Village Trails Park, natural vegetation areas along Channel A (including the agricultural buffer), and the greenbelts. As discussed in Chapter 4.13, Transportation, of this EIR, following buildout of the project site/BRPA site, on-site development would be adequately connected with surrounding existing bicycle, pedestrian, and transit facilities consistent with General Plan Policy UD 2.4. Furthermore, the Proposed Project and the BRPA would include the development of public, semi-public, and educational uses, creating a neighborhood center consistent with the policy.
Policy UD 3.2	Provide exterior lighting that enhances safety and night use in public spaces, but minimizes impacts on surrounding land uses.	As discussed under Impact 4.1-3 in Chapter 4.1, Aesthetics, of this EIR, the Proposed Project and the BRPA would be required to comply with Mitigation Measures 4.1-3(a) and 4.1-3(b), which would ensure that a lighting plan is prepared and implemented to minimize light and trespass into adjacent parcels as required by General Plan Policy UD 3.2.
Land Use and Growth Management		
Policy LU A.3	Require a mix of housing types, densities, prices and rents, and designs in each new development area.	As discussed in Chapter 3, Project Description, of this EIR, the Proposed Project and BRPA would include development of a mixed-use community with a total of 1,800 dwelling units, comprised of both affordable and market-rate single- and multi-family residences across various residential neighborhoods.

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City of Davis General Plan Consistency Discussion

Policy		Project/BRPA Consistency
		Residential densities would include low-, medium-, medium-high, and high-density areas. Based on the mix of housing types and densities, the Proposed Project and BRPA would be consistent with General Plan Policy LU A.3.
Policy LU N.5	Require neighborhood greenbelts in all new residential development areas. Require that a minimum of 10 percent of newly-developing residential land be designated for use as open space primarily for neighborhood greenbelts.	As discussed under Impact 4.12-4 in Chapter 4.12, Public Services and Recreation, of this EIR, the greenbelts provided under the Proposed Project would comprise approximately 15.64 percent of the urban development area (which excludes the UATA). As such, the greenbelt acreage under the Proposed Project would satisfy the City's open space requirements for new development. The BRPA would provide approximately 40.8 acres of greenbelts, a 1.1-acre increase from the Proposed Project. As such, the BRPA would also satisfy the City of Davis open space requirements for new development projects. Based on the above, the greenbelts provided under the Proposed Project or the BRPA would comply with General Plan Policy LU N.5.
Policy LU N.6	Prime agricultural land should remain in agricultural production in the wider segments of the Urban Agriculture Transition Area.	The UATA for the Proposed Project/BRPA would be 118.4 acres, which would allow agricultural production to continue in the wider portions of the UATA. As discussed in further detail in Chapter 4.2, Agricultural Resources, of this EIR, because residential development is not proposed within the UATA, which creates a buffer of approximately 2,150 feet between the proposed residences and the northerly agricultural uses, the Proposed Project and the BRPA would not disrupt the ability of the existing agricultural operations to continue as they currently operate consistent with General Plan Policy LU N.6. In addition, the nearest boundary of the proposed North Village to the existing agricultural land to the northwest of the project site/BRPA site is separated by approximately 574 feet. Thus, the Proposed Project and the BRPA would be consistent with the minimum distances between pesticide application and environmentally sensitive areas established by the Yolo County Agricultural Commissioner.
Agriculture, Soils, and Minerals		
Policy AG 1.1	Protect agricultural land from urban development except where the general plan land use map has designated the land for urban uses.	The Yolo County General Plan currently designates the project site/BRPA site as Specific Plan (S-P). Although the project site/BRPA site is within the SOI, the City of Davis has not assigned any land use designations to the project site/BRPA site. The UATA is designated A-N by Yolo County; however, development is not proposed for the UATA. As such, the project site/BRPA site

Table 4.9-2
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Policy		Project/BRPA Consistency
		is not designated for agricultural uses and the Proposed Project/BRPA would comply with General Plan Policy AG 1.1.
Air Quality		
Policy AIR 1.1	Take appropriate measures to meet the AQMD's goal for improved air quality.	All projects within the YSAQMD, including the Proposed Project/BRPA, are required to comply with all YSAQMD rules and regulations during construction and operation, as summarized on page 4.3-34 of this EIR. The YSAQMD also encourages all projects to implement best management practices to reduce dust emissions and avoid localized health impacts. Furthermore, the Proposed Project/BRPA would be required to implement all mitigation measures included in Chapter 4.3, Air Quality, Greenhouse Gas Emissions, and Energy, of this EIR, which would reduce emissions associated with the proposed development to the maximum extent feasible. Overall, the Proposed Project/BRPA would take appropriate measures to meet YSAQMD's air quality goals and would comply with General Plan Policy AIR 1.1.
Transportation		
Policy TRANS 1.5	Strive for carbon-neutrality or better from the transportation component of new residential development.	Chapter 4.3, Air Quality, Greenhouse Gas Emissions, and Energy, of this EIR includes various measures to reduce emissions of greenhouse gasses (GHGs) associated with project operations. Mitigation Measure 4.3-8(a) requires the project proponent to prepare and implement a GHG Reduction Plan to demonstrate a downward trajectory in GHG emissions, towards the goal of zero net GHG emissions by the year 2040. Pursuant to Mitigation Measure 4.3-8(a), in the event that operational emissions are determined to exceed established thresholds, the project would be required to implement reduction measures to further reduce operational emissions. Reduction measures could include preparation of a Transportation Demand Management (TDM) Program, prepared in accordance with the City's Municipal Code. The TDM Program would reduce single-passenger vehicle use and increase use of non-motorized and low-carbon transportation modes. Furthermore, Mitigation Measure 4.3-8(b) requires the owner of the project site/BRPA site to submit a GHG Emissions Reduction Accounting and Program Effectiveness Report for the project every five years. Implementation of Mitigation Measures 4.3-8(a) and 4.3-8(b) would ensure consistency with General Plan Policy TRANS 1.5.
Policy TRANS 1.6	Reduce carbon emissions from the transportation system in Davis by encouraging the use of non-motorized and low carbon transportation modes.	The proposed project would provide for mixed-use development within the City. Existing and planned bicycle lanes and pedestrian walkways in the project vicinity would allow for high pedestrian and bicycle connectivity between the

Table 4.9-2
City of Davis General Plan Consistency Discussion

Policy		Project/BRPA Consistency
		project site/BRPA site and existing uses within the project vicinity. Thus, the project encourages non-motorized transportation and would comply with General Plan Policy TRANS 1.6.
Policy TRANS 1.7	Promote the use of electric vehicles and other low-polluting vehicles, including Neighborhood Electric Vehicles (NEV).	As discussed in Chapter 4.3, Air Quality, Greenhouse Gas Emissions, and Energy, of this EIR, the Proposed Project and the BRPA would both include the provision of EV charging infrastructure, as required by Section 8.01.110 of the Municipal Code and consistent with General Plan Policy TRANS 1.7. The non-residential and residential EV charging station standards required by Section 8.01.110 of the Municipal Code are presented in Table 4.3-6 and Table 4.3-7 of this EIR.
Policy TRANS 1.8	Develop and maintain a work trip-reduction program designed to reduce carbon emissions, criteria pollutants, and local traffic congestion.	Policy TRANS 1.8 is intended to develop a Citywide work trip-reduction program, which has not yet been developed by the City. Nonetheless, Mitigation Measures 4.13-3(a) and 4.13-3(b) would require the Proposed Project/BRPA to implement TDM strategies to reduce VMT and ensure consistency with General Plan Policy TRANS 1.8 to the maximum extent feasible.
Policy TRANS 2.4	As part of the initial project review for any new project, a project-specific traffic study may be required. Studies shall identify impacted transportation modes and recommend mitigation measures designed to reduce these impacts to acceptable levels.	In preparation of this EIR and consistent with General Plan Policy TRANS 2.4, Fehr & Peers conducted Transportation Impact Studies for both the Proposed Project and the BRPA. The Transportation Impact Studies evaluated the effects of the Proposed Project and the BRPA on new and planned transportation infrastructure, and provided mitigation to reduce potential impacts to the maximum extent feasible.
Policy TRANS 2.5	Create a network of street and bicycle facilities that provides for multiple routes between various origins and destinations.	Consistent with General Plan Policy TRANS 2.5, the Proposed Project and the BRPA would construct new pedestrian and bicycle facilities and expand the local network as follows: • Construction of new Class I shared-use paths along the Pole Line Road (west side) and East Covell Boulevard (north side) project site/BRPA site frontages; • Construction of new Class I shared-use path connections at the existing Cannery Avenue/Cannery Loop, East Covell Boulevard/L Street, Pole Line Road/Picasso Avenue, Pole Line Road/Donner Avenue, and Pole Line Road/Moore Boulevard intersections; • Construction of new Class I shared-use path connection between the project site/BRPA site and the existing Cannery Loop shared-use path at the northeast corner of the Cannery neighborhood;

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Policy		Project/BRPA Consistency

		• Construction of new Class I shared-use paths along the Cannery Loop, L Street, Picasso Avenue, and Donner Avenue roadway extensions into the project site/BRPA site;
		• Construction of new Class I shared-use paths along greenbelts and drainage channels and within Heritage Oak Park located internal to the project site/BRPA site;
		• Construction of new sidewalks on both sides of roadways internal to the project site/BRPA site;
		• Construction of the following modifications at existing intersections:
		  ○ East Covell Boulevard/L Street – New north leg and accompanying signal modifications;
		  ○ Pole Line Road/Picasso Avenue – New west leg and signal;
		  ○ Pole Line Road/Donner Avenue – New west leg and signal; and
		  ○ Pole Line Road/Moore Boulevard – New west leg and roundabout.
		
		The foregoing improvements would support the implementation of planned pedestrian and bicycle improvements, including the construction of new Class I shared-use paths on the north side of East Covell Boulevard between J Street and Pole Line Road and on the west side of Pole Line Road, as identified in the ECCP. As such, neither the Proposed Project nor the BRPA would interfere with the implementation of planned future pedestrian or bicycle facilities.

Policy TRANS 3.1	Facilitate the provision of convenient, reliable, safe, and attractive fixed route, commuter, and demand responsive public transportation that meets the needs of the Davis community, including exploring innovative methods to meet specialized transportation needs.	As discussed under Impact 4.13-3 in Chapter 4.13, Transportation, of this EIR, the project site/BRPA site is located in close proximity to five existing bus stops, and the Proposed Project and the BRPA include the construction of a new bus stop on East Covell Boulevard at L Street. Furthermore, Mitigation Measure 4.13-3(b) would require the completion of a Transit Service and Facilities Plan for the area encompassing the project site/BRPA site and other development along the north side of the Covell Boulevard and Mace Boulevard corridor between the westerly city limits and the I-80 interchange. The Transit Service and Facilities Plan would provide funding for future transit facilities improvements. Overall, the Proposed Project/BRPA would not conflict with General Plan Policy TRANS 3.1.
Policy TRANS 3.3	Require new development to be designed to maximize transit potential.	See the response to Policy TRANS 3.1 above.

Table 4.9-2
City of Davis General Plan Consistency Discussion

Policy		Project/BRPA Consistency
Policy TRANS 4.2	Develop a continuous trails and bikeway network for both recreation and transportation that serves the Core, neighborhoods, neighborhood shopping centers, employment centers, schools and other institutions; minimize conflicts between pedestrians, bicyclists, equestrians, and automobiles; and minimize impacts on wildlife. Greenbelts and separated bike paths on arterials should serve as the backbone of much of this network.	See the response to Policy TRANS 2.5 above.
Policy TRANS 4.4	Provide pedestrian and bicycle amenities.	Consistent with General Plan Policy TRANS 4.4, the Proposed Project and the BRPA would include several improvements to the bicycle and pedestrian network within the City, such as construction of new bicycle lanes, bicycle and pedestrian crossings, and incorporation of signage and traffic-calming measures to improve mode-share safety on internal roadways used by bicyclists.
Policy TRANS 4.7	Develop a system of trails around the edge of the City and within the City for recreational use and to allow pedestrians and bicyclists to reach open space and natural areas.	See the response to Policy TRANS 2.5 above.
Energy		
Policy ENERGY 1.3	Promote the development and use of advanced energy technology and building materials in Davis.	The Proposed Project and the BRPA would both be built in compliance with the requirements of the CalGreen Tier 1 standards, as required by Section 8.01.090 of the Municipal Code. In addition, neither the Proposed Project nor the BRPA would include the use of natural gas and all on-site residents would also have the opportunity to opt into receiving energy from Valley Clean Energy (VCE). As such, the Proposed Project/BRPA would not conflict with General Plan Policy ENERGY 1.3.
Policy ENERGY 1.5	Encourage the development of energy-efficient subdivisions and buildings.	The potential for the Proposed Project and the BRPA to result in the inefficient or wasteful use of energy, or conflict with a State or local plan for renewable energy or energy efficiency is analyzed under Impact 4.3-5 of this EIR. Based on the analysis included therein, the impact related to such was determined to be less than significant.

Table 4.9-2
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Policy		Project/BRPA Consistency
Habitat, Wildlife, and Natural Areas		
Policy HAB 1.1	Protect existing natural habitat areas, including designated Natural Habitat Areas.	The Proposed Project/BRPA would be subject to payment of applicable Yolo HCP/NCCP habitat conversion fees. In addition, the BRPA would include a preserved Natural Habitat Area, comprised of 47.1 acres of Alkali Prairie Yolo HCP/NCCP land cover that occurs around an alkali playa south of Channel A. Based on the above, the Proposed Project/BRPA would not conflict with General Plan Policy HAB 1.1.
Policy HAB 1.2	Enhance and restore natural areas and create new wildlife habitat areas.	See response to Policy HAB 1.1 above.
Historic and Archaeological Resources		
Policy HIS 1.2	Incorporate measures to protect and preserve historic and archaeological resources into all planning and development.	Consistent with General Plan Policy HIS 1.2, Chapter 4.5, Cultural and Tribal Cultural Resources, of this EIR includes various measures to ensure adverse effects to unknown historic and archaeological resources associated with the Proposed Project/BRPA, should they be discovered during construction, are avoided.
Policy HIS 1.3	Assist and encourage property owners and tenants to maintain the integrity and character of historic resources, and to restore and reuse historic resources in a manner compatible with their historic character.	Consistent with General Plan Policy HIS 1.3, Chapter 4.5, Cultural and Tribal Cultural Resources, of this EIR includes mitigation to ensure impacts to historic resources associated with the project site/BRPA site are reduced. Mitigation Measure 4.5-1 requires review of final improvement plans associated with the railroad segment located within the conceptual landing footprint of the landing area associated with the grade-separated crossing at F Street. Pursuant to Mitigation Measure 4.5-1, the off-site improvements associated with the Proposed Project and BRPA would be required to comply with the guidelines outlined in The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, & Reconstructing Historic Buildings.
Hazards		
Policy HAZ 1.1	Site and design developments to prevent flood damage.	The Proposed Project/BRPA meets all five criteria to be subject to Senate Bill 5. Therefore, the Proposed Project/BRPA would be subject to the requirements of the Urban Level of Flood protection (ULOP) and would be prohibited from developing residential uses within a 200-year floodplain with a potential flood depth above three feet. While the City of Davis requires elevation of pads one foot above the base flood elevation (BFE), final grades for the Proposed Project/BRPA would be based upon the elevations resulting from the Hydraulic Modeling conducted for the Proposed Project and BRPA, which is based on the

Table 4.9-2
City of Davis General Plan Consistency Discussion

Policy		Project/BRPA Consistency
		200-year recurrence interval storm. Based on the above, the Proposed Project/BRPA would comply with General Plan Policy HAZ 1.1.
Policy HAZ 2.1	Take necessary precautions to minimize risks associated with soils, geology and seismicity.	Risks associated with soils, geology, and seismicity are discussed in Chapter 4.6, Geology and Soils, of this EIR. As discussed therein, development of the Proposed Project or the BRPA would not directly or 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, and landslides. In addition, as discussed under Impact 4.6-3, the project site/BRPA site is not located on a geological unit or soil that is or would become unstable, and would not result in on- or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse, and would not be located on expansive soil. Nevertheless, out of an abundance of caution, Mitigation Measure 4.6-3 requires preparation of a design-level geotechnical engineering report by a California Registered Civil Engineer or Geotechnical Engineer to the City of Davis Building Division, for review and approval by the City. Implementation of recommendations in the design-level geotechnical engineering report would ensure that risks associated with soils, geology, and seismicity are reduced to a less-than-significant level. As a result, the Proposed Project/BRPA would comply with General Plan Policy HAZ 2.1.
Policy HAZ 4.3	Reduce the potential for pesticide exposure for people, wildfire, and the environment.	As discussed in Chapter 4.2, Agricultural Resources, the Proposed Project and BRPA would satisfy the agricultural buffer requirements established by the Davis Municipal Code and would include an agricultural buffer that exceeds the minimum distances between pesticide application and environmentally sensitive areas established by the Yolo County Agricultural Commissioner. Notwithstanding, it is noted that the potential adverse effects of pesticides from adjacent agricultural operations onto future project residents is considered an effect of the environment on the proposed project, which is outside the scope of CEQA. Based on the above, the Proposed Project/BRPA would not conflict with General Plan Policy HAZ 4.3.
Policy HAZ 5.1	Reduce the combined load of pollutants generated in the City's wastewater, stormwater and solid waste streams. Such pollutants include,	As discussed under Impact 4.8-2 in Chapter 4.8, Hydrology and Water Quality, of this EIR, the Proposed Project/BRPA would be subject to the requirements of the City's Municipal Separate Storm Sewer System (MS4) Permit (NPDES General Permit No. CAS000004, Order No. 2013-0001-DWQ) related to post-

Table 4.9-2
City of Davis General Plan Consistency Discussion

Policy		Project/BRPA Consistency
	but are not limited to toxic and hazardous substances.	construction stormwater treatment, pursuant to the National Pollutant Discharge Elimination System (NPDES) Phase II program. Low Impact Development (LID) measures would be integrated throughout the project site/BRPA site to provide stormwater quality treatment. The LID measures are anticipated to include both volume-based best management practices (BMPs) (e.g., bioretention, infiltration features, pervious pavement, etc.) and flow-based BMPs (e.g., vegetated swales, stormwater planter, etc.). The BMPs would be designed in accordance with the stormwater quality control standards established by Davis Municipal Code Article 30.03 and the CASQA – California Stormwater BMP Handbook. The wastewater generated on-site would be typical of standard residential and neighborhood commercial uses and would be discharged directly into the City's public wastewater system, avoiding any potential adverse pollutant load for the downstream WWTP. Based on the above, the Proposed Project/BRPA would not conflict with General Plan Policy HAZ 5.1.
Water		
Policy WATER 1.2	Require water conserving landscaping.	The project would be required to comply with Chapter 40.42, Water Efficient Landscaping, of the City's Municipal Code, which includes specific for the efficient use of water, including within landscaped areas. As such, the Proposed Project/BRPA would comply with General Plan Policy WATER 1.2.
Policy WATER 1.3	Do not approve future development within the City unless an adequate supply of quality water is available or will be developed prior to occupancy.	As discussed in Chapter 4.14, Utilities and Service Systems, of this EIR, based on the results of the Water Supply Assessment prepared for the project pursuant to SB 610/California Water Code, sufficient water supply is available to serve the Proposed Project's operational water demand and reasonably foreseeable future development during normal, dry, and multiple dry years. Based on the above, the Proposed Project/BRPA would not conflict with General Plan Policy WATER 1.3.
Policy WATER 2.1	Provide for the current and long-range water needs of the Davis Planning Area, and for protection of the quality and quantity of groundwater resources.	As discussed under Impact 4.14-2 in Chapter 4.14, Utilities and Service Systems, of this EIR, the City would have sufficient water supplies available to serve buildout of the Proposed Project and the BRPA, as well as reasonably foreseeable future development, during normal, dry, and multiple dry years. In addition, a discussion of impacts related to groundwater quality and supply is

Table 4.9-2
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Policy		Project/BRPA Consistency
		provided under Impact 4.8-3 in Chapter 4.8, Hydrology and Water Quality, of this EIR. As discussed therein, the project site/BRPA site is not considered an important groundwater recharge area, and the Proposed Project/BRPA would not involve increased demand on groundwater supplies within an area in a state of overdraft. Thus, the Proposed Project/BRPA would not create a conflict with, or impede the implementation of, a sustainable groundwater plan and would comply with General Plan Policy WATER 2.1.
Policy WATER 2.2	Manage groundwater resources so as to preserve both quantity and quality.	See the response to Policy WATER 2.1 above.
Policy WATER 2.3	Maintain surface water quality.	A discussion of impacts related to surface water quality is provided under Impacts 4.8-1 and 4.8-2 in Chapter 4.8, Hydrology and Water Quality, of this EIR. As discussed therein, with implementation of mitigation requiring a NPDES General Construction Permit and a final Stormwater Control Plan, the proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water quality during construction or operation. As a result, the Proposed Project/BRPA would comply with General Plan Policy WATER 2.3.
Policy WATER 3.1	Coordinate and integrate development of storm ponds and channels City-wide, to maximize recreational, habitat and aesthetic benefits.	As part of the Proposed Project/BRPA, Channel A would be rerouted from the northwest corner of the project site/BRPA site to convey flows along the northern site boundary to a new stormwater detention basin. The realigned Channel A would coincide with a portion of the UATA, with additional UATA to the north to provide a 118.4-acre buffer between the project site/BRPA site and the agricultural land to the north. Based on the above, the Proposed Project/BRPA would not conflict with General Plan Policy WATER 3.1.
Policy WATER 3.2	Coordinate and integrate design, construction, and operation of proposed stormwater retention and detention facilities City-wide, to minimize flood damage potential and improve water quality.	As discussed in Chapter 4.8, Hydrology and Water Quality, the proposed project/BRPA would not result in significant impacts related to flood flow or water quality. As such, the Proposed Project/BRPA would not conflict with General Plan Policy WATER 3.2.
Policy WATER 5.1	Evaluate the wastewater production of new large scale development prior to approval to ensure that it will fall within the capacity of the plant.	Consistent with General Plan Policy WATER 5.1 and as demonstrated in Chapter 4.14, Utilities and Service Systems, of this EIR, adequate capacity exists at the City's wastewater treatment plant (WWTP) to treat the wastewater that would be generated by the Proposed Project or BRPA.

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Policy		Project/BRPA Consistency
Noise		
Policy NOISE 1.1	Minimize vehicular and stationary noise sources, and noise emanating from temporary activities.	As discussed in Chapter 4.10, Noise, of this EIR, noise related to temporary construction activities would be reduced to a less-than-significant level with implementation of Mitigation Measure 4.10-1. Therefore, with implementation of Mitigation Measure 4.10-1, the Proposed Project/BRPA would comply with General Plan Policy NOISE 1.1.
Policy NOISE 2.1	Take all technically feasible steps to ensure that interior noise levels can be maintained at the levels shown in Table 20.	As discussed under Impact 4.10-2, neither the Proposed Project nor the BRPA would result in the generation of a substantial permanent increase in ambient noise levels at existing sensitive receptors located along local roadways or in the vicinity of the project site/BRPA site. Thus, interior noise levels nearby sensitive receptors would not exceed the standards in General Plan Table 20 and the Proposed Project/BRPA would comply with General Plan Policy NOISE 2.1.
Police and Fire		
Policy POLFIRE 1.2	Develop and maintain the capacity to reach all areas of the City with emergency police and fire service within a five-minute emergency response time, 90% of the time. Response time included alarm processing, turnout time, and travel time.	Consistent with General Plan Policy POLFIRE 1.2, and as discussed under Impact 4.12-1 in Chapter 4.12, Public Services and Recreation, of this EIR, the Proposed Project and BRPA would dedicate a site along East Covell Boulevard for construction of a new fire station to maintain sufficient emergency response times to the Proposed Project/BRPA and surrounding area.
Policy POLFIRE 3.1	Provide adequate infrastructure to fight fires in Davis.	Consistent with General Plan Policy POLFIRE 3.1, the Proposed Project/BRPA would include the development of a fire station, which would allow the DFD to provide fire protection services to the Proposed Project or BRPA, as well as to existing residential development located in the general north Davis area.
Policy POLFIRE 3.2	Ensure that all new development includes adequate provisions for fire safety.	As discussed under Impact 4.15-2 in Chapter 4.15, Wildfire, of this EIR, the California Fire Code (CFC) requires that an automatic fire sprinkler and/or fire extinguishing system be installed throughout new one- and two-family dwellings and commercial buildings 3,600 sf and larger. In addition, the Proposed Project/BRPA would be subject to the applicable provisions set forth in Appendix B of the CFC, which contains requirements for buildings related to water supply for the purposes of fire flow. Based on the above, the Proposed Project/BRPA would comply with General Plan Policy POLFIRE 3.2.
Policy POLFIRE 3.3	Make fire protection services visible and accessible to Davis residents.	See response to Policy POLFIRE 1.2 above.

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Policy		Project/BRPA Consistency
Youth and Education		
Policy Y&E 8.1	It shall be the policy of the City to require to the extent legally permissible the full mitigation of school impacts resulting from new residential development within the boundaries of the City.	The project would be required to pay school impact fees to the Davis Joint Unified School District (DJUSD) in accordance with the requirements of Senate Bill 50. The Proposed Project and BRPA would also include a DJUSD Pre-kindergarten (Pre-K) Early Learning Center located on 2.4 acres in the south-central portion of the project site/BRPA site. The Pre-K Early Learning Center would offer the combined services of preschool and daycare, with early education curriculum and childcare. The Proposed Project and BRPA would also include an educational farm dedicated to the DJUSD in the northeast portion of the project site/BRPA site to teach agricultural values and methods in an outdoor classroom environment. Thus, the school sites would help address the number of new students generated by the new residential units and the Proposed Project/BRPA would not conflict with General Plan Policy Y&E 8.1.
Policy Y&E 9.1	It shall be the policy of the City to take all legally permissible steps to ensure the full mitigation of impacts of new development on school facilities	See response to Policy Y&E 8.1 above.
Parks and Open Space		
Policy POS 1.5	Attempt to provide all City residents with convenient access to parks and recreation programs and facilities.	See response to policy POS 1.4 above.
Policy POS 1.7	Use all available mechanisms for preservation of open space.	See response to Policy LU A.5.
Policy POS 2.1	Develop the Urban Agricultural Transition Area to have segments which vary in overall size and configuration, level of development, and type of intended activity.	Both the Proposed Project and the BRPA include a UATA that would extend 2,000 feet to the north, between F Street and the Davis Paintball/Blue Max Kart Club. The expanded UATA would exceed the City minimum 150-foot buffer requirement and would create a natural vegetation and wildlife area. In addition, the realigned Channel A would coincide with a portion of the UATA along the northwestern boundary, with additional UATA to the north to provide a 118.4-acre buffer between the project site/BRPA site and the agricultural land to the north. The UATA would not be developed with additional uses as part of the Proposed Project or the BRPA. The UATA developed under the Proposed Project or BRPA would vary in size, configuration, and type from the existing UATA buffer located adjacent to the Cannery Farm and Cannery subdivision, which includes demonstration gardens, community space, and a drainage

Table 4.9-2
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Policy		Project/BRPA Consistency
		corridor. Based on the above, the Proposed Project/BRPA would be consistent with General Plan Policy POS 2.1.
Policy POS 3.1	Require creation of neighborhood greenbelts by project developers in all residential projects, in accordance with Policy LU A.5.	See response to Policy LU A.5.
Policy POS 4.2	Construct new parks and recreation facilities.	Consistent with General Plan Policy POS 4.2, and as discussed under Impact 4.12-4 in Chapter 4.12, Public Services and Recreation, of this EIR, the Proposed Project would include a total of approximately 186.0 acres of parks, open space, and greenbelts, including the Heritage Oak Park and Village Trails Park, natural vegetation areas along Channel A (including the agricultural buffer), and the greenbelts. Both parks would include playfields, at least one playground, and open turf areas. The BRPA would include the same Heritage Oak Park, UATA, and natural vegetation areas along Channel A. The Village Trails Park acreage would be slightly reduced under the BRPA, and the greenbelt acreage would be slightly increased. In addition, the BRPA would preserve an approximately 47.1-acre Natural Habitat Area and associated watershed occurring around the alkali playa located south of Channel A. Park design would comply with all applicable City design standards, as confirmed by City review and approval of either the Proposed Project or BRPA.
Policy POS 6.2	Require dedication of land and/or payment of an in-lieu fee for park and recreational purposes as a condition of approval for subdivisions, as allowed by the Quimby Act (Government Code 66477).	As discussed in Chapter 4.12, Public Services and Recreation, of this EIR, Section 36.08.040 of the City's Municipal Code requires the provision of 0.0131 acres of parkland per dwelling unit. Based on the total of 1,800 new dwelling units, the Proposed Project and BRPA would be required to provide 23.58 acres of parkland. Fees may be approved in lieu of parkland dedication, but the City does not have a practice of allowing parkland to be reduced in large subdivisions. Because the Proposed Project would include 27.8 acres between two parks and the BRPA would provide 27.1 acres between two parks, both the Proposed Project and BRPA would dedicate sufficient land to meet the City's requirements, and payment of in-lieu fees would not be required. Based on the above, the Proposed Project/BRPA would not conflict with General Plan Policy POS 6.2.

4.10. Noise

4.10 NOISE

4.10.1 INTRODUCTION

The Noise chapter of the EIR describes the existing noise environment in the project vicinity, and identifies potential impacts and mitigation measures related to noise and vibration associated with construction and operation of the Proposed Project and Biological Resources Preservation Alternative (BRPA). The methods by which the potential impacts are analyzed are discussed, followed by the identification of potential impacts and the recommended mitigation measures designed to reduce significant noise and vibration impacts to less-than-significant levels, if required. The Noise chapter is primarily based on the Environmental Noise Assessment (Noise Assessment) prepared for the Proposed Project (see Appendix P of this EIR)[1] and the Supplemental Noise Analysis prepared for the BRPA (see Appendix Q of this EIR)[2] by Saxelby Acoustics (Saxelby), as well as the City of Davis General Plan.[3]

4.10.2 EXISTING ENVIRONMENTAL SETTING

The Existing Environmental Setting section provides background information on noise and vibration, a discussion of acoustical terminology and the effects of noise on people, existing sensitive receptors in the project vicinity, existing sources and noise levels in the project vicinity, and groundborne vibration.

Fundamentals of Acoustics

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 therefore, may be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

The decibel scale was devised to measure sound. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0.0 dB. Other sound pressures are then compared to the 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 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. A strong correlation exists between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For such reason, the A-weighted sound level has become the standard tool of environmental noise assessment.

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1 Saxelby Acoustics, LLC. *Environmental Noise Assessment, Village Farms EIR*. November 21, 2024.
2 Saxelby Acoustics, LLC. *BRPA Supplemental Noise Analysis – Village Farms EIR – City of Davis, California.* October 7, 2024.
3 City of Davis. *City of Davis General Plan.* Adopted May 2001, Amended January 2007.

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, day/night average level (L_{dn}), and shows very good correlation with community response to noise.

The L_{dn} is based upon the average noise level over a 24-hour day, with a +10 dBA weighing applied to noise occurring during nighttime hours (10:00 PM to 7:00 AM). 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, the noise measurement tends to disguise short-term variations in the noise environment.

The Community Noise Equivalent Level (CNEL) is defined as the 24-hour average noise level with noise occurring during evening hours (7:00 PM to 10:00 PM) weighted by +5.0 dBA, and nighttime hours weighted by +10.0 dBA. The L_{max} is defined as the highest root-mean-square (RMS) sound level measured over a given period of time. The Sound Exposure Level (SEL) is a rating, in decibels, of a discrete event, such as aircraft flyover or train pass by, that compresses the total sound energy into a one-second event.

Table 4.10-1 below lists several examples of the noise levels associated with common situations.

Table 4.10-1
Typical Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
N/A	110	Rock Band
Jet Fly-over at 300 meters (1,000 feet)	100	N/A
Gas Lawn Mower at 1 meter (3 feet)	90	N/A
Diesel Truck at 15 meters (50 feet), at 80 km/hr (50 mph)	80	Food Blender at 1 meter (3 feet) Garbage Disposal at 1 meter (3 feet)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 meters (100 feet)	70	Vacuum Cleaner at 3 meters (10 feet)
Commercial Area Heavy Traffic at 90 meters (300 feet)	60	Normal Speech at 1 meter (3 feet)
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)
N/A	10	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

Source: Saxelby Acoustics, LLC, 2024.

Stationary sources of noise, including construction equipment, attenuate at a rate of approximately 6.0 dB per doubling of distance from the source depending on ground absorption. Physical barriers located between a noise source and the noise receptor, such as berms or sound walls, increase the efficacy of noise attenuation that occurs by distance alone. 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.

Surrounding Land Uses and Existing Sensitive 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 most 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/BRPA site, sensitive land uses include residential uses to the west, south, and east of the project site.

Existing Ambient Noise Environment

The existing ambient noise environment in the project vicinity is primarily defined by traffic on East Covell Boulevard and Pole Line Road. The Union Pacific Railroad (UPRR) also contributes to noise at the project site/BRPA site. To quantify the existing ambient noise environment in the project vicinity, Saxelby conducted continuous (24-hour) noise level measurements at four locations on the site and a short-term noise measurement at one location on the site, as shown in Figure 4.10-1. The sound level meters were programmed to record the maximum, median, and average noise levels at each measurement location during the survey. The maximum value, denoted as L_{max}, represents the highest noise level measured. The average value, denoted as L_{eq}, represents the energy average of all of the noise received by the sound level meter microphone during the monitoring period. The median value, denoted as L_{50}, represents the sound level exceeded 50 percent of the time during the monitoring period. A summary of the noise level measurement survey results is provided in Table 4.10-2.

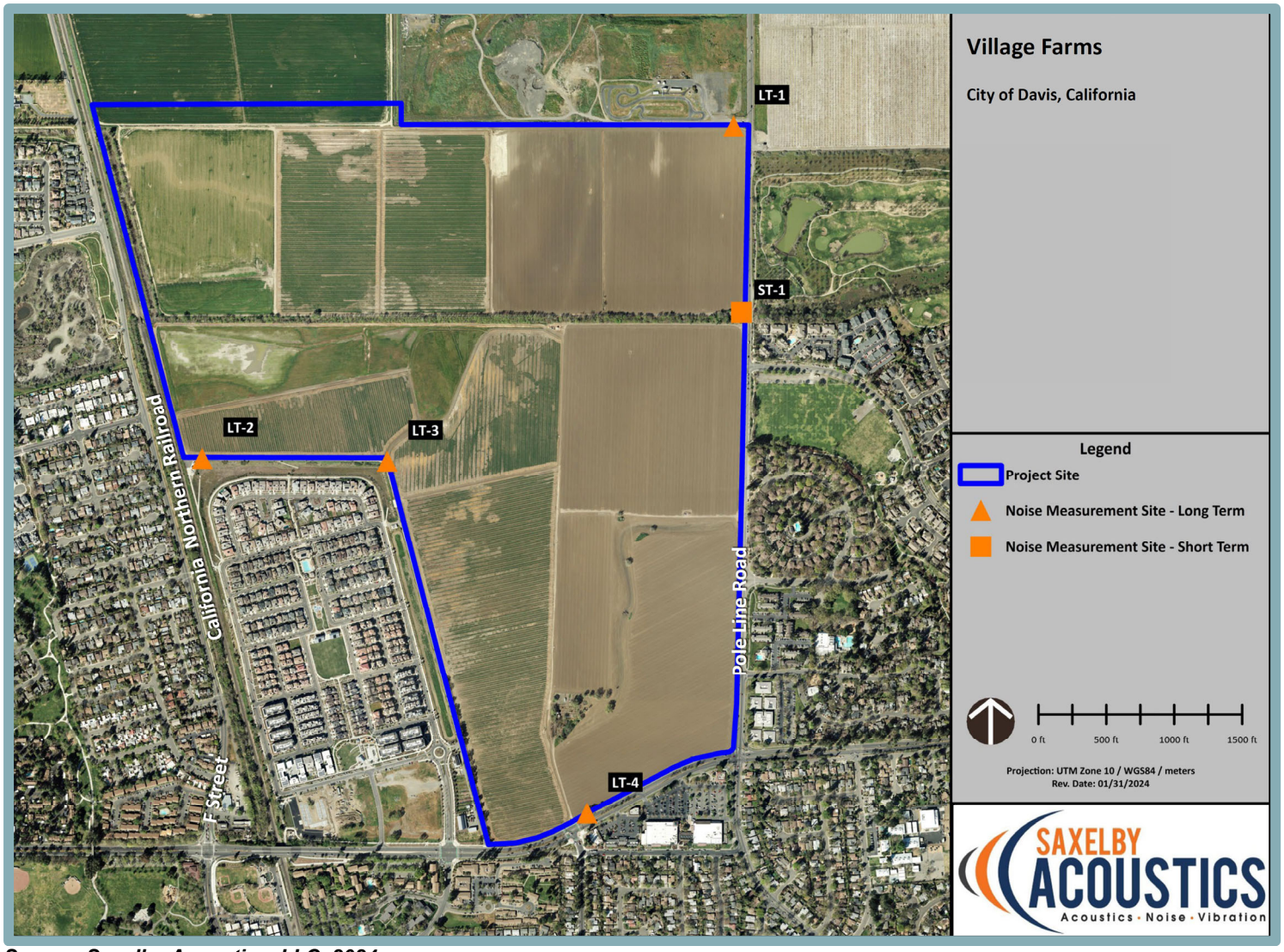
Table 4.10-2
Existing Background Noise Measurement Data

Location	Date	L_{dn}	Daytime L_{eq}	Daytime L_{50}	Daytime L_{max}	Nighttime L_{eq}	Nighttime L_{50}	Nighttime L_{max}
LT-1:	1/29/24	63	61	59	74	55	42	72
LT-2:	1/29/24	53	49	47	62	46	43	57
LT-3:	1/29/24	49	43	40	59	42	40	52
LT-4:	1/29/24	68	66	62	81	78	49	78
ST-1	1/29/24	N/A	66	62	80	N/A	N/A	N/A

Notes:
- All values are shown in dBA.
- Daytime hours: 7:00 AM to 10:00 PM.
- Nighttime hours: 10:00 PM to 7:00 AM.

Source: Saxelby Acoustics, LLC, 2024.

Figure 4.10-1
Noise Measurement Locations



Source: Saxelby Acoustics, LLC, 2024.

Existing Traffic Noise Levels

The Federal Highway Administration (FHWA) Traffic Noise Model (FHWA-RD-77-108) was used to calculate existing noise levels due to traffic, expressed in DNL, for roadways within the project vicinity. The approach used to evaluate existing traffic noise levels is discussed in the Method of Analysis section of this chapter. Traffic data for existing conditions were obtained from the transportation consultant, Fehr & Peers.

Traffic noise levels are predicted at the sensitive receptors located at the closest typical setback distance along each project vicinity roadway segment, as summarized in Table 4.10-3. 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 4.10-3
Existing Traffic Noise Levels

Roadway	Segment	Existing Exterior Noise Level (dBA L_{dn}) at Closest Sensitive Receptors
East Covell Boulevard	West of Market Avenue	65.9
East Covell Boulevard	East of Cannery Avenue	60.3
East Covell Boulevard	East of Pole Line Road	62.4
Cannery Loop	West of Cannery Avenue	51.1
Pole Line Road	North of Picasso Avenue	63.4
Pole Line Road	North of Donner Avenue	64.4
Pole Line Road	North of Moore Boulevard	66.9
J Street	South of East Covell Boulevard	56.5
L Street	South of East Covell Boulevard	55.8

Source: Saxelby Acoustics, LLC, 2024.

Fundamentals of Vibration

Vibration is similar to noise in that both involve a source, a transmission path, and a receiver. However, while noise is generally considered to be pressure waves transmitted through air, vibration is usually associated with transmission through the ground or structures. As with noise, vibration consists of an amplitude and frequency. A person's response to vibration depends on their individual sensitivity, as well as the amplitude and frequency of the source.

Vibration can be described in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration in terms of velocity in inches per second (in/sec) peak particle velocity (PPV) or root-mean-square (VdB, RMS). Standards pertaining to perception, as well as damage to structures, have been developed for vibration in terms of PPV and RMS velocities. As vibrations travel outward from the source, they excite the particles of rock and soil through which they pass and cause them to oscillate. Differences in subsurface geologic conditions and distance from the source of vibration result in different vibration levels characterized by different frequencies and intensities. In all cases, vibration amplitudes decrease with increasing distance.

Human response to vibration is difficult to quantify. Vibration can be felt or heard well below the levels that produce any damage to structures. The duration of the event has an effect on human response, as does frequency. Generally, as the duration and vibration frequency increase, the potential for adverse human response increases. Operation of construction equipment and construction techniques generate ground vibration. Roadway traffic can also be a source of such vibration. At high enough amplitudes, ground vibration has the potential to damage structures

and/or cause cosmetic damage. However, traffic rarely generates vibration amplitudes high enough to cause structural or cosmetic damage.

Existing Ambient Vibration Environment

Sources of substantial ground vibration do not occur in the project vicinity. The existing vibration levels within the project site/BRPA site are below the threshold of perception.

4.10.3 REGULATORY CONTEXT

In order to limit exposure to physically and/or psychologically damaging noise levels, the State of California, various county governments, and most municipalities in the State have established standards and ordinances to control noise. Applicable federal laws or regulations pertaining to noise or vibration that would directly apply to the Proposed Project or BRPA do not exist. The following provides a general overview of the existing State and local regulations that are relevant to the Proposed Project or BRPA.

State Regulations

The following are the State environmental laws and policies relevant to noise and vibration.

California Building Code

The California Building Code (Title 24, Part 2 of the California Code of Regulations [CCR]) establishes uniform minimum noise insulation performance standards to protect persons within new buildings that house people, including hotels, motels, dormitories, apartment houses, and dwellings other than single-family dwellings.

Title 24 mandates that interior noise levels attributable to exterior sources cannot exceed 45 dB L_{dn} or CNEL in any habitable room. Title 24 also requires that for structures containing noise-sensitive uses to be located where the L_{dn} or CNEL exceeds 60 dB, an acoustical analysis must be prepared to identify mechanisms for limiting exterior noise to the prescribed allowable interior levels. If the allowable interior noise levels are met by requiring that windows be kept closed, the design for the structure must also specify a ventilation or air conditioning system to provide a habitable interior environment.

Local Regulations

The following are the local environmental goals and policies relevant to noise and vibration.

City of Davis General Plan

The following goals and policies from the City's General Plan related to noise and vibration are applicable to the Proposed Project and BRPA.

Noise Chapter

Goal NOISE 1 Maintain community noise levels that meet health guidelines and allow for a high quality of life.

Policy NOISE 1.1 Minimize vehicular and stationary noise sources, and noise emanating from temporary activities.

Standard a The City shall strive to achieve the "normally acceptable" exterior noise levels shown in

Table 19 (see Table 4.10-4) and the target interior noise levels in Table 20 (see Table 4.10-5) in future development areas and in currently developed areas.

Table 4.10-4
Exterior Noise Level Standards

Land Use Category	Community Noise Exposure L_{dn} or CNEL, dBA			
	Normally Acceptable	Conditionally Acceptable	Unacceptable	Clearly Unacceptable
Residential	Under 60	60-70[1]	70-75	Above 75
Transient Lodging – Motels, Hotels	Under 60	65-75	75-80	Above 80
Schools, Libraries, Churches, Hospitals, Nursing Homes	Under 60	60-70	70-80	Above 80
Auditoriums, Concert Halls, Amphitheaters	Under 50	50-70	N/A	Above 70
Sports Arenas, Outdoor Spectator Sports	N/A	Under 75	N/A	Above 75
Playgrounds, Neighborhood Parks	Under 70	N/A	70-75	Above 75
Golf Courses, Riding Stables, Water Recreation, Cemeteries	Under 70	N/A	70-80	Above 80
Office Buildings, Business Commercial and Professional	Under 65	65-75	Above 75	N/A
Industrial, Manufacturing, Utilities, Agriculture	Under 65	70-80	Above 80	N/A

Normally Acceptable: Specified land use is satisfactory based upon the assumption that all buildings involved are of conventional construction, without special noise insulation requirements.
Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is conducted, and needed noise attenuation features are included in the construction or development.
Normally Unacceptable: New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be conducted and needed noise attenuation features shall be included in the construction or development.
Clearly Unacceptable: New construction or development shall not be undertaken.
N/A: Not applicable.

[1] The City Council shall have discretion within the "conditionally acceptable" range for residential use to allow noise levels in outdoor spaces to go up to 65 dBA if cost effective or aesthetically acceptable measures are not available to reduce noise levels in outdoor spaces to the "normally acceptable" levels. Outdoor spaces which are designed for visual use only (for example, streetside landscaping in an apartment project), rather than outdoor use space, may be considered acceptable up to 70 dBA.

Source: City of Davis General Plan, Table 19, January 2007.

Table 4.10-5
Standards for Interior Noise Levels

Use	Noise Level (dBA)
Residences, Schools Through Grade 12, Hospitals and Churches	45
Offices	55

Source: City of Davis General Plan, Table 20, January 2007.

Standard b New development shall generally be allowed only in areas where exterior and interior noise levels consistent with Table 19 (see Table 4.10-4) and Table 20 (see Table 4.10-5) can be achieved.

Standard c New development and changes in use shall generally be allowed only if they will not adversely impact attainment within the community of the exterior and interior noise standards shown in Table 19 (see Table 4.10-4) and Table 20 (see Table 4.10-5). Cumulative and project specific impacts by new development on existing residential land uses shall be mitigated consistent with the standards in Table 19 (see Table 4.10-4) and Table 20 (see Table 4.10-5).

Standard d Required noise mitigation measures for new and existing housing shall be provided with the first stage and prior to completion of new developments or the completion of capacity-enhancing roadway changes wherever noise levels currently exceed or are projected within 5 years to exceed the normally acceptable exterior noise levels in Table 19 (see Table 4.10-4).

Policy NOISE 1.2 Discourage the use of sound walls whenever alternative mitigation measures are feasible, while also facilitating the construction of sound walls where desired by the neighborhood and there is no other way to reduce noise to acceptable exterior levels shown in Table 19 (see Table 4.10-4).

Standard c Review sound walls and other noise mitigations through the design review process.

Goal NOISE 2 Provide for indoor noise environments that are conducive to living and working.

Policy NOISE 2.1 Take all technically feasible steps to ensure that interior noise levels can be maintained at the levels shown in Table 20 (see Table 4.10-5).

Standard a New residential development or construction shall include noise attenuation measures necessary to achieve acceptable interior noise levels shown in Table 20 (see Table 4.10-5).

Standard b Existing areas that will be subjected to noise levels greater than the acceptable noise levels shown in Table 20 (see Table 4.10-5) as a result of increased traffic on existing city streets (including streets remaining in existing configurations and streets being widened) shall be mitigated to the acceptable levels in Table 20 (see Table 4.10-5). If traffic increases are caused by specific projects, then the City shall be the lead agency in implementing cumulative noise mitigation projects. Project applicants shall pay their fair share for any mitigation.

City of Davis Noise Ordinance

The Davis Municipal Code establishes noise level limits that are applicable to on-site project-generated noise sources that would affect existing or proposed sensitive receptors. According to Section 24.02.020 of the Davis Municipal Code, a person shall not produce, suffer, or allow to be produced on any public or private property, sounds at a level in excess of those shown below in Table 4.10-6, when measured at a property's plane or, if on any street or highway, measured at the property plane of the nearest property.

Davis Municipal Code Section 24.02.030 prohibits the production of a noise level of more than 20 dBA above the limit provided in Table 4.10-6, but not greater than 80 dBA measured at the property plane, which constitutes an absolute noise limitation. Therefore, the City's maximum noise limit is 75 dBA L_{max} for the hours of 7:00 AM to 9:00 PM and 70 dBA L_{max} during the hours of 9:00 PM to 7:00 AM.

Table 4.10-6
City of Davis Municipal Code Exterior Noise Standards

Land Use	Time Period	Maximum Noise Level (dBA)
Residential	9:00 PM to 7:00 AM	50
	7:00 AM to 9:00 PM	55
Commercial/Industrial/Core Commercial	10:00 PM to 7:00 AM	55
	7:00 AM to 10:00 PM	60
High Noise Traffic Corridor	Anytime	65

Source: Davis Municipal Code, 2024.

Additionally, Davis Municipal Code Section 24.02.040 contains special provisions which apply to noise generated by construction-related activities. The pertinent components of the section are provided below.

> (a) Power tools. The operation of power tools for noncommercial purposes shall be exempt from the provisions of Sections 24.02.020(a), (b), (c) and 24.02.030, between the hours of 8:00 a.m. and 8:00 p.m.; provided, that such operations shall be subject to the provisions of Section 24.05.010. For purposes of this section, a noncommercial use shall be a use for which a business license is not required pursuant to Chapter 19.
> (b) Construction and landscape maintenance equipment. Notwithstanding any other provision of this chapter, between the hours of 7:00 a.m. and 7:00 p.m. on Mondays through Fridays, and between the hours of 8:00 a.m. and 8:00 p.m. on Saturdays and Sundays, construction, alteration, repair or maintenance activities which are authorized by valid city permit or business license, or carried out by employees of contractors of the city shall be allowed if they meet at least one of the following noise limitations:
> (1) No individual piece of equipment shall produce a noise level exceeding eighty-three dBA at a distance of twenty-five feet. If the device is housed within a structure on the property, the measurement shall be made outside the structure at a distance as close to twenty feet from the equipment as possible.
> (2) The noise level at any point outside of the property plane of the project shall not exceed eighty-six dBA.
> (3) The provisions of subdivisions (1) and (2) of this subsection shall not be applicable to impact tools and equipment; provided, that such impact tools and equipment shall have intake and exhaust mufflers recommended by manufacturers thereof and approved by the director of public works as best accomplishing maximum noise attenuation, and that pavement breakers and jack-hammers shall also be equipped with acoustically attenuating shields or shrouds recommended by the manufacturers thereof and approved by the director of public works as best accomplishing maximum noise attenuation. In the absence of manufacturer's recommendations, the director of public works may prescribe such means of accomplishing maximum noise attenuation as he or she may determine to be in the public interest.
>
> Construction projects located more than two hundred feet from existing homes may request a special use permit to begin work at 6:00 a.m. on weekdays from June 15th until September 1st. No percussion type tools (such as ramsets or jackhammers) can be used before 7:00 a.m. The permit shall be revoked if any noise complaint is received by the police department.

4.10.4 IMPACTS AND MITIGATION MEASURES

The following section describes the standards of significance and methodology used to analyze and determine the potential impacts of the Proposed Project and BRPA related to noise and vibration. In addition, a discussion of the project's impacts, as well as mitigation measures where necessary, is also presented.

Impacts of the environment on a project (as opposed to impacts of a project on the environment) are beyond the scope of required CEQA review. "[T]he purpose of an EIR is to identify the significant effects of a project on the environment, not the significant effects of the environment on the project." (*Ballona Wetlands Land Trust v. City of Los Angeles,* [2011] 201 Cal.App.4th 455, 473 [*Ballona*]). The California Supreme Court has held that "CEQA does not generally require an agency to consider the effects of existing environmental conditions on a proposed project's future users or residents. What CEQA does mandate is an analysis of how a project might exacerbate

existing environmental hazards." (*California Building Industry Assn. v. Bay Area Air Quality Management Dist.* [2015] 62 Cal.4th 369, 392; see also *Mission Bay Alliance v. Office of Community Investment & Infrastructure* [2016] 6 Cal.App.5th 160, 197 ["identifying the effects on the project and its users of locating the project in a particular environmental setting is neither consistent with CEQA's legislative purpose nor required by the CEQA statutes"], quoting *Ballona*, *supra*, 201 Cal.App.4th at p. 474). Therefore, for the purposes of the CEQA analysis, the relevant inquiry is not whether the future residents of the Proposed Project or BRPA will be exposed to pre-existing environmental noise-related hazards, but instead whether project-generated noise would exacerbate the pre-existing conditions.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines, an impact related to noise is considered significant if the proposed project would result in any of the following:

- 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, 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 (see Chapter 5, Effects Not Found to be Significant).

As noted above, issues related to whether the Proposed Project or BRPA would result in the following impact are discussed in Chapter 5, Effects Not Found to be Significant, of this EIR:

- 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.

Summary of Applicable Noise Standards

Applicable noise level standards from the City's General Plan and the City of Davis Municipal Code are summarized below.

Construction Noise Criteria

Pursuant to Davis Municipal Code Section 24.02.040, sound or noise emanating from construction activities is exempt from the City's noise regulations, provided that construction occurs between the hours of 7:00 AM to 7:00 PM on Monday through Friday and between the hours of 8:00 AM to 8:00 PM on Saturdays and Sundays, as well as meets at least one of the following noise limitations:

- None of the construction equipment generates noise levels exceeding 83 dBA at a distance of 25 feet;
- The noise level at any point outside of the property plane of the construction site does not exceed 86 dBA;
- The construction tools are impact tools and/or equipment that have manufacturer-recommended intake and exhaust mufflers and are approved by the Director of Public Works/Director of Community Development as having the best-accomplishing noise

attenuation. Pavement breakers and jack hammers must also be equipped with acoustically attenuating shields or shrouds recommended by manufacturers and approved by the Director of Public Works/Director of Community Development as having the best-accomplishing noise attenuation;

- Individual powered blowers do not produce a noise level exceeding 70 dBA measured at a distance of 50 feet;
    - On a single-family residential property, the 70 dBA at 50 feet restriction does not apply, if operated for less than 10 minutes per occurrence; and
- Powered blowers are not simultaneously operated within a 100-foot radius of another powered blower.

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, the City has elected to use an increase criteria of 5.0 dBA, applied to existing residential receptors in the project vicinity.

Transportation Source Noise Criteria

The City of Davis does not have a specific threshold for evaluating noise increases due to transportation sources. Therefore, the Federal Interagency Committee on Noise (FICON) substantial increase criteria, discussed further below, is used to evaluate impacts related to traffic noise.

The following table was developed by FICON as a means of developing thresholds for identifying project-related noise-level increases. The rationale for the graduated scales is that test subjects' reactions to increases in noise levels varied depending on the starting level of noise. Specifically, with lower ambient noise environments, such as those below 60 dB L_{dn}, a larger increase in noise levels was required to achieve a negative reaction than was necessary in environments where noise levels were already elevated. Therefore, because the City does not have defined thresholds for what would be considered a substantial increase in traffic noise levels, information from Table 4.10-7 is used.

Table 4.10-7
Significance of Changes in Cumulative Noise Exposure (dB DNL)

Ambient Noise Level Without Project	Increase Required for Significant Impact
<60	+5.0 or more
60 to 65	+3.0 or more
>65	+1.5 or more

Source: Federal Interagency Committee on Noise.

The use of the FICON standards is considered conservative relative to thresholds used by other agencies in the State. For example, Caltrans requires a project-related traffic noise-level increase of 12 dB for a finding of significance, and the California Energy Commission (CEC) considers project-related noise-level increases between 5.0 to 10 dB significant, depending on local factors. Therefore, the use of the FICON standards, which set the threshold for finding of significant noise impacts as low as 1.5 dB, provides a conservative approach to impact assessment for the Proposed Project and BRPA.

Non-Transportation Source Noise Criteria

Davis Municipal Code Section 24.02.020 establishes exterior noise standards at residential uses of 50 dBA L_{max} between the hours of 9:00 PM to 7:00 AM, and 55 dBA L_{max} between the hours of 7:00 AM to 9:00 PM. Section 24.02.030 establishes that the City's maximum noise limit is 75 dBA L_{max} for the hours of 7:00 AM to 9:00 PM and 70 dBA L_{max} during the hours of 9:00 PM to 7:00 AM. The City of Davis General Plan establishes a day/night average noise-level threshold of 60 dBA L_{dn} within outdoor activity areas of residential land uses.

Vibration

The City of Davis does not have specific policies or standards pertaining to vibration levels. However, vibration levels associated with construction activities and project operations are addressed as potential vibration impacts associated with project implementation. 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.

Construction operations have the potential to result in varying degrees of temporary ground vibration depending on the specific construction equipment used and operations involved. Table 4.10-8 indicates that pursuant to Caltrans standards, the threshold for architectural damage to structures is 0.2 PPV in inches per second (in/sec PPV) and continuous vibrations of 0.1 in/sec PPV, or greater, would likely cause annoyance to sensitive receptors.

Table 4.10-8
Effects of Vibration on People and Buildings

PPV		Human Reaction	Effect on Buildings
mm/sec	in/sec		
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: California Department of Transportation, 2002.

Method of Analysis

Below are descriptions of the methodologies used in the Noise Assessment (see Appendix P of this EIR) to measure temporary construction noise, existing and cumulative traffic noise levels, with and without the Proposed Project/BRPA, as well as project operational noise. Further

calculations are provided in Appendix P of this EIR. In addition, a description of methods used in the Supplemental Noise Analysis prepared for the BRPA (see Appendix Q of this EIR) to identify changes to the conclusions of the original Noise Assessment is provided below.

Environmental Noise Assessment

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 an LDL CAL200 acoustical calibrator to ensure the accuracy of the measurements. The equipment meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4).

To assess noise impacts due to temporary noise, Saxelby used the FHWA Roadway Construction Model (RCNM) to predict noise levels for standard construction equipment used for roadway improvement projects. The assessment of potential significant noise effects due to construction is based on the standards and procedures described in the Federal Transit Authority (FTA) guidance manual and FHWA's RCNM. The RCNM is a noise prediction model that enables the prediction of construction noise levels for a variety of construction equipment based on a compilation of empirical data and the application of acoustical propagation formulas. The model enables the calculation of construction noise levels in more detail than manual methods, which eliminates the need to collect extensive amounts of project-specific input data. RCNM allows for the modeling of multiple pieces of construction equipment working either independently or simultaneously, the character of noise emission, and the usage factors for each piece of equipment.

Construction noise varies depending on the construction process, type of equipment involved, location of the construction site with respect to sensitive receptors, the schedule proposed to carry out each task (e.g., hours and days of the week), and the duration of the construction work. Noise sources in the RCNM database include actual noise levels and equipment usage percentages. This source data was used in this construction noise analysis.

Saxelby analyzed potential future construction noise associated with the Proposed Project using data compiled for various pieces of construction equipment at a distance of 50 feet inside the boundary of each component of the Proposed Project. Similarly, construction vibration was analyzed using data compiled for various pieces of equipment at a distance of 25, 50, and 100 feet.

To assess noise impacts due to traffic increases on the local roadway network associated with development of the Proposed Project, traffic noise levels were predicted at sensitive receptors for existing and cumulative conditions, both with and without the Proposed Project. Existing and cumulative noise levels due to traffic were calculated using the FHWA-RD-77-108 noise prediction model. 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}, the input volume was adjusted to account for the day/night distribution of traffic.

Project trip generation volumes were based upon those provided in the Transportation Impact Study (TIS) prepared for the Proposed Project by Fehr & Peers (see Appendix R of this EIR).

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 existing and cumulative conditions resulting from the Proposed Project are provided in terms of L_{dn}.

Traffic noise levels were predicted at sensitive receptors 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.

To assess noise impacts due to project operational noise, Saxelby modeled the proposed stationary noise-generating components that could affect existing neighboring residential uses, including approximately three acres of land proposed for neighborhood services in the eastern portion of the project site/BRPA site. Additionally, Heritage Oak Park would be located in the southeastern corner of the site adjacent to residential uses. Village Trails Park, which would be located internally in the site, would not include intensive noise-generating components and would not be anticipated to generate notable levels of noise at adjacent uses.

Saxelby used the SoundPLAN noise-prediction model. Inputs to the model included sound power levels for the proposed amenities, existing and proposed buildings, terrain type, and locations of sensitive receptors. The predictions were made in accordance with International Organization for Standardization (ISO) Standard 9613-2:1996 (Acoustics – Attenuation of sound during propagation outdoors). ISO 9613 is the most commonly used method for calculating exterior noise propagation.

The following is a list of assumptions used for the operational noise modeling.

- Neighborhood Services: The neighborhood services were assumed to potentially include restaurants and retail outlets. Based upon similar projects, Saxelby modeled a maximum of 650 vehicle movements for this portion of the Proposed Project. Parking lot movements are predicted to generate a SEL of 71 dBA SEL at 50 feet for passenger vehicles and 85 dBA SEL at 50 feet for heavy trucks. Additional noise sources could include mechanical equipment such as packaged heating, ventilation, and air conditioning (HVAC) units, chiller condensers, and rooftop grease vents as well as drive-thru speakers. All sources were assumed to operate at full capacity during daytime hours and at 25 percent capacity during nighttime hours. For a conservative analysis of potential noise impacts, the uses assumed herein are more noise intensive than what is currently proposed for the Neighborhood Mixed-Use component of the Proposed Project. As noted in Chapter 3, Project Description, of this EIR, proposed neighborhood services include services not currently offered in the area, such as EV charging stations, space for mobile blood drives, mobile veterinary services, offering free spaying and neutering, SPIN rideshare parking, etc., which would reasonably be anticipated to result in reduced noise levels than the levels calculated herein.

- Heritage Oak Park: Based upon the available plans, the park is anticipated to include a jungle gym play area, two half basketball courts, and a large field. The large field was assumed to accommodate a soccer field. Based upon data collected at existing parks, a jungle gym would generate levels of 55 dBA L_{eq} at a distance of 65 feet to the center, basketball courts would generate noise levels of approximately 55 dBA L_{eq} at 50 feet, and a soccer game would generate approximately 58 dBA L_eq at 200 feet to the center of the

field. All amenities were modeled as operating continuously during daytime hours. Maximum noise levels from such amenities were assumed to be up to 20 dBA higher than average levels.

Supplemental Noise Analysis

Traffic volumes associated with the BRPA were determined to increase by up to 10.9 percent in the PM peak hour, as compared to the Proposed Project. As part of the Supplemental Noise Analysis, Saxelby recalculated project traffic noise-level increases at nearby sensitive receptors using the FHWA-RD-77-108 model and similar methodology employed in the Noise Assessment.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts is based on implementation of the Proposed Project or BRPA in comparison with the baseline and standards of significance identified above.

4.10-1 Generation of a substantial temporary 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. Based on the analysis below, even with implementation of mitigation, the impact is *significant and unavoidable*.

The following discussion includes an analysis of the potential for the Proposed Project and BRPA to generate a substantial temporary increase in ambient noise levels in excess of established standards. Because the Proposed Project and BRPA would both include development of 1,800 dwelling units, as well as neighborhood services and public, semi-public, and educational uses, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

During construction of the Proposed Project/BRPA, heavy equipment would be used for site preparation, grading, building construction, paving, architectural coating, and utility installation, all of which would temporarily increase ambient noise levels when in use. Noise levels would vary depending on the type and operation of equipment and how well the equipment is maintained. Noise exposure at any single point outside the project site/BRPA site would also vary depending on the distance from the source. As shown below in Table 4.10-9, the loudest phases of construction on the project site would be grading and construction of the off-site utility improvements, with an average noise exposure of 89 dBA L_{eq} at 50 feet from the center of activity. Construction activities would be temporary in nature and are anticipated to occur during normal daytime working hours.

The Davis Municipal Code makes exemptions for certain typical activities that may occur within the City. The exemptions that apply to construction are listed in Davis Municipal Code Article 24.02.040, Special Provisions. The most restrictive standard would be the requirement that construction equipment does not exceed 83 dBA at a distance of 25 feet or 86 dBA at the property plane.

Table 4.10-9
Construction Equipment Noise Levels

Equipment	Quantity	Usage (Percent)	Maximum Noise Level at 50 Feet (dBA L_{max})	Hourly Average Noise Level at 50 Feet (dBA L_{eq})
Site Preparation				
Dozer	3	40	82	83
Tractor/Loader/ Backhoe	4	40	84	86
Total	**--**	**--**	**--**	**88**
Grading				
Grader	1	40	85	81
Excavator	3	40	81	82
Tractor/Loader/ Backhoe	2	40	84	83
Scraper	2	40	84	83
Dozer	2	40	82	81
Dump Truck	2	40	76	75
Total	**--**	**--**	**--**	**89**
Building Construction				
Fork Lift	3	40	83	84
Generator	1	50	81	78
Crane	1	16	81	73
Welder/Torch	1	40	74	70
Tractor/Loader/ Backhoe	3	40	84	85
Total	**--**	**--**	**--**	**88**
Paving				
Paver	2	50	77	77
Paving Equipment	2	50	77	77
Roller	2	20	80	76
Total	**--**	**--**	**--**	**81**
Architectural Coating				
Air Compressor	1	40	79	75
Total	--	--	--	75
Linear, Drainage, Utilities, and Sub-Grade				
Air Compressor	1	40	79	75
Concrete Saw	1	20	90	83
Generator	1	20	90	83
Tractor/Loader/ Backhoe	2	40	84	83
Slurry Trenching Machine	1	50	80	77
Paving Equipment	1	50	77	74
Total	**--**	**--**	**--**	**89**

Source: Saxelby Acoustics, LLC, 2024.

Based on the noise levels shown in Table 4.10-9, construction noise levels associated with the Proposed Project and BRPA would comply with the Davis Municipal Code through the implementation of the strategies contained in the City's Noise Ordinance (see Mitigation Measure 4.10-1 below). Specifically, as a means of complying with the requirement of 83 dBA at a distance of 25 feet, the Proposed Project/BRPA would be required to employ sound-control devices on equipment, muffled exhausts on equipment, and installation of acoustic barriers around stationary equipment that block line-of-sight to the equipment.

Notwithstanding, Appendix G of the CEQA Guidelines (Section XIII, question 'a') requires a lead agency to determine if a project would result in the generation of a substantial temporary increase in ambient noise levels. In terms of determining the temporary noise increase due to project-related construction activities, as previously discussed, an impact would occur if construction activities would noticeably increase ambient noise levels by 5.0 dBA over existing ambient noise levels.

Table 4.10-10 provides the predicted noise levels at the nearest sensitive receptor to each component of the Proposed Project. As shown therein, construction of the Proposed Project/BRPA is predicted to generate noise-level increases over ambient conditions greater than 5.0 dB. To reduce the increases, Saxelby recommends the use of eight-foot-tall temporary noise barriers. As further discussed below, use of temporary sound barriers during construction would not reduce all ambient noise increases below 5.0 dB at the receptor locations.

Noise would also be generated during the construction phase by increased truck traffic on area roadways, including 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 only during daytime hours.

According to the Supplemental Noise Analysis, construction noise under the BRPA would be generally similar to noise-level increases anticipated during construction activities for the Proposed Project. However, as the BRPA would include preservation of the 47.1-acre Natural Habitat Area, the existing sensitive receptors located south and west of the Natural Habitat Area would experience less noise-level increases during construction.

Based on the above, worst-case, maximum noise levels associated with construction activities would result in a significant noise-level increase at the nearest sensitive receptors. Therefore, the Proposed Project and BRPA would generate a substantial temporary increase in ambient noise levels in the project vicinity in excess of standards established in the Davis General Plan or Noise Ordinance, or applicable standards of other agencies, and a ***significant*** impact could occur.

Mitigation Measure(s)

As discussed above, Saxelby recommends the use of eight-foot-tall temporary noise barriers in order to reduce temporary construction noise levels at the nearest residential receptors. The resulting noise levels are listed in Table 4.10-11 below.

Table 4.10-10
Construction Noise at Existing Sensitive Receptors

Project Area	Distance to Sensitive Receptors	Representative Noise Receptor	Existing Ambient (dBA L_{eq})	Construction Noise Level (dBA L_{eq})	Existing Plus Construction (dBA L_{eq})	Increase Over Ambient (dBA)	Exceeds 5.0 dB?
North Village	400	LT-2	49.2	71.1	71.2	22.0	Yes
East Village	250	LT-1	61.3	75.2	75.4	**14.1**	Yes
South Village	225	LT-3	43.3	76.1	76.1	**32.8**	Yes
Central Village	150	LT-1	61.3	79.7	79.7	**18.4**	Yes
Neighborhood Mixed-Use	150	LT-1	61.3	79.7	79.7	**18.4**	Yes
Village Trails Park	1,050	LT-3	43.3	62.8	62.8	**19.5**	Yes
"Green Acres" Educational Farm	825	LT-1	61.3	64.8	66.4	**5.1**	Yes
Pre-Kindergarten	875	LT-3	43.3	64.3	64.4	**21.0**	Yes
Parkside Village West	225	LT-3	43.3	76.1	76.1	**32.8**	Yes
Parkside Village East	185	LT-1	61.3	77.8	77.9	**16.6**	Yes
West Park	330	LT-1	61.3	72.8	73.1	**11.8**	Yes
Davis Fire Station	400	LT-4	66.3	71.1	72.4	**6.1**	Yes
Heritage Oak Park	350	LT-4	66.3	72.3	73.3	**7.0**	Yes

Source: Saxelby Acoustics, LLC, 2024.

Table 4.10-11
Construction Noise at Existing Sensitive Receptors With Temporary Barriers

Project Area	Distance to Sensitive Receptors	Representative Noise Receptor	Existing Ambient (dBA L_{eq})	Construction Noise Level (dBA L_{eq})	Existing Plus Construction (dBA L_{eq})	Increase Over Ambient (dBA)	Exceeds 5.0 dB?
North Village	400	LT-2	49.2	66.1	66.2	**17.1**	Yes
East Village	250	LT-1	61.3	70.2	70.7	**9.4**	Yes
South Village	225	LT-3	43.3	71.1	71.1	**27.8**	Yes
Central Village	150	LT-1	61.3	74.7	74.9	**13.5**	Yes
Neighborhood Mixed-Use	150	LT-1	61.3	74.7	74.9	**13.5**	Yes
Village Trails Park	1,050	LT-3	43.3	57.8	57.9	**14.6**	Yes
"Green Acres" Educational Farm	825	LT-1	61.3	59.8	63.6	2.3	No
Pre-Kindergarten	875	LT-3	43.3	59.3	59.4	**16.1**	Yes
Parkside Village West	225	LT-3	43.3	71.1	71.1	**27.8**	Yes
Parkside Village East	185	LT-1	61.3	73.1	73.1	**11.8**	Yes
West Park	330	LT-1	61.3	68.7	68.7	**7.4**	Yes
Davis Fire Station	400	LT-4	66.3	69.2	69.2	2.9	No
Heritage Oak Park	350	LT-4	66.3	69.8	69.8	3.6	No

Source: Saxelby Acoustics, LLC, 2024.

As shown in table, the temporary barriers would reduce construction noise levels associated with three construction areas to below the applicable significant increase criteria of 5.0 dBA. However, construction noise associated with the majority of construction areas would remain over the 5.0 dBA increase criteria. Therefore, although implementation of the following mitigation measure would reduce the above significant impact, the impact would remain *significant and unavoidable.*

Proposed Project, Biological Resources Preservation Alternative

4.10-1 *Prior to the approval of grading and/or building permits, the following requirements shall be noted on Improvement Pans, subject to review and approval of the City of Davis Community Development Department:*

- *The proposed project shall incorporate eight-foot-tall temporary sound barriers between the existing sensitive receptors and construction activities, as determined by a qualified acoustical consultant prior to commencement of construction (reference locations in Table 4.10-10 of the Village Farms Draft EIR). The sound barrier fencing shall consist of 0.5-inch plywood or minimum Sound Transmission Class (STC) 27 sound curtains placed to shield nearby sensitive receptors. The plywood barrier shall be free from gaps, openings, or penetrations to ensure maximum performance;*
- *Construction activities shall only take place between the hours of 7:00 AM and 7:00 PM, Monday through Friday, and 8:00 AM and 8:00 PM, on Saturday;*
- *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 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 nearest to the project site/BRPA site;*
- *Unnecessary idling of internal-combustion engines is prohibited; and*
- *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 to the project site/BRPA site during all project construction.*

4.10-2 Generation of a substantial 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. Based on the analysis below, the impact is *less than significant.*

The following discussion includes an analysis of the potential for the Proposed Project and BRPA to generate a substantial permanent increase in ambient noise levels in excess of established standards. Because the Proposed Project and BRPA would both include development of 1,800 dwelling units, as well as neighborhood services and public, semi-public, and educational uses, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

Residential land uses do not typically generate substantial noise during operations. In addition, while the Proposed Project/BRPA would include development of a fire station, which could result in operational noise associated with sirens, the fire station would be located in the southern portion of the project site/BRPA site, adjacent to East Covell Boulevard. Thus, the fire station would have direct access to major roadways and the concentration of siren noise that would occur as engines leave the site would not be in proximity to existing residential uses. Therefore, further discussion of operational noise associated with the proposed fire station is not required, and the primary noise sources associated with the Proposed Project and BRPA would be noise associated with increased traffic volumes on the local roadway network and noise associated with the proposed neighborhood services and Heritage Oak Park. As previously discussed, Village Trails Park, which would be located internally in the project site/BRPA site, would not include intensive noise-generating components and would not be anticipated to generate notable levels of noise at existing adjacent uses. An evaluation of future traffic noise levels at existing sensitive receptors in the project vicinity, as well as operational noise levels associated with the proposed neighborhood services and Heritage Oaks Park at existing sensitive receptors, is included below.

Traffic Noise at Existing Noise-Sensitive Receptors

Based on information provided by Fehr & Peers and using the methodology described above in the Method of Analysis section, traffic noise levels under Existing and Existing Plus Proposed Project conditions were estimated as part of the Noise Assessment and are shown in Table 4.10-12. The estimated noise levels are provided in terms of L_{dn} at the outdoor-activity areas of existing sensitive receptors. The table also includes an assessment of predicted traffic noise-level increases relative to existing ambient conditions in accordance with the FICON noise-level-increase significance criteria presented in Table 4.10-7.

As shown in Table 4.10-12, the increase in traffic noise levels attributable to the Proposed Project under Existing Plus Proposed Project conditions would be below the applicable FICON increase significance criteria shown in Table 4.10-7. Therefore, the Proposed Project would not result in a substantial increase in existing traffic noise levels at existing sensitive receptors due to project-generated traffic noise.

Table 4.10-12
Predicted Existing and Existing Plus Proposed Project Traffic Noise Levels

Roadway	Segment	Predicted Exterior Noise Level at Closest Sensitive Receptors (dBA L_{dn})				Exceeds Threshold?
		Existing	Existing Plus Proposed Project	Change	Threshold of Significance	
East Covell Boulevard	West of Market Avenue	65.9	66.7	+0.8	+1.5 dB	No
East Covell Boulevard	East of Cannery Avenue	60.3	60.6	+0.3	+3.0 dB	No
East Covell Boulevard	East of Pole Line Road	62.4	63.3	+0.9	+3.0 dB	No
Cannery Loop	West of Cannery Avenue	51.1	54.2	+3.1	+5.0 dB or >60 dB	No
Pole Line Road	North of Picasso Avenue	63.4	64.6	+1.2	+3.0 dB	No
Pole Line Road	North of Donner Avenue	64.4	65.3	+0.9	+3.0 dB	No
Pole Line Road	North of Moore Boulevard	66.9	67.5	+0.6	+1.5 dB	No
J Street	South of East Covell Boulevard	56.5	58.7	+2.2	+5.0 dB or >60 dB	No
L Street	South of East Covell Boulevard	55.8	57.3	+1.5	+5.0 dB or >60 dB	No

Source: Saxelby Acoustics, LLC, 2024.

Based on information provided by the Fehr & Peers and using the same methodology described above in the Method of Analysis section, traffic noise levels under Existing and Existing Plus BRPA conditions were estimated as part of the Supplemental Noise Analysis and are shown in Table 4.10-13.

The estimated noise levels are provided in terms of L_{dn} at the outdoor-activity areas of existing sensitive receptors. The table also includes an assessment of predicted traffic noise-level increases relative to existing ambient conditions in accordance with the FICON noise-level increase significance criteria presented in Table 4.10-7.

As shown in Table 4.10-13, the increase in traffic noise levels attributable to the BRPA under Existing Plus BRPA conditions would be below the applicable FICON increase significance criteria shown in Table 4.10-7. Therefore, the BRPA would not result in a substantial increase in existing traffic noise levels at existing sensitive receptors due to project-generated traffic noise.

Operational Noise at Existing Sensitive Receptors

The Davis Municipal Code establishes maximum noise level standards of 75 dBA L_{max} during daytime hours (7:00 AM to 9:00 PM), 70 dBA L_{max} during nighttime hours (9:00 PM to 7:00 AM), and a day/night average noise-level threshold of 60 dBA L_{dn}.

Figure 4.10-2 shows the daytime L_{max} noise levels resulting from operations of the proposed neighborhood services and Heritage Oak Park. Figure 4.10-3 shows the nighttime L_{max} noise levels, and Figure 4.10-4 shows the L_{dn} noise levels. As shown by Figure 4.10-2, Figure 4.10-3, and Figure 4.10-4, development of the aforementioned uses is predicted to expose nearby residences to maximum noise levels of up to 66 dBA L_{max} during daytime hours and 60 dBA L_{max} during nighttime hours, and a day/night average noise level of 48 dBA L_{dn}. Therefore, the Proposed Project would not result in a substantial increase in operational noise levels at existing sensitive receptors due to project-generated noise associated with new neighborhood services and Heritage Oak Park.

According to the Supplemental Noise Analysis, the location of the primary operational noise-generating components of the Proposed Project, the proposed neighborhood services and Heritage Oak Park, would not be modified under the BRPA. Thus, the analysis of operational noise sources that could affect nearby sensitive receptors under the BRPA would be identical to the evaluation of the Proposed Project. Therefore, the BRPA would not result in a substantial increase in operational noise levels at existing sensitive receptors due to project-generated noise associated with new neighborhood services and Heritage Oak Park.

Conclusion

Based on the above, the Proposed Project and BRPA would not result in the generation of a substantial permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the Davis General Plan or Noise Ordinance, or applicable standards of other agencies. Therefore, a ***less-than-significant*** impact would occur.

Table 4.10-13
Predicted Existing and Existing Plus BRPA Traffic Noise Levels

Roadway	Segment	Predicted Exterior Noise Level at Closest Sensitive Receptors (dBA L_{dn})				Exceeds Threshold?
		Existing	Existing Plus BRPA	Change	Threshold of Significance	
East Covell Boulevard	West of Market Avenue	65.9	66.8	+0.9	+1.5 dB	No
East Covell Boulevard	East of Cannery Avenue	60.3	60.7	+0.4	+3.0 dB	No
East Covell Boulevard	East of Pole Line Road	62.4	63.4	+1.0	+3.0 dB	No
Cannery Loop	West of Cannery Avenue	51.1	54.5	+3.4	+5.0 dB or >60 dB	No
Pole Line Road	North of Picasso Avenue	63.4	64.7	+1.3	+3.0 dB	No
Pole Line Road	North of Donner Avenue	64.4	65.4	+1.0	+3.0 dB	No
Pole Line Road	North of Moore Boulevard	66.9	67.6	+0.7	+1.5 dB	No
J Street	South of East Covell Boulevard	56.5	58.9	+2.4	+5.0 dB or >60 dB	No
L Street	South of East Covell Boulevard	55.8	57.4	+1.6	+5.0 dB or >60 dB	No

Source: Saxelby Acoustics, LLC, 2024.

Figure 4.10-2
Daytime Neighborhood Services and Heritage Oak Park Noise Levels (dBA L_{max})

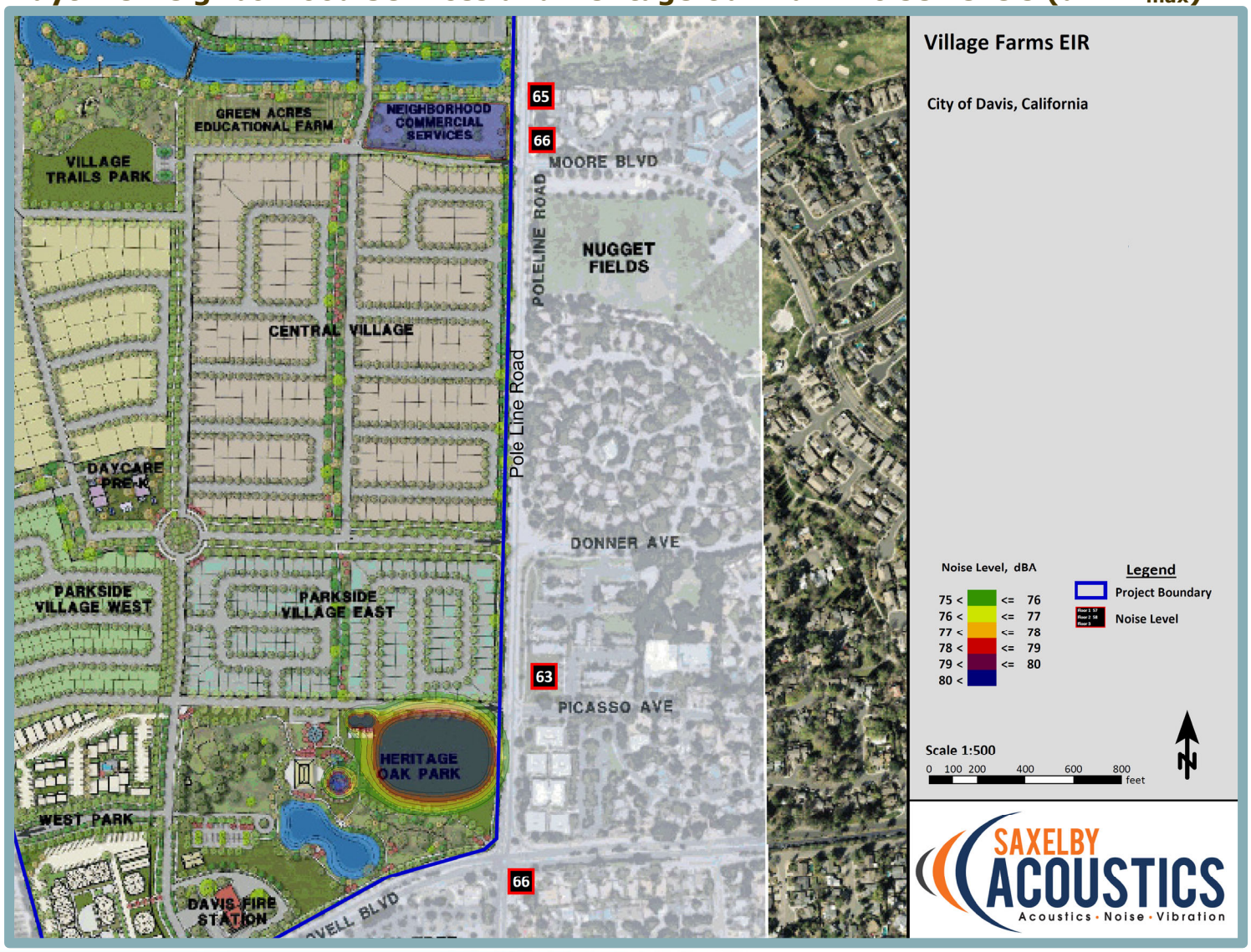


Figure 4.10-3
Nighttime Neighborhood Services and Heritage Oak Park Noise Levels (dBA L_{max})

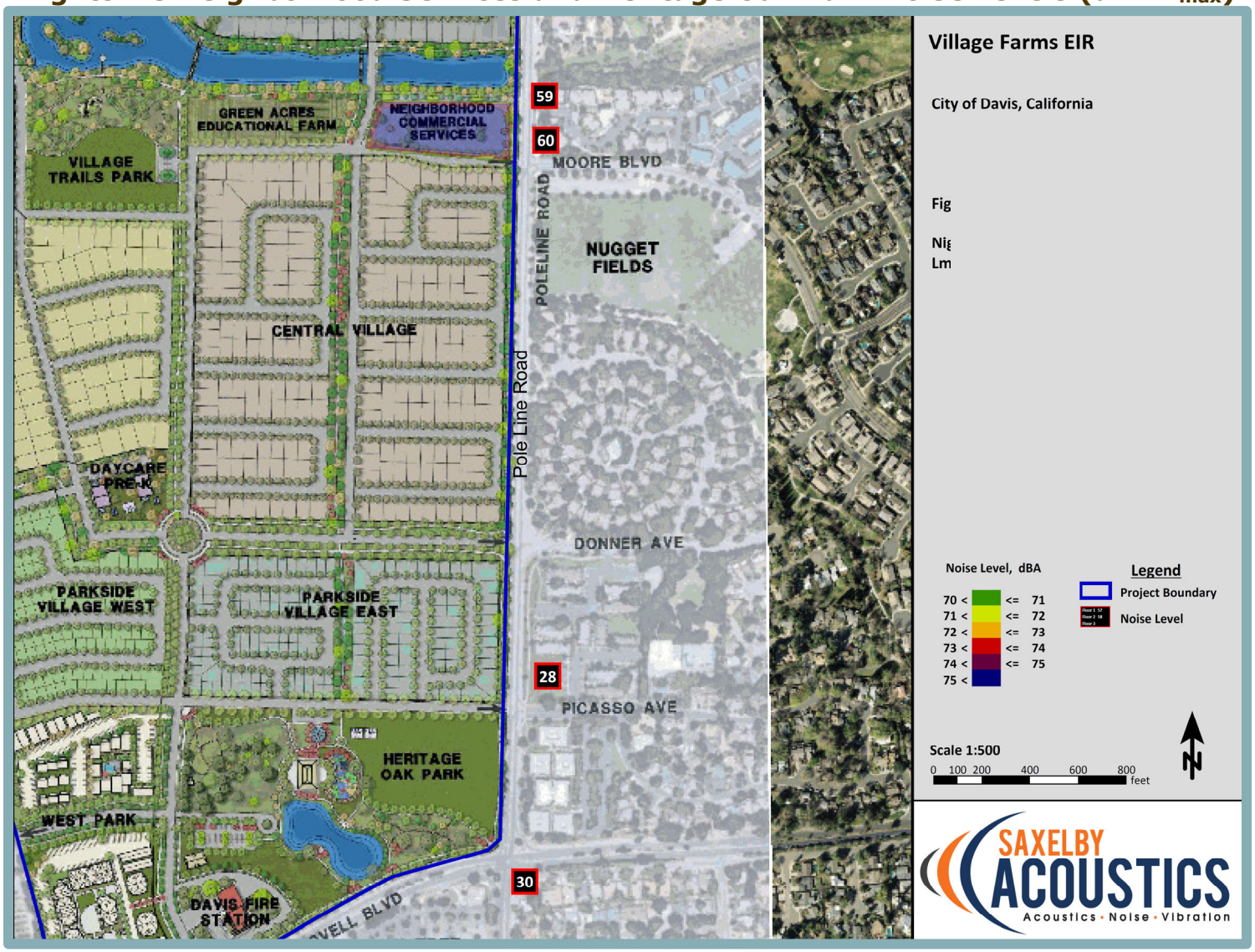
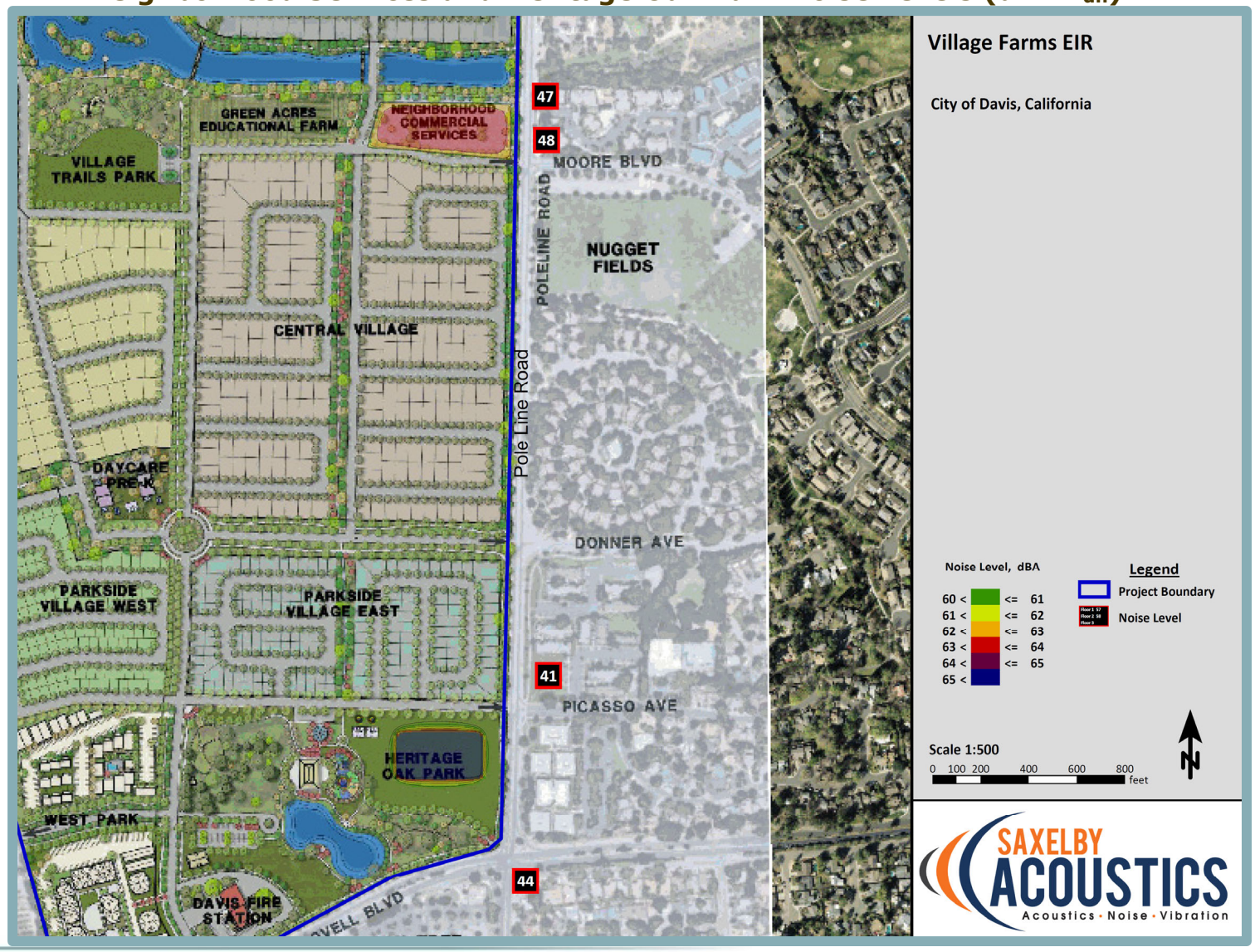


Figure 4.10-4
Neighborhood Services and Heritage Oak Park Noise Levels (dBA L_{dn})



Mitigation Measure(s)

None required.

4.10-3 Generation of excessive groundborne vibration or groundborne noise levels. Based on the analysis below, the impact is *less than significant*.

The following discussion includes an analysis of the potential for the Proposed Project and BRPA to generate excessive groundborne vibration or groundborne noise levels. Because the Proposed Project and BRPA would both include development of 1,800 dwelling units, as well as neighborhood services and public, semi-public, and educational uses, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

Development of the Proposed Project/BRPA would primarily consist of a residential community, with other uses including neighborhood services, parks, and public, semi-public, and educational uses. Such uses do not typically involve equipment that generates appreciable vibration during operational activities. Overall, operation of both the Proposed Project and BRPA would not result in the generation of excessive groundborne vibration or groundborne noise levels.

However, construction activities associated with development of the Proposed Project and BRPA would have the potential to result in varying degrees of temporary ground vibration, depending on the specific construction equipment used and operations involved. Construction would use typical construction equipment and would not require significant sources of vibration such as pile driving or blasting. Table 4.10-14 below shows the vibration levels produced by typical construction equipment.

Table 4.10-14
Vibration Levels for Various Construction Equipment

Type of Equipment	PPV at 25 feet (in/sec)	PPV at 50 feet (in/sec)	PPV at 100 feet (in/sec)
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 0.2 at 26 feet)	0.074	0.026

Source: Saxelby Acoustics, LLC, 2024

Table 4.10-14 indicates that construction vibration levels anticipated for typical construction equipment are less than the 0.2 in/sec PPV threshold at distances of 26 feet. The nearest sensitive receptors that could be impacted by construction related vibrations, especially vibratory compactors/rollers, are residences located approximately 150 feet from the project site's/BRPA site's eastern boundary. 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 occur during normal daytime working hours.

Based on the above, the Proposed Project and BRPA would not result in generation of excessive groundborne vibration or groundborne noise levels, and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

Cumulative Impacts and Mitigation Measures

As defined in Section 15355 of the CEQA Guidelines, "cumulative impacts" refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. For further detail related to the cumulative setting of the Proposed Project/BRPA, refer to Chapter 6, Statutorily Required Sections, of this EIR.

4.10-4 Generation of a substantial permanent increase in ambient noise levels associated with cumulative development of the Proposed Project or the BRPA in combination with future buildout of the City of Davis. Based on the analysis below, the impact is *less than significant*.

Future development projects within the City of Davis would incrementally affect the future cumulative ambient noise environment. Given the primarily residential nature of the Proposed Project/BRPA, the primary project component that could combine with noise impacts from surrounding development in the project region would be associated with vehicle traffic generated by development of the project site/BRPA site and other planned development projects, which together, could potentially result in a significant cumulative impact related to transportation noise. The following discussions include an analysis of potential increases to cumulative noise levels associated with development of the Proposed Project or BRPA, in combination with future buildout of the City of Davis.

Proposed Project

To assess the potential noise impacts due to traffic increases from the Proposed Project on the local roadway network under cumulative conditions, noise levels have been calculated for Cumulative and Cumulative Plus Proposed Project conditions at the nearest existing sensitive receptors using the methodology described in the Method of Analysis section.

Table 4.10-15 compares Cumulative No Project with Cumulative Plus Proposed Project to determine if the Proposed Project's contribution to the cumulative noise environment is considerable. As shown in the table below, noise-level increases under Cumulative Plus Proposed Project conditions would not be above the applicable threshold.

Table 4.10-15
Predicted Cumulative and Cumulative Plus Proposed Project Traffic Noise Levels

Roadway	Segment	Predicted Exterior Noise Level at Closest Sensitive Receptors (dBA L_{dn})				Exceeds Threshold?
		Cumulative	Cumulative Plus Proposed Project	Change	Threshold of Significance	
East Covell Boulevard	West of Market Avenue	66.7	67.3	+0.6	+1.5 dB	No
East Covell Boulevard	East of Cannery Avenue	61.2	61.5	+0.3	+3.0 dB	No
East Covell Boulevard	East of Pole Line Road	63.9	64.5	+0.6	+3.0 dB	No
Cannery Loop	West of Cannery Avenue	56.3	57.4	+1.1	+5.0 dB or >60 dB	No
Pole Line Road	North of Picasso Avenue	63.7	64.9	+1.2	+3.0 dB	No
Pole Line Road	North of Donner Avenue	64.8	65.6	+0.8	+3.0 dB	No
Pole Line Road	North of Moore Boulevard	67.5	68.0	+0.5	+1.5 dB	No
J Street	South of East Covell Boulevard	58.4	59.9	+1.5	+5.0 dB or >60 dB	No
L Street	South of East Covell Boulevard	57.7	58.7	+1.0	+5.0 dB or >60 dB	No

Source: Saxelby Acoustics, LLC, 2024.

Biological Resources Preservation Alternative

To assess the potential noise impacts due to traffic increases from the BRPA on the local roadway network under cumulative conditions, noise levels have been calculated for the Cumulative and Cumulative Plus BRPA conditions at the nearest existing sensitive receptors using the methodology described in the Method of Analysis section.

Table 4.10-16 compares Cumulative No Project with Cumulative Plus BRPA to determine if the BRPA's contribution to the cumulative noise environment is considerable. As shown in the table below, noise-level increases under Cumulative Plus BRPA conditions would not be above the applicable threshold.

Conclusion

Based on the above, under both Cumulative Plus Proposed Project and Cumulative Plus BRPA conditions, the Proposed Project and BRPA, respectively, would not result in a substantial permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the Davis General Plan or Noise Ordinance, or applicable standards of other agencies. Therefore, a ***less-than-significant*** cumulative impact would occur.

Mitigation Measure(s)

None required.

Table 4.10-16
Predicted Cumulative and Cumulative Plus Project Traffic Noise Levels

Roadway	Segment	Predicted Exterior Noise Level at Closest Sensitive Receptors (dBA L_{dn})				Exceeds Threshold?
		Cumulative	Cumulative Plus BRPA	Change	Threshold of Significance	
East Covell Boulevard	West of Market Avenue	66.7	67.4	+0.7	+1.5 dB	No
East Covell Boulevard	East of Cannery Avenue	61.2	61.5	+0.3	+3.0 dB	No
East Covell Boulevard	East of Pole Line Road	63.9	64.6	+0.7	+3.0 dB	No
Cannery Loop	West of Cannery Avenue	56.3	57.6	+1.3	+5.0 dB or >60 dB	No
Pole Line Road	North of Picasso Avenue	63.7	65.0	+1.3	+3.0 dB	No
Pole Line Road	North of Donner Avenue	64.8	65.7	+0.9	+3.0 dB	No
Pole Line Road	North of Moore Boulevard	67.5	68.0	+0.5	+1.5 dB	No
J Street	South of East Covell Boulevard	58.4	60.0	+1.6	+5.0 dB or >60 dB	No
L Street	South of East Covell Boulevard	57.7	58.8	+1.1	+5.0 dB or >60 dB	No

Source: Saxelby Acoustics, LLC, 2024.

4.11. Population and Housing

4.11 POPULATION AND HOUSING

4.11.1 INTRODUCTION

The purpose of the Population and Housing chapter of the EIR is to evaluate the potential for the Proposed Project and the Biological Resources Preservation Alternative (BRPA) to induce substantial population growth within the area, either directly or indirectly, and/or displace substantial numbers of existing housing and/or people, necessitating the construction of replacement housing elsewhere. The "area" as defined for purposes of this analysis, where population growth could be induced as a result of the project, is the City of Davis. The Population and Housing section is primarily based on the City of Davis General Plan[1] and associated EIR,[2] the City of Davis 2021-2029 Housing Element, the Sacramento Area Council of Governments' (SACOG) Regional Housing Needs Plan 2021-2029,[3] and information from the U.S. Census Bureau.

4.11.2 EXISTING ENVIRONMENTAL SETTING

The following setting information provides an overview of the existing on-site population and housing and the broader supply in the City of Davis, including current and projected growth rates for the City.

Existing On-Site Population and Housing

The project site currently consists of generally flat, agricultural land. In addition, one agricultural structure is located in the southern portion of the site. Existing housing units and population are not located within the project site.

City of Davis Population Trends

U.S. Census data indicates that the City of Davis experienced strong population growth from 1990 to 2000, increasing from 46,209 to 60,308 persons at an annual average increase of 3.05 percent, as shown in Table 4.11-1. During 2000 to 2010, the rate of growth declined to an annual average increase of 0.88 percent, reaching a total population of 65,622 in 2010. The annual average increase has continued to decline, with the most recent population estimates from the U.S. Census Bureau indicating that the City's population has increased slightly to a population of 67,048 in 2022, a 0.15 percent annual average change from 2020.[4]

City of Davis Housing Stock

Table 4.11-2 illustrates the City of Davis' housing stock from the years 2006 to 2022, based on information from the U.S. Census Bureau. As seen in the table, the number of housing units

1 City of Davis. *City of Davis General Plan*. Adopted May 2001, Amended January 2007.
2 City of Davis. *Final Program EIR for the City of Davis General Plan Update and Final Project EIR for Establishment of a New Junior High School*. Certified May 2001.
3 Sacramento Area Council of Governments. *SACOG Regional Housing Needs Plan (2021-2029)*. Adopted March 2020.
4 U.S. Department of Commerce. *United States Census Bureau*. Available at: https://www.census.gov/. Accessed February 2024.

increased from 25,502 in 2010 to 25,732 in 2014-2018, and has slightly decreased to 25,669 in 2018-2022.

Table 4.11-1
City of Davis Population Growth

Year	Population	Annual Average Change
1990	46,209	-
2000	60,308	3.05%
2010	65,622	0.88%
2020	66,850	0.19%
2022	67,048	0.15%

Source: U.S. Census Bureau, 1992, 2000, 2023.

Table 4.11-2
City of Davis Housing Units

Year	Housing Units	Annual Average Change
2006-2010	25,502	-
2014-2018	25,732	0.225%
2018-2022	25,669	-0.06%

Sources: City of Davis Housing Element [page 68]; U.S. Census Bureau, 2023.

According to the City of Davis Housing Element, the average number of persons residing in a dwelling unit in Davis is 2.57. In 2010, the overall vacancy rate in the City was 3.9 percent. Between 2014 and 2018, the overall vacancy rate in the City increased to 4.4 percent, with 1,135 vacant units.[5]

City of Davis Growth Projections

SACOG is an association of local governments from six counties and 22 cities within the Sacramento Region, which includes the City of Davis. As illustrated in Table 4.11-3, SACOG produces regional growth projections for the City of Davis through 2036. The City is projected to have approximately 28,267 housing units and an increase in total population to 76,884. SACOG estimates that Davis will continue to grow at approximately one-third the rate of the broader region.[6]

Table 4.11-3
Growth Projections

	2020	2036	Change	Annual Average Percent Change
City of Davis				
Population	71,136	76,884	5,748	0.5%
Housing Units	26,531	28,267	1,737	0.4%
Sacramento Metropolitan Statistical Area				
Population	2,298,391	2,857,576	559,185	1.4%
Housing Units	887,602	1,107,544	219,942	1.4%

Source: City of Davis Housing Element [page 67].

[5] City of Davis. *2021-2028 Housing Element* [pg. 72]. Adopted December 5, 2023.
[6] City of Davis. *2021-2028 Housing Element* [pg. 66-67]. Adopted December 5, 2023.

Regional Housing Needs Plan

The Regional Housing Needs Allocation (RHNA) is a minimum projection of additional housing units needed to accommodate projected household growth of all income levels by the end of the housing element's statutory planning period. Based on SACOG's adopted RHNA, each city and county must update the housing element of their General Plan to demonstrate how the jurisdiction will meet the expected growth in housing need over the planning period.

According to the U.S. Department of Housing and Urban Development (HUD), housing is classified as "affordable" if households do not pay more than 30 percent of income for payment of rent (including utilities) or monthly homeownership costs (including mortgage payments, taxes, and insurance). SACOG adopted their current Regional Housing Needs Plan (RHNP) on March 20, 2020, which officially assigns the allocations to cities and counties in the six-county Sacramento region. SACOG's RHNA covers the planning period from 2021 to 2029, and defines income unit categories as follows:

- Very Low-Income Unit: is one that is affordable to a household whose combined gross household income is at or lower than 50 percent of the Yolo County median income.
- Low-Income Unit: is one that is affordable to a household whose combined gross household income is at or between 50 and 80 percent of the Yolo County median income.
- Moderate Income Unit: is one that is affordable to a household whose combined gross household income is at or between 81 and 120 percent of the Yolo County median income.
- Above Moderate Income Unit: is one that is affordable to a housing whose combined gross household income is at or greater than 120 percent of the Yolo County median income.

In 2020, the median household income for a four person household within Yolo County was $92,500. According to SACOG's RHNP, the City of Davis' total RHNA number for all income levels is 2,075 dwelling units (see Table 4.11-4).[7]

Table 4.11-4
City of Davis RHNA Allocation

Income Level	RHNA Requirement	Percent of Total
Extremely Low Income (≤30% AMI)	290	14.0%
Very Low Income (>30% AMI, ≤50% AMI)	290	14.0%
Low Income (>50% AMI, ≤80% AMI)	350	16.9%
Moderate Income (>80% AMI, ≤120% AMI)	340	16.4%
Above Moderate Income (>120% AMI)	805	38.8%
Total	**2,075**	**100.0%**

Source: Sacramento Area Council of Governments, 2020.

4.11.3 REGULATORY CONTEXT

Specific federal regulations do not directly pertain to population and housing of an area. However, a number of existing regulatory controls pertaining to population and housing, including State and local laws and ordinances, are listed below, as applicable.

State Regulations

The following are two applicable State regulations related to the Proposed Project and the BRPA.

[7] City of Davis. *2021-2029 Housing Element*. Adopted December 5, 2023.

Regional Housing Needs Plan

California General Plan law requires each city and county to have land zoned to accommodate a fair share of the regional housing need. The share is known as RHNA and is based on a RHNP developed by councils of government. The State-mandated RHNA process (Government Code Sections 65580 et seq.) requires SACOG to develop a methodology that determines how to divide and distribute an overall allocation that the region receives from the State.

Senate Bill 330

California Senate Bill (SB) 330, "The Housing Crisis Act of 2019," was signed into law by Governor Newsom on October 9, 2019 and became effective January 1, 2020. The bill establishes a statewide housing emergency to be in effect until January 1, 2025. During the housing emergency period, cities and localities in urban areas, including the City of Davis, are generally prohibited from rezoning actions or imposing new development standards that would reduce the zoned capacity for housing or adopting new design standards that are not objective. In such jurisdictions, the demolition of existing housing units is only permitted if replacement units are provided. The demolition of existing low-income units is only permitted if certain conditions related to affordability and tenant protections are met.

Local Regulations

The following are local regulations applicable to the Proposed Project and the BRPA.

Sacramento Area Council of Governments

SACOG is responsible for the preparation of, and updates to, the Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) for the region and the corresponding Metropolitan Transportation Improvement Program (MTIP). The MTIP identifies short-term projects (seven-year horizon) in more detail.

Metropolitan Transportation Plan/Sustainable Communities Strategy

The 2035 MTP/SCS is a long-range plan for transportation improvements in the region. The 2035 MTP/SCS is based on projections for growth in population, housing, and jobs. SACOG determines the regional growth projections by evaluating baseline data, historic reference data, capacity data, and current MTP data about assumptions used in the most recent MTP/SCS. Baseline data includes existing housing units and employees, the jobs-to-housing ratio, and the percent of regional growth share for housing units and employees. The historic reference data is based upon five- and ten-year residential building permit averages and historic county-level employment statistics. The capacity data includes the General Plan data for each jurisdiction. SACOG staff meets with each jurisdiction to discuss and incorporate more subjective considerations about planned growth for each area. Finally, SACOG makes a regional growth forecast for new homes and new jobs, based upon an economic analysis provided by a recognized expert in order to estimate regional growth potential based on market analysis and related economic data. The growth forecast is then incorporated into the MTP/SCS.

City of Davis General Plan

The applicable Davis General Plan goals and policies relating to population and housing are presented below.

Land Use and Growth Management Element

Policy LU A.3	Require a mix of housing types, densities, prices and rents, and designs in each new development area.

2021-2029 Housing Element

Goal 1 **Housing Supply.** Provide an adequate supply of housing for people of all ages, incomes, lifestyles, and types of households, including for households with special housing needs.

- Policy 1.1 Maintain adequate sites to achieve Davis' RHNA goals for the 2021-2029 Planning Period.
- Policy 1.2 Facilitate the production of a variety of housing types that meet the housing needs of an economically and socially diverse Davis.
- Policy 1.3 Provide housing that accommodates a variety of housing needs, including for persons with disabilities, seniors, farmworkers, extremely low-income households.
- Policy 1.5 Facilitate and monitor the production of Accessory Dwelling Units (ADUs).
- Policy 1.7 As part of proposed large housing developments, encourage a range of housing types including small residential lots and other smaller unit types to facilitate the creation of more inclusive communities.

Goal 2: **Affordable Housing.** Provide housing that is affordable for lower-income households.

- Policy 2.1 Meet the projected local need for housing affordable to extremely low-, very low-, low-, and moderate-income households according to Davis' eight-year fair share of regional housing needs.
- Policy 2.6 Provide housing for Davis' workforce, including but not limited to teachers, UC Davis faculty and staff, retail and service workers, healthcare workers, and City employees.
- Policy 2.9 Ensure that new residential development on lands added to the City's General Plan Area include affordable housing that meets or exceeds the City's requirements.

City of Davis Municipal Code

The following are applicable City housing and growth regulations related to the Proposed Project and the BRPA.

Davis Municipal Code Section 18.05.040: Provision of Affordable Housing

Pursuant to Davis Municipal Code Section 18.05.040, the developer must submit, concurrently with or prior to the submission of an application for the first discretionary approval for a development, an application as provided by the City describing a proposed affordable housing plan, which must provide a program to provide affordable housing in accordance with Davis

Municipal Code Article 18.05 and the intended method for implementing such a program. Any application resubmitted by a developer to amend an affordable housing plan after it has been approved by the City must be deemed a new application for the development. Before any agreements between parties or transfer of land is made, all agreements, the affordable housing plan, and budget for the provision of affordable housing pursuant to Article 18.05 of the Municipal Code must be approved by the City, in order to ensure that the affordable housing to be developed pursuant to the affordable housing plan will be economically sustainable over time, in accordance with the required duration of affordability for the affordable housing.

Davis Municipal Code Section 18.05.050: Ownership Development Affordable Housing Standards

According to Davis Municipal Code Section 18.05.050, a developer of residential ownership developments containing five or more units must provide, to the extent feasible, affordable housing for very low-, low-, and moderate-income households, as set forth in an affordable housing plan approved by the City. To the maximum extent feasible, each developer must meet the ownership affordable unit requirement as it pertains to the project, as set forth within Section 18.05.050 of the Municipal Code.

Davis Municipal Code Section 18.05.060: Rental Development Affordable Housing Standards

According to Davis Municipal Code Section 18.05.060, a developer of rental housing developments containing seven or more units shall provide at least 15 percent of the total number of units as affordable housing units on-site. Of the total number of affordable housing units provided, 50 percent shall be made affordable to low-income households and the other 50 percent shall be made affordable to very-low-income households. Alternatively, the developer may comply with an alternative means of compliance as provided for in the Rental Housing Inclusionary Guidelines, which shall be adopted by resolution of City Council.

4.11.4 IMPACTS AND MITIGATION MEASURES

The following section describes the standards of significance and methodology utilized to analyze and determine the Proposed Project's and BRPA's potential impacts related to population and housing. In addition, a discussion of the project's impacts, as well as mitigation measures where necessary, is also presented.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines, a population and housing impact may be considered significant if any potential effects of the following conditions, or potential thereof, would result with implementation of the Proposed Project or BRPA:

- Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure); or
- Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere (see Chapter 5, Effects Not Found to be Significant).

As noted above, issues related to whether the Proposed Project or BRPA would result in the following impact is discussed in Chapter 5, Effects Not Found to be Significant, of this EIR:

- Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

Method of Analysis

The section below evaluates the potential population and housing impact resulting from the development of the Proposed Project or BRPA. The level of significance of the impact is determined by evaluating whether the Proposed Project or BRPA, either directly or indirectly, would induce substantial population growth in the area.

Project-Specific Impacts and Mitigation Measures

The following discussion of population and housing impacts is based on implementation of the Proposed Project or BRPA in comparison to existing conditions and the standards of significance presented above.

4.11-1 Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure). Based on the analysis below, the impact is *significant and unavoidable*.

Growth can be induced in a number of ways, including through the elimination of obstacles to growth or through the stimulation of economic activity within the region. Examples of projects likely to have growth-inducing impacts include extensions or expansions of infrastructure systems beyond what is needed to serve project-specific demand, and development of new residential subdivisions or office complexes in areas that are currently only sparsely developed or are undeveloped.

The Proposed Project and the BRPA would both include development of a total of 1,800 housing units, and would, therefore, result in similar levels of population growth. As such, the following analysis applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

The following sections describe potential effects related to direct and indirect population growth associated with implementation of the Proposed Project or BRPA.

Direct Population Growth

The 1,800-unit affordable and market-rate single- and multi-family residential uses under both the Proposed Project and BRPA would increase the available housing within the City of Davis, which would increase population in the area. Using the 2.57 persons/household average household size for the City of Davis, the proposed 1,800 residential units would house an estimated 4,626 residents.

Residential development is not allowed under the existing Yolo County General Plan land use and zoning designations for the project site/BRPA site, with the exception of farmworker housing. Thus, the Proposed Project/BRPA would result in an increase of approximately 1,800 units, or 4,626 residents beyond what is currently anticipated for the site.

Annexation of the project site into the City and development of 1,800 residential units, with the associated addition of approximately 4,626 residents, would increase the total current population of the City of Davis from 67,048 to approximately 71,656, or a 7.04 percent increase. As discussed in the Existing Environmental Setting section of this chapter, SACOG has projected that the City's population could grow to as much as 76,665 residents by 2035. However, because the project site is currently not located within the City of Davis and does not have a City General Plan land use designation, the Proposed Project/BRPA has not been included as part of the City's growth projections. Therefore, the increase in population resulting from the Proposed Project/BRPA would not be within the range of growth projections assumed for the City of Davis. As discussed in the Utilities and Service Systems chapter of this EIR, the proposed utility improvements related to water, sanitary sewer, and storm drainage services would be sized to accommodate only the Proposed Project/BRPA, and would connect to existing infrastructure in the project vicinity.

Indirect Population Growth

The Proposed Project/BRPA would result in an increase of the on-site permanent population by 4,626 residents. The new residential population would likely patronize local businesses and services in the area, fostering economic growth. While construction of the Proposed Project/BRPA would result in increased employment opportunities in the construction field, which could potentially result in increased permanent population and demand for housing in the vicinity of the project site, employment patterns of construction workers are such that construction workers would not likely, to any significant degree, relocate their households as a result of the construction-related employment opportunities associated with the Proposed Project/BRPA.

The Proposed Project/BRPA would provide employment opportunities, which would likely be filled from the local employee base. With the exception of household and landscape maintenance jobs, and jobs associated with the development of the Neighborhood Mixed-Use component, fire station, Pre-Kindergarten (Pre-K) Early Learning Center, and Educational Farm, a substantial number of new permanent jobs would not be directly created by the Proposed Project/BRPA. Therefore, the Proposed Project/BRPA would not result in substantial long-term employment growth in the area.

The residential population generated by the Proposed Project/BRPA would also result in an increased demand for public services. However, as discussed in Chapter 4.12, Public Services and Recreation, and Chapter 4.14, Utilities and Service Systems, of this EIR, the project's demand for public services could be accommodated by existing services and, with the exception of fire protection services, would not create a need for new or altered governmental facilities, the construction of which could result in significant environmental impacts. Additionally, the proposed utility infrastructure improvements would be sized and designed to serve only the Proposed Project/BRPA.

The Proposed Project/BRPA would both include construction of a fire station in the southern portion of the project site, adjacent to East Covell Boulevard. The new fire station would provide fire protection services to the project site and residential development located in the general north Davis area and generally improve

emergency response times. The environmental effects of construction and operation of the fire station under both development scenarios are addressed in this EIR.

Conclusion

Based on the above, the Proposed Project/BRPA would connect to existing utility infrastructure in the immediate project vicinity, and the new infrastructure improvements would be sized to accommodate only the Proposed Project/BRPA. However, the Proposed Project and BRPA would include development that would result in direct on-site unplanned population growth. Population growth resulting from the Proposed Project/BRPA would not be within the SACOG or City of Davis growth estimates for the project area. As a result, the Proposed Project/BRPA would be considered to induce substantial unplanned population growth, and a ***significant*** impact would result under both development scenarios. Notwithstanding, population growth, in and of itself, is not a direct physical effect on the environment. The physical impacts associated with population growth resulting from the Proposed Project/BRPA are discussed throughout this EIR. In addition, potential impacts related to growth inducement are discussed further within Chapter 6, Statutorily Required Sections, of this EIR, consistent with CEQA Guidelines Section 15126.2(d).

Mitigation Measure(s)

Feasible mitigation does not exist to reduce the above impact to a less-than-significant level. Therefore, the impact would remain *significant and unavoidable*. However, it should be noted that the Legislature found that, "[a]ccording to reports and data, California has accumulated an unmet housing backlog of nearly 2,000,000 units and must provide for at least 180,000 new units annually to keep pace with growth through 2025." (Gov. Code, Section 65589.5(a).)" The Legislature enacted the Housing Crisis Act of 2019 (Stats. 2019, ch. 654), the centerpiece of which is Government Code section 66300. The Legislature intends that public agencies, in regulating private activities affecting the environment, "shall regulate such activities so that major consideration is given to preventing environmental damage, while providing a decent home and satisfying living environment for every Californian." (Public Resources Code [PRC] Section 21000(g).) PRC Section 21159.26 states that "[w]ith respect to a project that includes a housing development, a public agency may not reduce the proposed number of housing units as a mitigation measure or project alternative for a particular significant effect on the environment if it determines that there is another feasible specific mitigation measure or project alternative that would provide a comparable level of mitigation. This section does not affect any other requirement regarding the residential density of that project." As such, the development of 1,800 residential units would have a positive impact from the perspective of the housing crisis in the State.

Cumulative Impacts and Mitigation Measures

As defined in Section 15355 of the CEQA Guidelines, "cumulative impacts" refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Additional detail regarding the cumulative setting is included in Chapter 6, Statutorily Required Sections, of this EIR.

4.11-2 Cumulative unplanned population growth. Based on the analysis below, the cumulative impact is *cumulatively considerable* and *significant and unavoidable*.

The Proposed Project and the BRPA would both include development of a total of 1,800 housing units, and would therefore result in similar impacts related to population growth. As such, the following analysis applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

Buildout of the City of Davis was anticipated to result in population growth within the plan area through the buildout of urban and rural developments. Since approval of the General Plan, the City has approved several large residential projects, such as the Cannery Subdivision with 610 residential units, the Bretton Woods Subdivision with 560 residential units, and the Davis Innovation and Sustainability Campus (DiSC) 2022 with 460 units.The approval of the aforementioned residential development projects has increased the amount of land designated for residential development within the City. In addition, several new residential subdivisions are currently proposed, including Palomino Place with 175 residential units and Shriners Property with 1,200 residential units, located approximately 0.8-mile to the east of the project site. It should be noted that the Shriners Property Project is also located outside the City limits, and, therefore, the addition of the 1,200 residential units associated with the Shriners Property would be unplanned. In total, the aforementioned residential developments, in combination with the Proposed Project/BRPA, would result in a total of 4,345 new residential units within the City of Davis. As shown above in Table 4.11-3, the General Plan Housing Element projected that a total of 1,737 housing units would be developed in the City between 2020 and 2036; thus, development of the Proposed Project/BRPA with 1,800 residential units, in combination with other cumulative development in the City of Davis, would result in a cumulative significant impact.

As discussed within Impact 4.11-1 above, the population growth related to implementation of the Proposed Project/BRPA has not been anticipated for the region by the MTP/SCS. However, population growth itself does not constitute a significant physical environmental effect. Rather, the determination of significance is based on whether population growth associated with a project could result in indirect physical environmental impacts. As such, the cumulative analysis within each technical chapter of this EIR evaluates the physical environmental impacts of cumulative development.

Based on the above, the contribution of the Proposed Project or BRPA to the cumulative significant impact associated with planned and potential development in the City of Davis would be ***cumulatively considerable***.

Mitigation Measure(s)

Feasible mitigation does not exist to reduce the above potential impact to a less-than-significant level. Therefore, the impact would remain *cumulatively considerable* and *significant and unavoidable*.

4.12. Public Services and Recreation

4.12 PUBLIC SERVICES AND RECREATION

4.12.1 INTRODUCTION

The Public Services and Recreation chapter of the EIR summarizes the existing setting and identifies potential new demands resulting from the development of the Proposed Project and the Biological Resources Preservation Alternative (BRPA) on fire and police protection services, schools, parks, and other public facilities. Additionally, the chapter evaluates if the Proposed Project or BRPA would 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 or require new or expanded recreational facilities that could have an adverse environmental effect. Information for this section was drawn primarily from the City of Davis General Plan[1] and the City of Davis General Plan EIR, as well as correspondence with applicable service providers.[2]

4.12.2 EXISTING ENVIRONMENTAL SETTING

The following section describes the existing public services in the City of Davis, including fire and police protection services, schools, parks and other public facilities.

Fire Protection Services

The project site/BRPA site is currently located within the service area of the Springlake Fire Protection District in an unincorporated portion of Yolo County. Upon annexation into the City of Davis, the site would be served by the Davis Fire Department (DFD). According to the City, the DFD serves a 133-square-mile area containing a population of over 68,986 people, on a total annual budget of nearly $18 million.[3] The DFD provides pre-hospital emergency medical services; minimizes loss from fires, hazardous materials incidents, natural disasters, and other emergencies; manages the City's emergency service resources; and coordinates citywide plans for large scale disasters and emergency incidents.

The DFD has contractual agreements with the East Davis County Fire Protection District, the Springlake Fire Protection District, and the No Man's Land Fire Protection District to provide emergency response to the foregoing areas. The land covered by the City of Davis and the three foregoing fire protection districts is divided into seven emergency first-response areas. The first-response areas provide clearly defined territories for dispatching the nearest fire and emergency medical service (EMS) personnel and equipment to an emergency. In addition, the DFD has an automatic aid agreement with University of California, Davis (UC Davis) and the cities of Woodland, West Sacramento, and Dixon and a mutual aid agreement with all other fire protection agencies in Yolo County and throughout California.

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1 City of Davis. *City of Davis General Plan.* Adopted May 2001, Amended January 2007.
2 City of Davis. *Final Program EIR for the City of Davis General Plan Update and Final Project EIR for Establishment of a New Junior High School.* Certified May 2001.
3 City of Davis. *Budget in Brief: FY 2024-2025 Adopted Budget.* Available at: https://www.cityofdavis.org/home/showpublisheddocument/19764/638652837987600000. Accessed December 2024.

The DFD currently operates three fire stations within the City of Davis, including Station 31, located at 530 Fifth Street; Station 32, located at 1350 Arlington Boulevard; and Station 33, located at 425 Mace Boulevard. Station 31, located approximately 1.3 miles southwest of the project site/BRPA site, is the closest fire station to the site. The response area for Station 31 is the central portion of the City.

The DFD maintains a staff of 42 shift personnel (12 captains and 30 firefighters), one fire chief, two administrative staff, three battalion chiefs, and one fire marshal, for a total of 49 employees. Shift personnel are divided into three 24-hour-a-day shifts. The DFD equipment consists of three engines, one ladder truck, one squad unit, two grass/wildland units, one water tender, two reserve engines, two command vehicles, and one fire prevention staff vehicle, as well as two antique fire apparatus units.

Currently, the required response time standard for the DFD is six minutes for more than 90 percent of all incidents, consistent with the National Fire Protection Association (NFPA) 1710 response time standard.[4] NFPA 1710 Section 4.1.2.1 establishes the following performance objectives: 240 seconds (four minutes) or less travel time for the arrival of the first engine company at a fire suppression incident; and 360 seconds (six minutes) or less travel time for the arrival of the second company with a minimum staffing of four personnel at a fire suppression incident.[5] The six-minute response time accounts for a one-minute dispatch processing time, a one-minute turnout time, and a four-minute driving response time. The majority of the project site/BRPA site is currently located outside of the four-minute drive time zone (see Figure 4.12-1).

The DFD primarily obtains funds from several revenue sources through the City's General Fund, which is funded from revenues generated by local sales and property taxes, motor vehicle-in-lieu fees, the municipal service tax, business license tax, and by revenues generated from permits and fees.[6] The City's General Fund contributes toward the DFD facilities, apparatus, and equipment necessary to maintain adequate service levels. The fiscal year 2021-2022 General Fund expenditures for the DFD were $14.7 million.

Law Enforcement Services

The project site/BRPA site is currently located within an unincorporated portion of Yolo County, which is provided law enforcement services by the Yolo County Sheriff's Office. Upon annexation into the City of Davis, the site would be served by the Davis Police Department (DPD).

The DPD is located at 2600 Fifth Street, approximately one mile southeast of the project site/BRPA site. The DPD provides services to approximately 66,000 City residents. Of the 90 full-time employees, 60 are sworn officers and 30 are civilian support positions.[7] The DPD staff is supplemented by over 15 volunteers. The DPD is organized into the following four divisions:

- Administration Division: The Administration Division provides overall management, planning, coordination, and evaluation of department functions.

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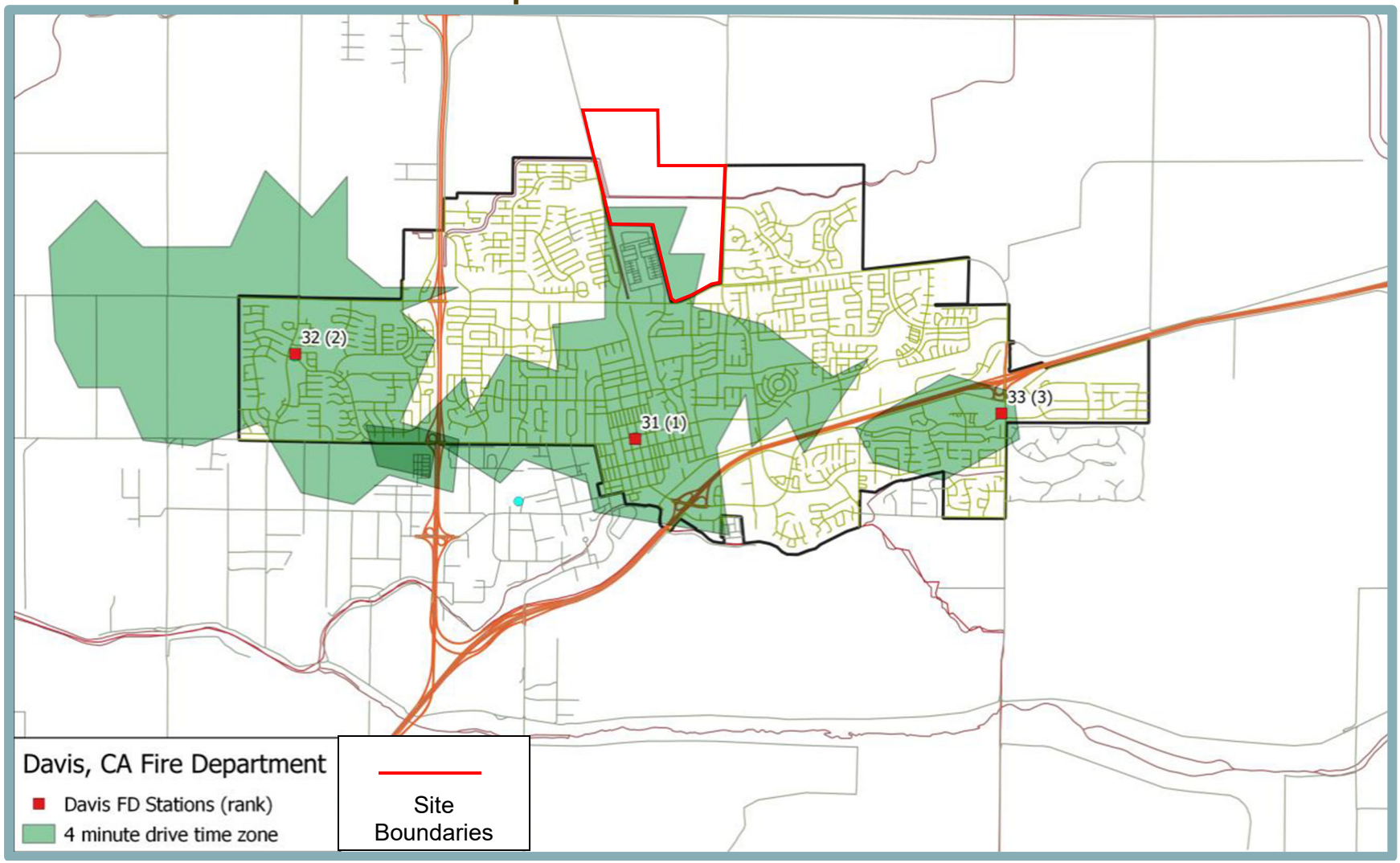
4 Sandholdt, Patrick, Fire Marshal, Davis Fire Department. *Personal communication [email] with Nick Pappani, Vice President, Raney Planning and Management, Inc.* April 10, 2024.

5 Sandholdt, Patrick, Fire Marshal, City of Davis Fire Department. *Personal Communication [email] with Nick Pappani, Vice President, Raney Planning and Management, Inc.* March 12, 2024.

6 City of Davis. *Budget in Brief: FY 2021-2022 Adopted Budget*. 2021.

7 City of Davis. *Administration.* Available at: https://www.cityofdavis.org/city-hall/police-department/administration. Accessed March 2024.

Figure 4.12-1
Davis Fire Department Four-Minute Drive Time Zone



Source: Davis Fire Department, 2024.

- Patrol Division: The Patrol Division provides first-line emergency response to crimes in progress, accidents, and tactical situations.
- Investigations Division: The Investigations Division handles major criminal investigations of all types involving adult and juvenile offenders, as well as missing persons of all ages.
- Records and Communications Division: The Records and Communications Division is the hub of the department, which receives all emergency 911 and nonemergency calls for service and ensures that appropriate resources are dispatched in a timely manner.

The largest division in the DPD is the Patrol Division, which is comprised of five patrol teams and the Traffic Unit. According to the City, the Patrol Division is staffed with two lieutenants, five sergeants, five corporals, and 28 officers. Sworn officers perform law enforcement tasks, as well as administration and supervision, and civilian personnel are involved in administration, support services, supervision, dispatch, parking enforcement, and community service duties.

UC Davis also maintains an on-campus police department that has a mutual aid agreement with the City for major incidents. Similar to the DFD, the DPD primarily obtains funds through the City's General Fund. The collected funds contribute to DPD facilities, apparatus, and equipment determined necessary by the City for the DPD to meet applicable response time and staffing level standards. The fiscal year 2021-2022 General Fund expenditures for the DPD were $21.8 million.[8]

Schools

The project site/BRPA site is located within the boundaries of the Davis Joint Unified School District (DJUSD). The DJUSD consists of nine elementary schools, four junior high schools, three high schools, a K-12 school, an adult and community education program, and a preschool center. According to the California Department of Education's enrollment data, the DJUSD served a total of 8,361 students during the 2023-24 academic year, including 4,149 elementary school students, 1,680 junior high students, 2,521 high school students, and 11 students in nonpublic and nonsectarian schools.[9] The nearest schools to the project site/BRPA site include Birch Lane Elementary, located 0.24-mile to the southeast of the site; Oliver Wendell Holmes Junior High School, located 0.27-mile to the south of the site; and Davis Senior High School, located approximately 0.6-mile southwest of the site. Table 4.12-1 shows the enrollment total of schools within the DJUSD for the 2023-24 academic year.

With respect to school capacity, the DJUSD maintains an Inter-District Transfer (IDT) agreement with surrounding school districts. The IDT program allows parents and/or legal guardians to enroll their student at a DJUSD school even if the school is located outside of the district in which the student resides. If a student's parent or legal guardian works more than 10 hours a week in the City of Davis, the student meets the Resident by Employment standard established by California Education Code Section 48204. Resident by Employment students cannot be denied admittance into the DJUSD if space is available to accommodate them, and the students' IDT qualification cannot be revoked in the future once the students are admitted.

[8] City of Davis. *City Budget & Financial Reporting.* Available at: https://www.cityofdavis.org/city-hall/finance/city-budget. Accessed March 2024.

[9] California Department of Education. *DataQuest.* Available at: https://dq.cde.ca.gov/dataquest/. Accessed May 2024.

Table 4.12-1
Davis Joint Unified School District Enrollment By Facility

School Facility	2023-24 Enrollment
Birch Lane Elementary	564
Cesar Chavez Elementary	492
Da Vinci Charter Academy	582
Davis School for Independent Study	145
Davis Senior High	1,789
Fairfield Elementary	45
Frances Ellen Watkins Harper Junior High	552
Fred T. Korematsu Elementary at Mace Ranch	522
King (Martin Luther) High (Continuation)	50
Marguerite Montgomery Elementary	451
Nonpublic, Nonsectarian Schools	11
North Davis Elementary	575
Oliver Wendell Holmes Junior High	621
Patwin Elementary	399
Pioneer Elementary	568
Ralph Waldo Emerson Junior High	488
Robert E. Willett Elementary	507

Source: California Department of Education, May 2024.

The number of IDT students increased over the past five years, in contrast to DJUSD's declining enrollment. According to the DJUSD, enrollment has declined by nearly 300 students since the 2017-18 school year. In addition, the number of DJUSD non-resident students in 2023 was 1,046. Of the total non-resident students, 90 were legally required to be accepted by reason of employment. Based on the declining enrollment rate overall and the consistent acceptance of IDT students, the DJUSD currently has the capacity to accept new students.

The DJUSD Facilities Master Plan outlines the district's long-range educational program goals and facility improvements.[10] The Facilities Master Plan includes a facility needs assessment for each school to assess the existing conditions, identify needs, and estimate project costs. Projected improvements to schools within the district include modernizing classrooms; improving physical education facilities; enhancing exterior environments, including learning courts, quads, gardens, and amphitheaters; and improving technological infrastructure. In accordance with Proposition 1A/Senate Bill (SB) 50, which is discussed further below in the Regulatory Context section, the DJUSD assesses developer fees on new construction. The current fees are $5.17 per square foot (sf) for new residential construction and additions and $0.84 per sf for new commercial and industrial development.[11]

In addition, on November 2, 2023, the DJUSD Board of Trustees voted to place a parcel tax renewal measure known as Measure N on the March 5, 2024 ballot.[12] The measure was approved by voters, which renewed an existing parcel tax at $768 per year that is anticipated to total

[10] Davis Joint Unified School District. *Facilities Master Plan*. Available at: https://www.djusd.net/cms/one.aspx?portalId=117173&pageId=3165267. Accessed October 2024.
[11] Davis Joint Unified School District. Developer Fees. Available at: https://www.djusd.net/departments/business_services/developer_fees. Accessed December 2024.
[12] Davis Joint Unified School District. *Measure N – Parcel Tax Renewal 2024.* Available at: https://www.djusd.net/about/parcel_tax. Accessed March 2024.

approximately $11.7 million per year. The tax gathered under Measure N will continue to act as a source of funding for DJUSD schools.

Parks and Recreation Facilities

The City's Parks and Community Services Department maintains over 485 acres of parks and greenbelts across 37 neighborhood and community parks, which consist of various amenities, including 65 play areas; 12 large, reservable picnic areas, as well as many smaller picnic areas; 33 tennis courts; and other recreational amenities, such as horseshoe pits, disc golf, basketball courts, and exercise courses (see Figure 4.12-2).

Pursuant to Table 14 of the City's General Plan, the City maintains a standard of five acres of parkland per 1,000 residents within the City limits. In addition, according to the City's Parks and Recreation Facilities Master Plan Update, the City requires community parks to be located within 1.5 miles of all residential units. The City further requires neighborhood parks to be located within three-eighths of a mile of all residential units,[13] and recommends that 10 percent of new residential development be dedicated to greenbelt areas.

The nearest existing parks and recreation facilities to the project site/BRPA site are Nugget Fields, which are both located east of the project site/BRPA site across Pole Line Road, and Northstar Park, which is located across F Street to the west. In addition, Market Park and Harvest Park are located approximately 600 feet to the west of the project site/BRPA site within the existing Cannery neighborhood, and Oak Grove Park is located within the residential neighborhood located approximately 600 feet to the east of the project site/BRPA site.

Other Public Facilities

The Yolo County Library maintains eight library branches, an archive and historic collections center, and is actively planning a new Davis Branch Library known as the Walnut Park Library at 2700 Lillard Drive, approximately 1.6 miles south of the project site/BRPA site. The existing Davis branch library, the Mary L. Stephens Davis Library, is located at 315 East 14th Street, approximately 0.5-mile southwest of the site. The library features six study rooms and offers free Wi-Fi access and computer use to the public. In addition, the South Davis Montgomery Library is located approximately 1.6 miles south of the site at 1441 Danbury Street within the Marguerite Montgomery Elementary School and is open to the public during public library hours.

The Yolo County Library funds libraries through the County's property tax. Pursuant to Yolo County Code Chapter 14, the County's Facilities Authorization and Fee is imposed on new residential projects and commercial improvements within the County. Revenues generated from the fee are used for countywide library programs and operations.

4.12.3 REGULATORY CONTEXT

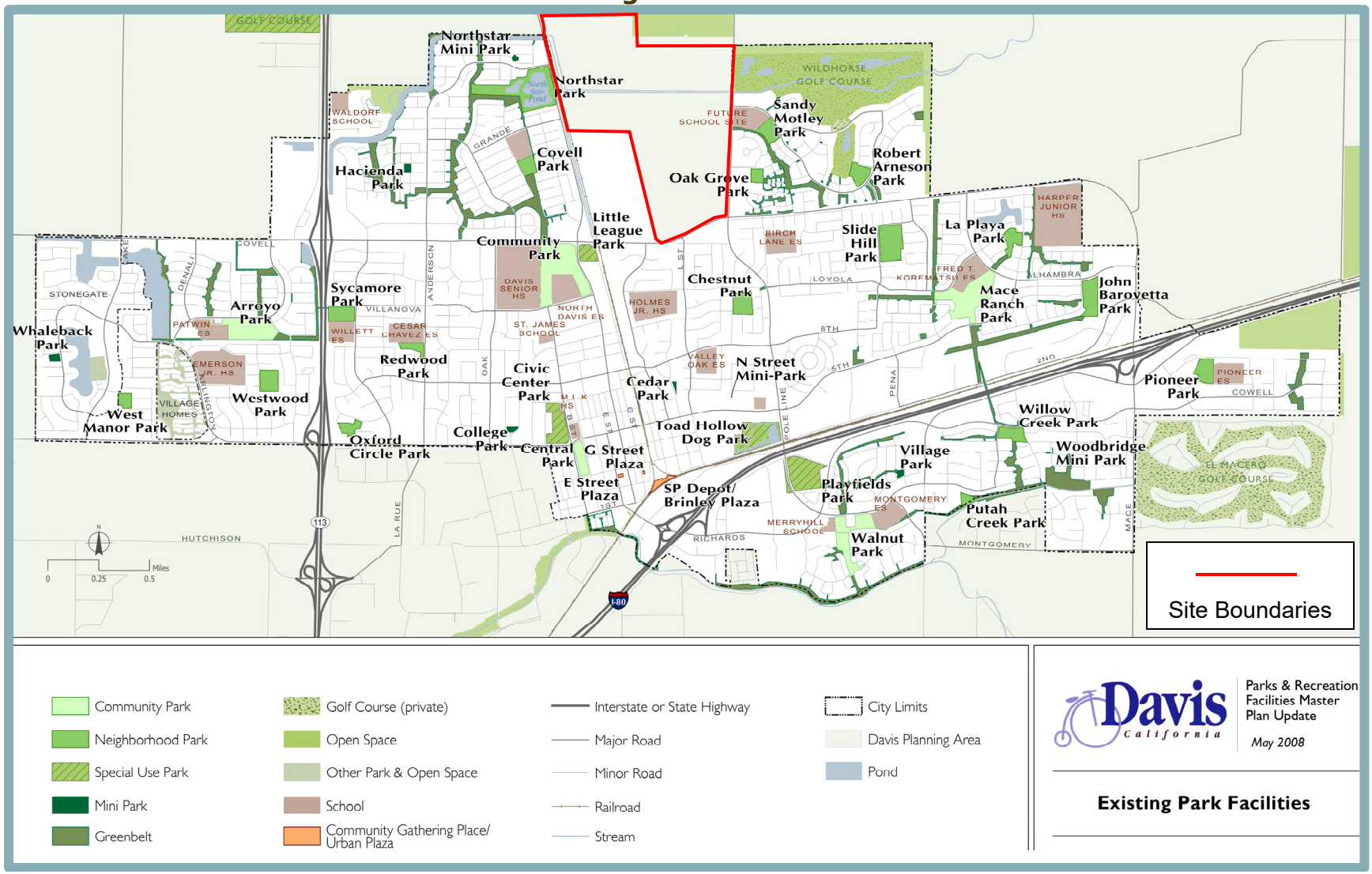
Applicable federal laws or regulations pertaining to the provision of public services and recreational facilities do not exist. The following discussion contains a summary review of applicable State and local regulatory controls pertaining to public services and recreation.

State Regulations

The following are the State environmental laws and policies relevant to public services and recreation.

[13] City of Davis. *Parks and Recreation Facilities Master Plan Update.* Adopted 2012.

Figure 4.12-2
Existing Park Facilities



Source: City of Davis. Parks and Recreation Facilities Master Plan Update, May 2008.

California Fire Code

The California Fire Code (CFC) contains regulations related to construction, maintenance, and use of buildings. Topics addressed in the CFC include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The CFC contains specialized technical regulations related to fire and life safety.

California Health and Safety Code

State fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code, including regulations for building standards (as also set forth in the California Building Standards Code [CBSC]), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training.

Proposition 1A/Senate Bill 50

Proposition 1A/SB 50 (Chapter 407, Statutes of 1998) is a school construction measure primarily for modernization and rehabilitation of older school facilities and construction of new school facilities. Proposition 1A/SB 50 implemented significant fee reforms by amending the laws governing developer fees and school mitigation, as follows:

- Established the base (statutory) amount (indexed for inflation) of allowable developer fees at $1.93 per sf for residential construction and $0.31 per sf for commercial construction.
- Prohibited school districts, cities, and counties from imposing school impact mitigation fees or other requirements in excess of or in addition to those provided in the statute.

Proposition 1A/SB 50 also prohibits local agencies from using the inadequacy of school facilities as a basis for denying or conditioning approvals of any "[…] legislative or adjudicative act […] involving […] the planning, use, or development of real property" (Government Code Section 65996[b]). Additionally, a local agency cannot require participation in a Mello-Roos for school facilities; however, the statutory fee is reduced by the amount of any voluntary participation in a Mello-Roos. Satisfaction of the Proposition 1A/SB 50 statutory requirements by a developer is deemed to be "full and complete mitigation." The law identifies certain circumstances under which the statutory fee can be exceeded, including preparation and adoption of a "needs analysis," eligibility for State funding, and satisfaction of two of four requirements (post-January 1, 2000) identified in the law including: year-round enrollment, general obligation bond measure on the ballot over the last four years that received 50 percent plus one of the votes cast, 20 percent of the classes in portable classrooms, or specified outstanding debt. Assuming a district qualifies for exceeding the statutory fee, the law establishes ultimate fee caps of 50 percent of costs where the State makes a 50 percent match, or 100 percent of costs where the State match is unavailable. District certification of payment of the applicable fee is required before the City can issue the building permit.

Quimby Act

California Government Code Section 66477, Subdivision Map Act, referred to as the Quimby Act, permits local jurisdictions to require the dedication of land and/or the payment of in-lieu fees solely for park and recreation purposes. The required dedication and/or fees are based upon the residential density, parkland cost, and other factors. Land dedication and fees collected pursuant

to the Quimby Act may be used for acquisition, improvement, and expansion of park, playground, and recreational facilities or the development of public school grounds.

Local Regulations

The following are the local regulations relevant to public services and recreation.

City of Davis General Plan

The applicable Davis General Plan goals and policies related to public services and recreation are presented below.

Police and Fire Chapter

Goal POLFIRE 1 Provide high quality police and fire protection services to all areas of the City.

Policy POLFIRE 1.1 Recruit and maintain a staff of high-quality police officers and firefighters.

Policy POLFIRE 1.2 Develop and maintain the capacity to reach all areas of the City with emergency police and fire service within a five-minute emergency response time, 90% of the time. Response time includes alarm processing, turnout time and travel time.

Goal POLFIRE 2 Provide for an emotionally and physically safe environment where the people of Davis are able to live without fear of violence or other forms of abuse.

Policy POLFIRE 2.1 Reduce crime through community policing, public education, crime prevention, neighborhood watch and outreach programs.

Goal POLFIRE 3 Increase fire safety through provision of adequate fire protection infrastructure, public education and outreach programs.

Policy POLFIRE 3.1 Provide adequate infrastructure to fight fires in Davis.

Policy POLFIRE 3.2 Ensure that all new development includes adequate provision for fire safety.

Policy POLFIRE 3.3 Make fire protection services visible and accessible to Davis residents.

Youth and Education Chapter

Goal Y&E 8 Plan for the costs of new school facilities when planning for specific new residential developments.

Policy Y&E 8.1 It shall be the policy of the City to require to the extent legally permissible the full mitigation of school impacts resulting from new residential development within the boundaries of the City.

Goal Y&E 9 Construct new public schools to meet the needs of residential growth.

Policy Y&E 9.1 It shall be the policy of the City to take all legally permissible steps to ensure the full mitigation of impacts of new development on school facilities.

Parks and Open Space

Goal POS 1 Provide ample, diverse, safe, affordable, and accessible parks, open spaces, and recreation facilities and programs to meet the current and future needs of Davis' various age and interest groups and to promote a sense of community, pride, family, and cross-age interaction.

Policy POS 1.2 Provide informal areas for people of all ages to interact with natural landscapes, and preserve open space between urban and agricultural uses to provide a physical and visual edge to the City.

Policy POS 1.7 Use all available mechanisms for preservation of open space.

Goal POS 2 Develop an Urban Agricultural Transition Area around Davis, as shown on the Land Use Map in the Land Use and Growth Management Chapter and according to the concepts illustrated in Figure 32.

Policy POS 2.1 Develop the Urban Agricultural Transition Area to have segments which vary in overall size and configuration, level of development, and type of intended activity.

Goal POS 3 Identify and develop linkages, corridors, and other connectors to provide an aesthetically pleasing and functional network of parks, open space areas, greenbelts, and bike paths throughout the City.

Policy POS 3.1 Require creation of neighborhood greenbelts by project developers in all residential projects, in accordance with Policy LU A.5.

Policy POS 3.2 Develop a system of greenbelts and accessways in new non-residential development areas.

Goal POS 4 Distribute parks, open spaces, and recreation programs and facilities throughout the City.

Policy POS 4.1 Preserve existing parks, greenbelts, and open space areas.

Policy POS 4.2 Construct new parks and recreation facilities.

Goal POS 5 Respect natural habitat areas and agricultural land in planning and maintaining the City's park system.

	Policy POS 5.1	Protect and retain wildlife habitat, agricultural land, and open space when planning and maintaining City park lands.
Goal POS 6	Encourage local organizations, the Davis Joint Unified School District, UC Davis, and the private sector to provide, develop, and maintain needed parks, open space, recreation facilities, programs, activities, and special events to the greatest extent possible.	
	Policy POS 6.1	Give local organizations, the School District, UC Davis, and the private sector opportunities and support for devising and implementing creative solutions for meeting recreation program and facility needs.
	Policy POS 6.2	Require dedication of land and/or payment of an in-lieu fee for park and recreational purposes as a condition of approval for subdivisions, as allowed by the Quimby Act (Government Code 66477).

Land Use and Growth Management Chapter

	Policy LU A.5	Require neighborhood greenbelts in all new residential development areas. Require that a minimum of 10 percent of newly-developing residential land be designated for use as open space primarily for neighborhood greenbelts.

Davis Municipal Code

The Davis Municipal Code ordinances related to public services and utilities that are applicable to the proposed project are presented below.

Davis Municipal Code Section 8.01.010, Adoption by Reference of the California Building Standards Code

The current standards set forth by the CBSC (California Code of Regulations [CCR] Title 24, Part 9), including, but not limited to, the California Building Code (CBC) (CCR Title 24, Part 2) and CFC (CCR Title 24, Part 9), are adopted by reference through Davis Municipal Code Section 8.01.010. The CBC and CFC address roofing materials, automatic sprinkler systems, emergency access, access gates, sprinkler systems, fire alarms within buildings, and construction of access roads to accommodate fire apparatus. The CFC requires that an automatic fire sprinkler and/or fire extinguishing system be installed throughout new one- and two-family dwellings.

Davis Municipal Code Section 36.08.040, Parkland Dedication

The City's standard for the provision of parkland acreage by new developments is codified in Davis Municipal Code Section 36.08.040. The standard requires dedication of 0.0131-acre of parkland per dwelling unit. Fees may be approved in lieu of parkland dedication.

Parks and Recreation Facilities Master Plan Update

In general, a parks and facilities master plan provides an overall framework to guide the dedication of parks, recreation, and related services in the community. The City's Parks and Facilities Master Plan Update was adopted by the City in 2012, and includes a 10-year plan and funding strategy

that prioritizes parks and recreation capital projects determined to be necessary to maintain existing amenities, responds to community requests for enhanced opportunities, and provides for expanded facilities as the City's population grows.

4.12.4 IMPACTS AND MITIGATION MEASURES

The following section describes the standards of significance and methodology used to analyze and determine the potential impacts related to public services and recreation associated with the Proposed Project and BRPA. In addition, a discussion of the potential impacts, as well as mitigation measures where necessary, is also presented.

Standards of Significance

In accordance with Appendix G of CEQA Guidelines, impact determinations regarding public services and recreation require consideration as to whether the Proposed Project or BRPA would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
    - 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.

Method of Analysis

The methodology used to determine the potential impacts related to fire protection, police protection, schools, parks, and other public facilities that would occur through development of the Proposed Project and BRPA is discussed in further detail below.

Fire Protection and Police Services

The approach to analyzing a project's impacts on fire protection and police protection services in accordance with CEQA is often misunderstood. Industry practice has often focused on any type of demand upon a fire or police department or district that may be generated by a project, such as an increased need for staffing, or the need for new equipment. Such considerations are important, but they are not CEQA considerations, per se. This important point can be seen by a careful reading of the language in Appendix G of the CEQA Guidelines (Section XV, Public Services). The language focuses on whether a project's increase in demand is such that a fire service or law enforcement provider would need to build new or expand existing governmental facilities in order to maintain acceptable service ratios, response times, or other performance objectives. The reason for such focus is that building new facilities, or expanding existing facilities, requires construction activities and disturbance of the physical environment, which is the focus of CEQA.

According to CEQA Guidelines Section 15002(g), a significant effect on the environment is defined as a substantial adverse change in the physical conditions which exist in the area affected by a proposed project. "Environment" means the physical conditions that exist within the area that would be affected by a proposed project, including land, air, water, minerals, flora, fauna, noise, or objects of historic or aesthetic significance (Public Resources Code Section 21060.5). The courts have affirmed such understanding. In the case *City of Hayward v. Board of Trustees of the California State University,* the First District Court of Appeal affirmed that the focus of CEQA analysis should be limited to physical environmental impacts related to a project.[14] The court held that, "[t]he need for additional fire protection services is not an environmental impact that CEQA requires a project proponent to mitigate."

Based on the above, the analysis below appropriately focuses on whether the Proposed Project's or BRPA's demand upon fire protection and police protection service providers would generate the need to build new facilities or expand existing facilities, the construction of which would cause significant impacts on the environment.

Schools, Parks, and Other Public Facilities

The threshold for analyzing the Proposed Project's and BRPA's potential impacts to DJUSD facilities pertains to compliance with Proposition 1A/SB 50. Satisfaction of the Proposition 1A/SB 50 statutory requirements by a project developer is deemed to be "full and complete mitigation."

The threshold for analyzing the Proposed Project's and BRPA's impact to the City's parks and recreation facilities is related to consistency with applicable General Plan policies, as well as compliance with Davis Municipal Code Section 36.08.040 (Parkland dedication).

Because the Yolo County Library is funded, in part, by property taxes, State funds, and library fees, the Proposed Project's and BRPA's potential impact to other public facilities, which primarily includes the Mary L. Stephens Davis Library and South Davis Montgomery Library, is analyzed through determining how the County's property tax, as detailed in Yolo County Code Chapter 14, County Facilities Authorization and Fee, under Title 3, Finance, applies.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts related to public services and recreation is based on implementation of the Proposed Project or the BRPA in comparison with the standards of significance presented above.

4.12-1 Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental services and/or 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 services. Based on the analysis below, the impact is *less than significant*.

The following discussion includes an analysis of potential impacts related to potential increases in the provision of fire protection services as a result of the Proposed Project

[14] First District Court of Appeal. *City of Hayward v. Board of Trustees of the California State University*. (November 30, 2015) 242 Cal.App.4th 833.

and BRPA, the construction of which could cause significant environmental impacts. Because the Proposed Project and BRPA would both include development of 1,800 dwelling units, as well as neighborhood services and public, semi-public, and educational uses, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

The project site/BRPA site is currently located within the Springlake Fire Protection District in an unincorporated portion of Yolo County. Upon annexation into the City of Davis, the site would be served solely by the DFD. The nearest DFD facility to the project site/BRPA site is Station 31, located approximately 1.3 miles southwest of the site. As shown in Figure 4.12-1, portions of the project site/BRPA site are located within the four-minute drive time zone, but the majority of the site is outside of the zone. Thus, the DFD may not currently meet the NFPA 1710 response time standard when responding to fire events at portions of the project site/BRPA site outside of the four-minute drive time zone. However, a fourth fire station site is included as part of both the Proposed Project and BRPA. In addition, an alternative site for the fire station is included as part of the Shriners Property Project, located approximately 2.07 miles to the east of the project site/BRPA site. Construction of the new fire station is anticipated to occur at either the project site/BRPA site or the Shriners Property Project site (if approved by the City Council and voters) and would allow the DFD to respond to on-site fire and emergency medical events within the NFPA 1710 response time standard. If developed as part of the Proposed Project or BRPA, the fire station would be located in the southern portion of the project site/BRPA site, adjacent to East Covell Boulevard. All potential physical environmental impacts that could result from development of the Proposed Project and BRPA, including the potential new fire station, have been evaluated throughout the technical chapters of this EIR. It should be noted that the potential environmental impacts of the fire station construction will also be analyzed within the associated EIR being prepared for the Shriners Property Project.

All structures constructed as part of the Proposed Project and the BRPA would be designed in accordance with Davis Municipal Code Section 13.01.010 and all applicable provisions of the CFC. Consistent with the CFC, the Proposed Project and BRPA would include features, such as fire sprinklers and smoke alarms, to reduce potential fire hazards. Such features would reduce the potential for fires to occur and spread within the proposed structures, thereby reducing the demand for fire protection services to the maximum extent feasible.

Phase 1 of the Proposed Project includes construction of five residential villages containing 990 residential units, the majority of which would be located along the eastern site boundary. Of the total, 300 residential units would be located within the existing response time zone, leaving 690 residential units within the East Village, Central Village, and Parkside Village East without adequate service from DFD. Similarly, the BRPA includes 940 residential units within Phase 1, including the West Park North and South villages, the East Village, and the Central Villages East and West. Of the foregoing villages, the West Park North and South would be located within the adequate response time zone, leaving 580 residential units without adequate service from DFD. Because the fire station is currently included as part of the later phases of the Proposed Project and BRPA, a portion of the residences that

would be built under Phase 1 of each development scenario would not receive adequate service from existing DFD facilities.[15]

Based on the above, the Proposed Project and the BRPA would not result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection services and/or facilities, the construction of which could cause significant environmental impacts, and a ***less-than-significant*** impact could occur. It should be noted that the City may consider the timing of the fire station during the project review process. Any timing specifications related to response times would be conditioned by the City as part of project approval.

Mitigation Measure(s)

None required.

4.12-2 Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental services and/or facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection services. Based on the analysis below, the impact is *less than significant*.

The following discussion includes an analysis of potential impacts related to increases in the demand for police protection services as a result of the Proposed Project and BRPA, the construction of which could cause significant environmental impacts. Because the Proposed Project and BRPA would both include development of 1,800 dwelling units, as well as neighborhood services and public, semi-public, and educational uses, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

The project site/BRPA site is currently located within an unincorporated portion of Yolo County, which is provided law enforcement services by the Yolo County Sheriff's Office. Upon annexation into the City of Davis, the site would be served by the DPD. Using the 2.57 persons/household average household size for the City of Davis as noted in the City's Housing Element, the proposed 1,800 residential units would generate an estimated 4,626 new residents. While such an amount would increase the demand for DPD services, based upon correspondence with the DPD, the increase in demand could be accommodated through department operations out of a DPD sub-station.[16] Such operations would allow patrol officers to remain in the area by reducing travel time between existing stations during shifts, which would reduce response times to any on-site calls for service.

The Proposed Project and BRPA would also be designed in accordance with the City's minimum security building standards, established by Davis Municipal Code Article

[15] Sandholdt, Patrick, Fire Marshal, City of Davis Fire Department. Personal Communication [email] with Nick Pappani, Vice President, Raney Planning and Management, Inc. March 12, 2024.

[16] Todd Henry, Deputy Police Chief, City of Davis Police Department. Personal Communication [email] with Nick Pappani, Vice President, Raney Planning and Management. March 7, 2024.

8.14, including various minimum security requirements for new single- and multi-family residences, which are reviewed by the City as part of the construction documents. More specifically, Davis Municipal Code Section 8.14.050 includes security features for all residential buildings and requires all single-family residences to display a street number in a prominent location to aid approaching emergency vehicles. Features required for multi-family dwellings include self-locking devices on exterior doors, proper unit identification, properly secured garages, and lighting standards for common areas. For non-residential structures, required features include similar construction and locking requirements for exterior doors as required for residential buildings, and the use of burglar resistant glass. Davis Municipal Code Article 8.14 also includes regulations to ensure that proper lighting is provided in stairwells, walkways, and parking lots. The inclusion of the aforementioned design features would increase security at the project site/BRPA site, thereby minimizing security risks and reducing the project's demand for police services.

In addition, the DPD obtains funds from several revenue streams through the City's General Fund, which collects from general tax dollars from sales and property taxes, motor vehicle-in-lieu fees, the municipal service tax, business license tax, and by revenues generated from permits and fees. Both the Proposed Project and the BRPA would contribute funding for the DPD through paying applicable City property taxes and development fees, which in addition to the payment of the City's public safety development impact fee, would constitute the project's fair share towards police protection services.

As discussed in the Project Description chapter of this EIR, the fire station included as part of the Proposed Project and BRPA could provide a small amount of space to support police personnel in the field.

Based on the above, the Proposed Project and BRPA would not result in substantial adverse physical impacts associated with the provision of new or physically altered police protection services and/or facilities, the construction of which could cause significant environmental impacts, and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)
None required.

4.12-3 Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental services and/or facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable performance objectives for schools and other public facilities. Based on the analysis below, the impact is *less than significant*.

The following discussion includes an analysis of potential impacts related to increases in the demand for school services and other public facilities as a result of the Proposed Project and BRPA, the construction of which could cause significant environmental impacts. Because the Proposed Project and BRPA would both include development

of 1,800 dwelling units, as well as neighborhood services and public, semi-public, and educational uses, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

The following discussion includes an analysis of potential impacts related to increases in the provision of DJUSD schools and other public facilities as a result of the Proposed Project and BRPA, the construction of which could cause significant environmental impacts.

Schools

The project site/BRPA site would be provided school services by the DJUSD. The nearest schools to the project site/BRPA site include Birch Lane Elementary, located 0.24-mile to the southeast of the site; Oliver Wendell Holmes Junior High School, located 0.27-mile to the south of the site; and Davis Senior High School, located approximately 0.6-mile southwest of the site. Using the 2.57 persons/household average household size for the City of Davis, as noted in the City's Housing Element, the proposed 1,800 residential units would generate an estimated 4,626 new residents. Such an increase in population would include an associated increase in student population and an increase in demand for schools. Table 5C-6 in the General Plan EIR uses a 0.69 student generation yield rate for single-family residential uses, and 0.44 yield rate for multi-family residential uses. Based on the Proposed Project's division of residential units with 990 single-family residential units and 810 multi-family residential units, the Proposed Project could result in as many as 1,040 new students that would be served by the DJUSD. The BRPA includes 360 multi-family units and 1,440 single-family units, which could result in a maximum number of 1,153 new students.

The Proposed Project and BRPA would include a DJUSD Pre-kindergarten (Pre-K) Early Learning Center located on 2.4 acres in the south-central portion of the project site/BRPA site, immediately south of the North Park Apartments, under the Proposed Project, and in the southeast corner of the North Park Village under the BRPA. The Pre-K Early Learning Center would offer the combined services of preschool and daycare, with early education curriculum and childcare. The Proposed Project and BRPA would also include an educational farm, tentatively proposed as "Green Acres," dedicated to the DJUSD, located in the northeast portion of the project site/BRPA site, south of the East Village. The educational farm would be used for the purposes of teaching agricultural values and methods in a hands-on, early learning outdoor classroom environment. Additional details for the Pre-K Early Learning Center and educational farm facilities would be finalized through consultation with the DJUSD and included in the Development Agreement for the Proposed Project or BRPA. Thus, the school sites included as part of the Proposed Project and BRPA would help address the number of new students generated by the new residential units.

Furthermore, the overall DJUSD declining enrollment rate, in combination with the consistent acceptance of IDT students, has resulted in available DJUSD capacity for new students. Davis voters' renewal of the Measure N parcel tax ensures an existing parcel tax of $768 per year and totaling approximately $11.7 million per year is also available to help fund DJUSD facilities and services. Future residents of the Proposed Project or BRPA would be subject to the Measure N tax and contribute to the funding

of DJUSD schools. Finally, both development scenarios would be subject to the DJUSD developer fees, which are currently maintained at $2.97 per sf for all residential construction and $0.47 per sf for commercial development. Payment of such fees would satisfy the requirements set forth by Proposition 1A/SB 50. Satisfaction of the Proposition 1A/SB 50 statutory requirements by a developer is deemed to be "full and complete mitigation." Therefore, payment of the necessary DJUSD developer fees by the project applicant would be full and satisfactory CEQA mitigation.

Based on the above, the Proposed Project and BRPA would not result in substantial adverse physical impacts associated with the provision of new or physically altered school services and/or facilities, the construction of which could cause significant environmental impacts,

Other Public Facilities

Residents of the Proposed Project or BRPA would have access to the Mary L. Stephens Davis Branch Library, located at 315 East 14th Street, approximately 0.5-mile southwest of the project site/BRPA site and the South Davis Montgomery Library, located at 1441 Danbury Street, approximately 1.6 miles south of the site. In addition, the Yolo County Library is actively planning a new Davis branch library known as the Walnut Park Library approximately 1.6 miles south of the project site/BRPA site at 2700 Lillard Drive.

While the anticipated increase to the City's population of 4,626 new residents associated with the Proposed Project or the BRPA could result in increased demand for Yolo County Library services, future residents of the project would be subject to the County property taxes. Pursuant to Chapter 14, County Facilities Authorization and Fee, in Title 3, Finance, of the Yolo County Code, the tax is imposed on residential projects and commercial development within the County. Revenues generated by Yolo County property taxes are used for countywide library programs and operations. In addition, the City of Davis passed Measure T on November 5, 2024.[17] Measure T increased the annual special library tax by $49.00 per parcel and/or by $24.50 per unit for multi-family developments. Payment of annual property taxes pursuant to the Yolo County Code and the City's Measure T would ensure the Proposed Project and BRPA do not result in an adverse physical impact related to new or physically altered library facilities, the construction of which would result in environmental impacts.

Conclusion

Based on the above, the Proposed Project and BRPA would not result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities or other public service facilities, the construction of which could cause significant environmental impacts. Thus, a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

[17] Ballotpedia. *Davis, California, Measure T, Library Operation Measure (November 2024)*. Available at: https://ballotpedia.org/Davis,_California,_Measure_T,_Library_Operation_Measure_(November_2024). Accessed November 2024.

4.12-4 Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental services and/or facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable performance objectives for parks; or result in an increase in 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. Based on the analysis below, the impact is *less than significant*.

The following discussion includes an analysis of potential impacts related to the provision of new or physically altered park facilities as a result of the Proposed Project and BRPA, the construction of which could cause significant environmental impacts. Because the Proposed Project and BRPA would both include development of 1,800 dwelling units, as well as neighborhood services and public, semi-public, and educational uses, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

As previously discussed, the Proposed Project and BRPA are anticipated to generate approximately 4,626 new residents, which would increase the demand for parkland facilities in the area. Based on the parkland provision requirements established by Davis Municipal Code Section 36.08.040, the Proposed Project and BRPA would be required to provide at least 23.58 acres of parkland (0.0131 acres of parkland x 1,800 residential units = 23.58 acres).

The Proposed Project would include the 20.3-acre Heritage Oak Park and the 7.5-acre Village Trails Park, which would total 27.8 acres of parkland and satisfy both the General Plan and Municipal Code parkland requirements. Under the BRPA, Heritage Oak Park would be identical to the Proposed Project, but the Village Trails Park acreage would be slightly reduced from 7.5 acres to 6.8 acres. The 0.7-acre reduction to Village Trails Park would instead be included in the northeastern corner of the Natural Habitat Area. Regardless, the BRPA would provide 27.1 acres of parkland, which would be sufficient to satisfy the City's General Plan and Municipal Code parkland requirements. As such, the potential increase in demand for park facilities associated with the potential population growth would be met through the components of the Proposed Project and BRPA.

In addition, according to General Plan Action POS 3.1(l), greenbelt requirements should be calculated separately from park acreage dedication or in-lieu fee payment requirements that are specifically authorized by the Quimby Act (Government Code Section 66477). The City standard for greenbelt provision is related to the General Plan's overall open space provision requirement, which requires 10 percent of newly developing residential land to be developed as open space, primarily greenbelt. Based on the applicant-provided estimates of 390.5 acres of urban development, the

Proposed Project and BRPA would be required to provide at least 39.05 acres of neighborhood greenbelt (390.5 acres x 0.1 = 39.05 acres). The Proposed Project would include approximately 39.73 acres of greenbelts. Generally, the 50-foot-wide greenbelts would occur along portions of all the site's boundaries, as well as adjacent and/or within the proposed residential villages. The provided greenbelts would comprise approximately 15.64 percent of the urban development area (which excludes the UATA). The BRPA would provide approximately 40.8 acres of greenbelts, a 1.1-acre increase from the Proposed Project. Therefore, both the Proposed Project and the BRPA would satisfy the City of Davis open space requirements for new development projects.

Furthermore, both the Proposed Project and BRPA include a new Urban Agricultural Transition Area (UATA), a 118.4-acre portion of the project site/BRPA site to the north of the site that would act as a buffer between the new on-site development and the existing agricultural land further to the north. In accordance with Davis Municipal Code Section 40A.01.050(b), which requires a minimum width of 150 feet for the UATA, the UATA would provide a width of 2,150 feet. The addition of the UATA to the total open space acreage provided by the Proposed Project and BRPA would result in 185.9 acres and 186.3 acres of open space, respectively.

Based on the above, the Proposed Project and BRPA would not result in substantial adverse physical impacts associated with the provision of new or physically altered park facilities, the construction of which could cause significant environmental impacts. The Proposed Project and BRPA would additionally not 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. Therefore, a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

Cumulative Impacts and Mitigation Measures

As defined in Section 15355 of the CEQA Guidelines, "cumulative impacts" refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.

The cumulative setting for impacts related to public services and recreation encompasses buildout of the Proposed Project or BRPA in conjunction with the development of the Davis General Plan planning area, as well as a list of present and probable future projects. For more details regarding the cumulative setting, refer to Chapter 6, Statutorily Required Sections, of this EIR.

4.12-5 Cumulative impacts to public services. Based on the analysis below, the cumulative impact is *less than significant*.

The cumulative analysis in this EIR is based upon development of either the Proposed Project or the BRPA, in conjunction with buildout of the Davis General Plan planning area, as well as a list of present and probable future projects. In addition to the Proposed Project/BRPA, Shriners Property, a 234-acre residential subdivision project located north of the East Covell Boulevard/Alhambra Drive intersection, is currently under review by the City. Just west of Shriners Property, north of the East Covell Boulevard/Monarch Lane intersection, is the Palomino Place Project, which is proposed on a 25-acre site and would include single- and multi-family housing, as well as health and training facilities with memberships that would be open to the public. Other development projects undergoing planning review are located in the southern portion of the City, including two new multi-family residential apartment buildings, a new commercial hotel building, and a 700-unit residential neighborhood located on the 46.9-acre site formerly known as the Nishi Housing Site. The Bretton Woods University Retirement Community project, located northwest of the West Covell Boulevard/Risling Place intersection, has been approved by the City of Davis. Finally, the City of Davis previously approved the Davis Innovation and Sustainability Campus (DiSC) 2022 Project, which was proposed for a 102-acre site (plus the 16.5-acre Mace Triangle property) located immediately to the east of Mace Boulevard and to the north of CR 32A, northeast of the City limits. The DiSC project was subject to voter approval and did not pass.

The following discussion includes an analysis of potential impacts related to potential increases in demand for public services as a result of the Proposed Project and BRPA, in combination with future buildout of the City of Davis and the aforementioned present and probable future projects. Because the Proposed Project and BRPA would both include development of 1,800 dwelling units, as well as neighborhood services and public, semi-public, and educational uses, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

Potential cumulative impacts related to fire and police protection services, schools, parks and recreation, and other public facilities are discussed in further detail below.

Fire Protection Services

Cumulative development, in conjunction with the Proposed Project and BRPA, would increase the demand for fire protection services provided by the DFD. As discussed above, the required response time standard for the DFD is six minutes (with a four-minute drive time) for more than 90 percent of all incidents, consistent with the NFPA 1710 response time standard.

The City funds the DFD budget, in part, through revenues generated by the City's General Fund, which collects funds from building permits and development impact fees, and from public safety development impact fees. Similar to the Proposed Project and BRPA, cumulative development within the City's General Plan planning area would be subject to applicable permits and fees, which would be reviewed by the City to ensure payment. Therefore, revenues generated through fee payments associated with cumulative development would pay fair shares toward any new DFD facilities deemed necessary by the City, which would be required to be designed and constructed in accordance with applicable regulations and standards, and if

necessary, undergo CEQA review. In addition, as discussed above, all structures included as part of buildout of the City's General Plan would be constructed in compliance with the CBC and CFC, which would reduce the potential for fires to occur within the planning area and thereby reduce the demand for fire protection services in the City.

Finally, the Proposed Project and BRPA include construction of a new fire station along the East Covell Boulevard. An alternative site for the fire station is included as part of the Shriners Property Project, located approximately 2.07 miles east of the project site/BRPA site. Construction of the new fire station would allow the DFD to respond to fire events at the project site/BRPA site and the eastern portion of the City limits within the NFPA 1710 response time standard. All potential physical environmental impacts that could result from development of the Proposed Project and BRPA, including the potential new fire station, have been evaluated throughout the technical chapters of this EIR. The potential environmental impacts of the fire station construction will also be analyzed within the associated EIR being prepared for the Shriners Property Project.

Based on the above, cumulative development within the City of Davis, in conjunction with the Proposed Project and BRPA, would result in a less-than-significant impact related to the need for new or improved fire protection facilities, the construction of which could cause significant environmental impacts.

Police Protection Services

Cumulative development, in conjunction with the Proposed Project or BRPA, would increase the demand for police protection services provided by the DPD. Similar to the DFD, the DPD is funded, in part, through the City's General Fund and public safety development impact fee. Cumulative development within the City would be subject to applicable permit application and development impact fees. Additionally, new residents generated by cumulative development would be subject to local taxes. Thus, future projects and residents would pay fair shares toward new DPD facilities deemed necessary by the City, all of which would be required to be designed and constructed in accordance with applicable regulations and standards, and if necessary, undergo CEQA review.

In addition, cumulative development within the City would be designed in accordance with the minimum security building standards established by Davis Municipal Code Article 8.14. The City of Davis requires various security measures to be included in new structures, and reviews development construction documents for consistency. Implementation of the required security measures would help to reduce cumulative demand for police protection services.

Based on the above, cumulative development within the City, in conjunction with the Proposed Project and BRPA, would result in a less-than-significant impact related to the need for new or improved police protection facilities, the construction of which could cause significant environmental impacts.

Schools

Cumulative development, in conjunction with the Proposed Project or BRPA, would increase the demand for school services provided by the DJUSD. However, as discussed above, development as part of cumulative buildout would be subject to DJUSD developer fees, which fund the cost of improving and expanding school facilities and equipment needed to accommodate additional student population induced by new development. Payment of the fees would be deemed to be "full and complete mitigation," as established by Proposition 1A/SB 50. In addition, Davis voters' renewal of the Measure N parcel tax ensures an existing parcel tax of $768 per year and totaling approximately $11.7 million per year is available to help fund DJUSD facilities and services. Future development would increase the number of parcels subject to the tax.

Based on the above, cumulative development within the City, in conjunction with the Proposed Project and BRPA, would result in a less-than-significant impact related to the need for new or improved school facilities, the construction of which could cause significant environmental impacts.

Parks and Other Facilities

Cumulative development, in conjunction with the Proposed Project or BRPA, would increase the demand for park facilities operated by the City of Davis Parks and Community Services Department. However, development facilitated by buildout of the General Plan planning area would be subject to the City's parkland provision requirements as established by Davis Municipal Code Section 36.08.040. With respect to libraries, revenues generated by Yolo County property taxes, State funds, and library fees are used to fund countywide library programs and operations. Cumulative development within the area would be required to be designed and constructed in accordance with applicable regulations and standards, pay all applicable fees and taxes, and if necessary, undergo CEQA review.

Based on the above, cumulative development within the City, in conjunction with the Proposed Project and BRPA, would result in a less-than-significant impact related to the need for new or improved parks and/or other public facilities, the construction of which could cause significant environmental impacts.

Conclusion

Based on the above, development of the Proposed Project or the BRPA in combination with cumulative development in the City of Davis would result in a ***less-than-significant*** cumulative impact related to public services and recreation.

Mitigation Measure(s)

None required.

4.13. TRANSPORTATION

4.13 TRANSPORTATION

4.13.1 INTRODUCTION

The Transportation chapter of the EIR discusses the existing transportation facilities within the vicinity of the project site/Biological Resources Preservation Alternative (BRPA) site, focusing on pedestrian, bicycle, and transit facilities, as well as applicable policies and guidelines used to evaluate operation of such facilities. Where development of the Proposed Project or the BRPA would conflict with applicable policies or guidelines, mitigation measures are identified. The information contained within this chapter is primarily based on the Transportation Impact Study (TIS) prepared for the Proposed Project by Fehr & Peers (see Appendix R),[1] as well as the City of Davis General Plan[2] and the City of Davis General Plan EIR.[3]

Pursuant to the CEQA Guidelines Section 15064.3, environmental documents must use vehicle miles traveled (VMT) rather than level of service (LOS) as the metric to analyze transportation impacts. Therefore, the analysis included in this chapter focuses on VMT. The State's requirement to transition from LOS to VMT is aimed at promoting infill development, public health through active transportation, and a reduction in greenhouse gas (GHG) emissions. However, an analysis of LOS is available separately in the project-specific Traffic Operations Analysis prepared by Fehr & Peers, and will be used by the City in the project review process for determining consistency with General Plan goals and policies.

4.13.2 EXISTING ENVIRONMENTAL SETTING

The sections below describe the physical and operational characteristics of the existing transportation system within the project site/BRPA site vicinity, including the surrounding roadway network, transit, bicycle, and pedestrian facilities. It is noted that the TIS includes terminology such as "study area," which includes the site and the vicinity, and was determined based on the project's expected travel characteristics (trip generation and distribution), primary travel routes to and from the site, and travel mode split. A larger study area extending throughout Yolo County is also used for the analysis of potential VMT impacts.

Existing Roadways

The following sections provide a summary of the existing roadways in the project site/BRPA site vicinity, as shown in Figure 4.13-1:

East Covell Boulevard

East Covell Boulevard is a four-lane east-west major arterial that traverses the City of Davis. To the west, East Covell Boulevard connects to Pole Line Road, F Street, Anderson Road, State Route 113 (SR 113), and points west; East Covell Boulevard transitions into West Covell Boulevard at the intersection with F Street. To the east, East Covell Boulevard transitions into Mace Boulevard at the Mace Curve.

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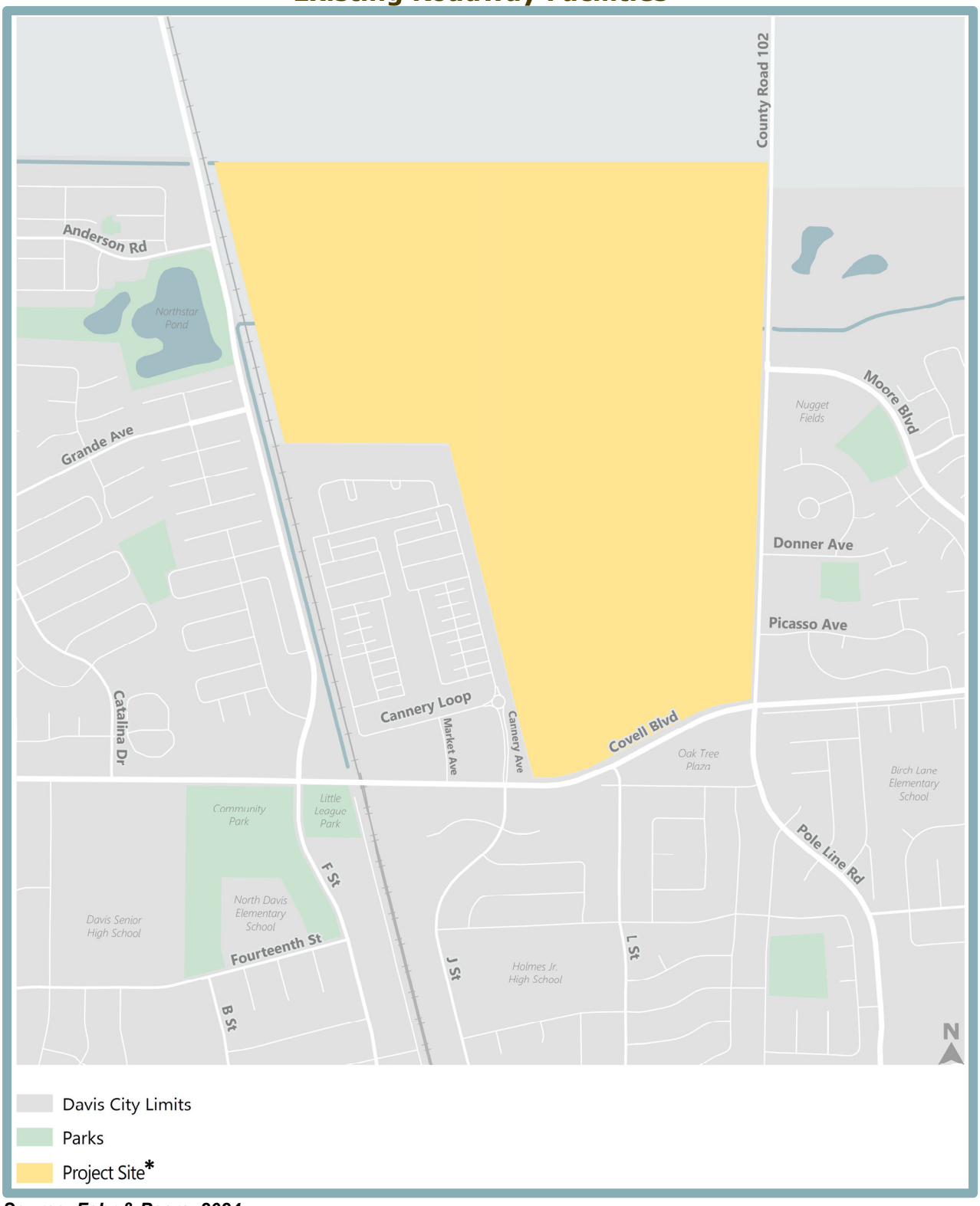
1 Fehr & Peers. *Village Farms Davis Transportation Impact Study*. November 2024.
2 City of Davis. *City of Davis General Plan*. Adopted May 2001, Amended January 2007.
3 City of Davis. *Final Program EIR for the City of Davis General Plan Update and Final Project EIR for Establishment of a New Junior High School*. Certified May 2001.

Figure 4.13-1
Existing Roadway Facilities



Source: Fehr & Peers, 2024.
** Not including the approximately 118-acre Urban Agricultural Transition Area.*

East Covell Boulevard borders the south edge of the project site/BRPA site.

Vehicular access to and from the site is provided by the existing East Covell Boulevard/L Street signalized intersection. Within the vicinity of the site, East Covell Boulevard has a posted speed limit of 35 miles per hour (mph).

Pole Line Road

Pole Line Road is a two-lane north-south road that connects East Davis and South Davis across Interstate 80 (I-80). Pole Line Road is a major arterial north of East Covell Boulevard and a minor arterial south of East Covell Boulevard. Pole Line Road transitions into Lillard Drive south of I-80 and into County Road (CR) 102 north of the city limits. CR 102 continues north to the City of Woodland and I-5. Pole Line Road has a posted speed limit of 45 mph north of Moore Boulevard, 40 mph between Moore Boulevard and East Covell Boulevard, and 25 mph between East Covell Boulevard and Eighth Street.

Cannery Avenue

Cannery Avenue is a two-lane local road located adjacent to the project site/BRPA site's western boundary that serves the residential community at the Cannery. Cannery Avenue is planned to provide access to the western part of the site at the Cannery Avenue/Cannery Loop roundabout. The roadway has a posted speed limit of 25 mph. South of East Covell Boulevard, Cannery Avenue transitions to J Street.

F Street

F Street is a two-lane north-south minor arterial with a speed limit of 25 mph south of East Covell Boulevard and 35 mph north of East Covell Boulevard. F Street provides access between North Davis, Community Park, Little League Park, and Downtown Davis. North of the city limits, F Street transitions into CR 101A.

J Street

J Street is a two-lane north-south collector that extends between East Covell Boulevard and Second Street. Near the project site/BRPA site, the posted speed limit is 30 mph. J Street transitions into Cannery Avenue north of East Covell Boulevard.

L Street

L Street is a two-lane north-south collector that extends between East Covell Boulevard to Second Street. Within the vicinity of the project site/BRPA site, L Street has a posted speed limit of 25 mph.

Moore Boulevard

Moore Boulevard is a two-lane minor arterial that extends east-west between Pole Line Road and Rockwell Street in the Wildhorse neighborhood. Moore Boulevard has a posted speed limit of 25 mph.

Donner Avenue

Donner Avenue is a two-lane collector that extends east-west between Pole Line Road and Cassatt Street in the Green Meadows neighborhood. Donner Avenue has a posted speed limit of 25 mph.

Picasso Avenue

Picasso Avenue is a two-lane local road that runs east-west between Pole Line Road and Renoir Avenue in the Green Meadows neighborhood. Picasso Avenue has a posted speed limit of 25 mph.

Mace Boulevard

Mace Boulevard is a two- to four-lane north-south major arterial. Mace Boulevard transitions from East Covell Boulevard at the Mace Curve and extends south with connections to I-80, South Davis, and points south. Mace Boulevard is four lanes on the segment between Alhambra Drive and Cowell Boulevard and two lanes north and south of this segment. Mace Boulevard has a posted speed limit of 40 mph.

State Route 113

SR 113 is a four-lane, north-south freeway that extends from I-80 at the Yolo/Solano County line north to I-5 in Woodland. SR 113 serves Davis via interchanges at Covell Boulevard and Russell Boulevard. Additional SR 113 interchanges within the vicinity of Davis include the Hutchison Drive interchange at the UC Davis campus and the CR 29 interchange in Yolo County. SR 113 and its interchanges are owned and operated by Caltrans.

Interstate 80

I-80 is an east-west interstate freeway south of the project site/BRPA site. From Davis, I-80 connects with the San Francisco Bay Area to the west and Sacramento and the Lake Tahoe Basin to the east. I-80 provides three travel lanes per direction in the vicinity of the site. I-80 serves Davis via interchanges at Mace Boulevard and Richards Boulevard. Additional I-80 interchanges within the vicinity of Davis include the Old Davis Road interchange at the UC Davis campus and the CR 32A interchange in Yolo County. I-80 and its interchanges are owned and operated by Caltrans.

Existing Pedestrian Facilities

Pedestrian facilities are comprised of crosswalks, sidewalks, pedestrian signals, and off-street paths, which provide safe and convenient routes for pedestrians to access the destinations such as institutions, businesses, public transportation, and recreation facilities. The City of Davis has an extensive system of off-street shared-use paths and sidewalks available for use by pedestrians, including the following existing facilities within the project site/BRPA site vicinity:

- North-south shared-use path situated on the east side of Pole Line Road, north of East Covell Boulevard. In the site vicinity, the shared-use path provides connections to paths into the Wildhorse and Green Meadows neighborhoods at Moore Boulevard, Nugget Fields, and Donner Avenue.
- North-south shared-use path situated on the west side of Pole Line Road along the Oak Tree Plaza shopping center frontage.
- East-west shared-use path situated on the north side of East Covell Boulevard along the following segments:
    - Between Pole Line Road and the easterly limits of the Wildhorse neighborhood. At its easterly terminus, the shared-use path segment connects to a grade-separated bicycle/pedestrian crossing underneath East Covell Boulevard, where the path continues south into the Mace Ranch greenbelt system.
    - Along the Cannery neighborhood frontage. At its westerly terminus, the path segment connects to a grade-separated bicycle/pedestrian crossing underneath

East Covell Boulevard, where the path continues south along H Street and then west through Little League Park towards Community Park and Davis Senior High School.
    - Between F Street and Risling Place. At the North Davis Greenbelt, the path segment connects with paths north into North Davis and to a grade-separated bicycle/pedestrian crossing over West Covell Boulevard south towards Community Park and Davis Senior High School.
- East-west shared-use path situated on the south side of East Covell Boulevard along the following segments:
    - Between Oak Avenue and Pole Line Road. The path segment diverts off of Covell Boulevard to cross F Street at a midblock crossing near the Davis Art Center and Little League Park. The path segment also connects to the grade-separated bicycle/pedestrian crossings across Covell Boulevard at the North Davis Greenbelt and at the Cannery; and
    - Between Poplar Lane and Harper Junior High School. The path segment connects to the grade-separated bicycle/pedestrian crossing under East Covell Boulevard located east of the Wildhorse neighborhood.
- North-south shared-use path situated on the east side of F Street between Faro Avenue and Little League Park. The path traverses underneath the East Covell Boulevard overcrossing over the Union Pacific Railroad (UPRR) tracks.
- Shared-use paths on the following roadways within the Cannery neighborhood:
    - Both sides of Cannery Avenue between Cannery Loop and East Covell Boulevard;
    - North side of the southerly east-west segment of Cannery Loop;
    - Around the periphery of the Cannery neighborhood; and
    - South side of Sparks Lane and Bringhurst Lane.
- Sidewalks on both sides of nearby collectors and arterials, including Pole Line Road (south of Oak Tree Plaza), Moore Boulevard, F Street, J Street, L Street, Grande Avenue, Anderson Road, and Picasso Avenue.
- Sidewalks on residential streets and several off-street paths within the Cannery, Wildhorse and other surrounding neighborhoods.

Pedestrian crossings of existing roadways serving the project site/BRPA site are accommodated as follows:

- At the Cannery Avenue/Cannery Loop intersection, marked crosswalks are present on all four intersection legs. The intersection is controlled by a roundabout.
- At the East Covell Boulevard/J Street intersection, marked crosswalks are present on all four intersection legs. The intersection is controlled by a traffic signal with pedestrian crossing signals.
- At the East Covell Boulevard/L Street intersection, marked crosswalks are present on the east, west and south legs of the intersection. The intersection is controlled by a traffic signal with pedestrian crossing signals.
- At the East Covell Boulevard/Pole Line Road intersection, marked crosswalks are present on the east and south legs of the intersection. The intersection is controlled by a traffic signal with pedestrian crossing signals.
- Marked crosswalks are not present across Pole Line Road at any intersections north of East Covell Boulevard, including Moore Boulevard, Donner Avenue, and Picasso Avenue. The Moore Boulevard intersection is all-way stop-controlled and the Donner Avenue and Picasso Avenue intersections are side-street stop-controlled.

Existing Bicycle Facilities

The project site/BRPA site is situated on the edge of the City of Davis bicycle network, which is comprised of an extensive network of on- and off-street bicycle facilities. Bicycle facilities are classified into four types, as described below:

- **Class I Multi-Use Off-Street Paths** (also known as shared-use paths) are paved trails that are separated from roadways, and allow for shared use by both cyclists and pedestrians;
- **Class II On-Street Bike Lanes** are designated for use by bicycles by striping, pavement legends, and signs;
- **Class III On-Street Bike Routes** are designated by signage for shared bicycle use with vehicles but do not necessarily include any additional pavement width for bicyclists.
- **Class IV Separated Bikeways** (also known as protected bikeways or cycle tracks) are separated bikeways designed to improve upon buffered bike lanes by providing vertical separation between bike lanes and the adjacent travel lanes. Vertical separation can be provided with concrete curb and gutter, bollards, or on-street parking.

Figure 4.13-2 displays existing bicycle facilities in the project site/BRPA site vicinity. In addition to the previously discussed shared-use paths, bicycle facilities are provided on the following roadways near the site:

- Class II bike lanes are provided in both directions on Pole Line Road, East Covell Boulevard, Moore Boulevard, F Street, J Street, L Street, Grande Avenue, Anderson Road, and Picasso Avenue; and
- Class III bike routes are provided on the southerly east-west and easterly north-south segments of Cannery Loop.

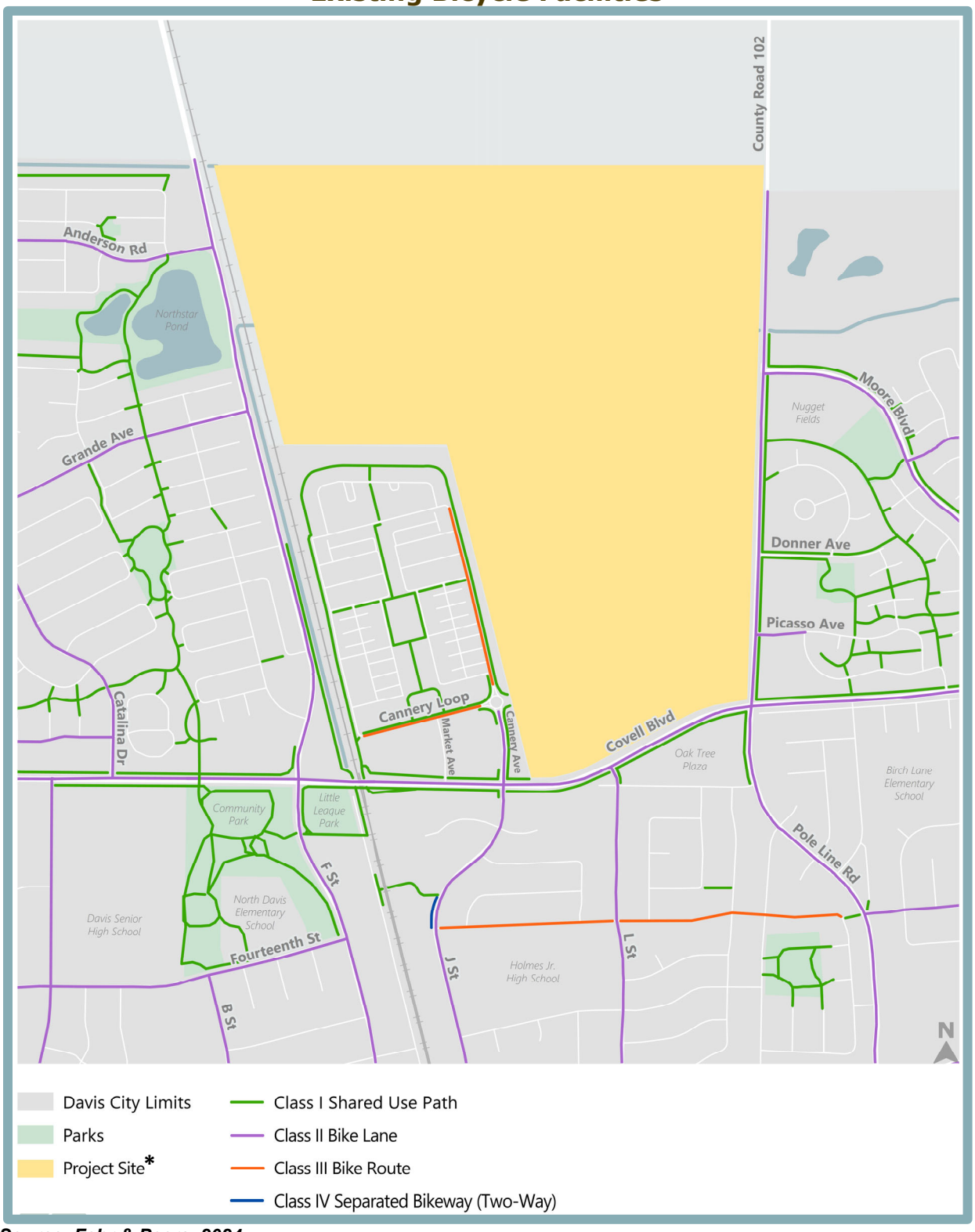
The East Covell Boulevard/J Street and East Covell Boulevard/L Street intersections are signalized protected intersections that provide physical separation for crossing bicyclists to minimize physical mixing with conflicting vehicular movements. The East Covell Boulevard/L Street intersection additionally provides exclusive bicycle crossing phases to separate bicyclists and vehicles in time.

East Covell Boulevard, which traverses the southerly project site/BRPA site boundary, is the only continuous east-west arterial that traverses the entire City of Davis. To facilitate bicycle and pedestrian travel across this roadway, the City of Davis has required the construction of bicycle/pedestrian grade separations for new developments located on the north side of Covell Boulevard. Existing grade separations on Covell Boulevard are located west of F Street, east of F Street (to/from The Cannery), and east of Monarch Lane. According to the City's General Plan, a future facility is planned on West Covell Boulevard east of Denali Drive.

Transit Service and Facilities

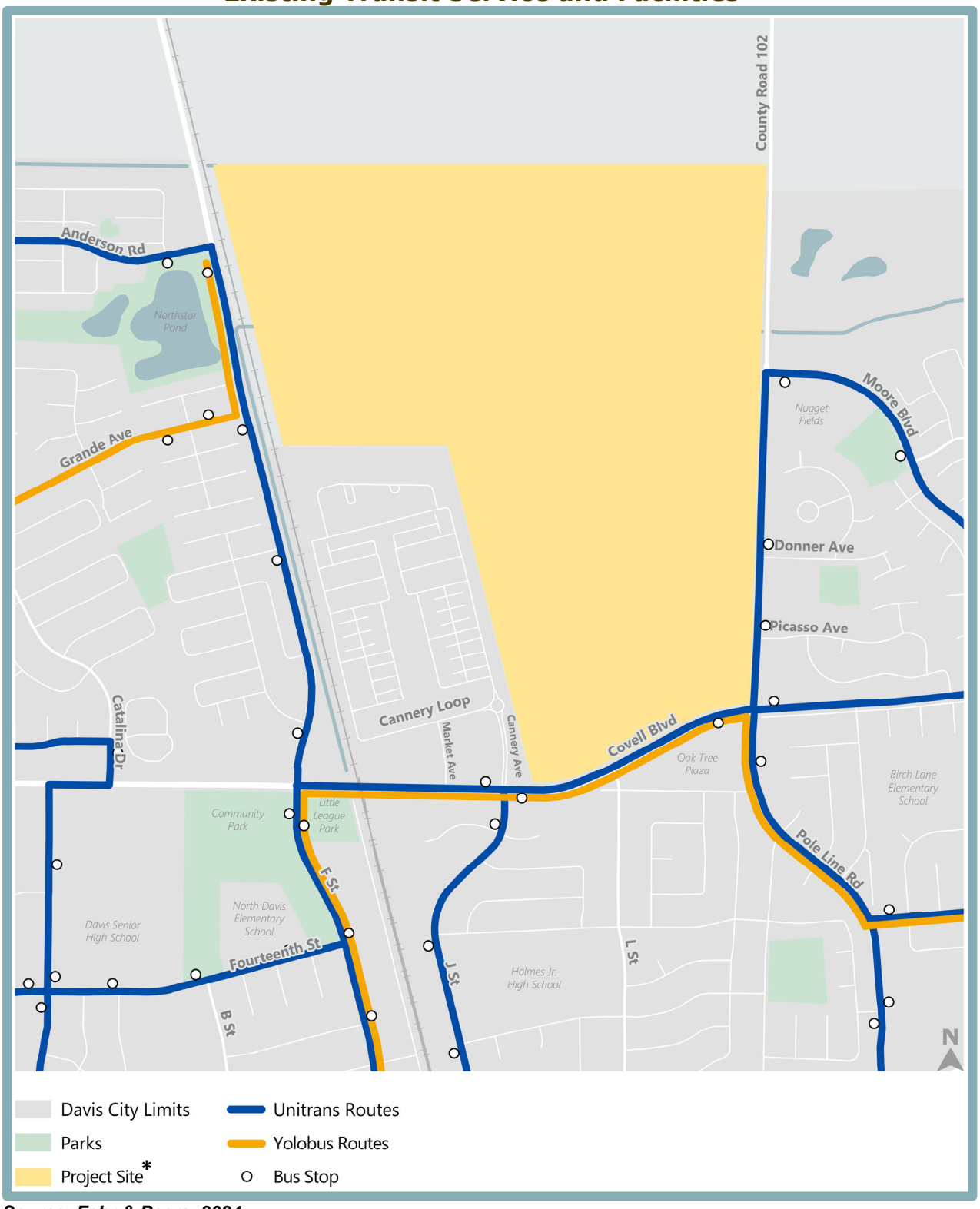
Transit serving the project site/BRPA site includes local bus service connecting the site to destinations throughout the City of Davis (e.g., Downtown Davis, the Davis Train Depot, etc.) and the UC Davis campus. Additionally, the site is served by an intercity bus service that is primarily oriented towards serving Davis residents commuting to and from work in Downtown Sacramento. Transit service in the City of Davis is provided by Unitrans (local bus), Yolobus (intercity bus), Amtrak (intercity rail), and Davis Community Transit (local paratransit) (see Figure 4.13-3).

Figure 4.13-2
Existing Bicycle Facilities



Source: Fehr & Peers, 2024.
** Not including the approximately 118-acre Urban Agricultural Transition Area.*

Figure 4.13-3
Existing Transit Service and Facilities



Source: Fehr & Peers, 2024.
** Not including the approximately 118-acre Urban Agricultural Transition Area.*

Unitrans

Unitrans provides local fixed route bus service to the project site/BRPA site. Jointly operated between the Associated Students, UC Davis (ASUCD) and the City of Davis, Unitrans offers 21 lines serving the UC Davis campus and City of Davis neighborhoods, shopping centers, schools, and medical centers. Unitrans operates as a radial bus system with the UC Davis campus serving as the central hub. The main terminals on the UC Davis campus are at the Memorial Union on Howard Way and at the Silo on Hutchison Drive.

Specific service spans and frequencies vary by route. Generally, Unitrans operates from 6:30 AM to 11:00 PM, Monday through Thursday, and until 9:00 PM on Fridays. Weekend service is available from 8:00 AM to 7:00 PM. Unitrans routes operate every 15 to 60 minutes during weekdays and every 60 minutes during weekends and evenings. Table 4.13-1 summarizes the weekday and weekend frequency and span for Unitrans bus routes serving the project site.

Table 4.13-1
Unitrans Route Summary – Project Site Vicinity

Route	Weekday		Friday		Weekend	
	Peak Frequency (min)	Span	Peak Frequency (min)	Span	Peak Frequency (min)	Span
E – Downtown/F Street/J Street	30	7 AM to 10 PM	30	7 AM to 8:30 PM	--	--
F – Oak/Anderson/F Street	30	7 AM to 8:30 PM	30	7 AM to 8:30 PM	--	--
L – East 8th/Pole Line/Moore/ Loyola	60	7 AM to 11 PM	60	7 AM to 9 PM	--	--
P – MU/Davis Perimeter CCW	30	6 AM to 11 PM	30	6 AM to 9 PM	60	8 AM to 7 PM
Q – MU/Davis Perimeter CW	30	6 AM to 11 PM	30	6 AM to 9 PM	60	8 AM to 7 PM
T – Davis High/Holmes & Harper Junior High	School Tripper – One Round Trip per Day				--	--

Notes: CCW = counterclockwise; CW = clockwise.

Source: Fehr & Peers, 2024.

The current Unitrans one-way fare is $1.25, with monthly, quarterly, and annual passes available at a discounted price. Free rides are available to UC Davis undergraduate students (fee assessed quarterly with registration), seniors, disabled passengers, City of Davis employees, and transferring Sacramento Regional Transit (SacRT), Yolobus, Capitol Corridor, and Fairfield Transit passengers.

The City of Davis Short Range Transit Plan indicates that 91 to 95 percent of all Unitrans riders are UC Davis undergraduate students, three to six percent of riders are UC Davis graduate students, and just over five percent of riders are not UC Davis affiliates.

Yolobus

Yolobus provides fixed route bus and paratransit service throughout Yolo County, as well as commuter bus service to downtown Sacramento. Single rides are available for $2.00, $2.25, and

$3.25 for local, intercity, and express services, respectively. Discounted daily and monthly passes are also available.

The project site/BRPA site is served by Yolobus express bus Route 43, which is oriented towards serving Davis residents working in Downtown Sacramento (i.e., morning service is eastbound-only, and afternoon/evening service is westbound-only).

Amtrak

Amtrak serves the Davis Transit Depot near Second and G Streets in downtown Davis, approximately 1.5 miles south of the project site/BRPA site. Amtrak Capitol Corridor service is available at the depot, connecting passengers to Sacramento and Roseville to the east and the Bay Area to the west. Currently, 12 daily Capitol Corridor roundtrips are available at the station during regular weekday service. In addition to regular Capitol Corridor service, Amtrak serves the Davis Transit Depot with daily Coast Starlight service (to Los Angeles and Seattle) and intercity bus connections to other Amtrak rail lines (e.g., the Amtrak San Joaquin lines at Sacramento Valley Station).

Figure 4.13-3 displays the bus stops and routes serving the project site/BRPA site vicinity. The primary bus stops serving the site are located on East Covell Boulevard (served by Unitrans Route P, Q, T and Yolobus Route 43) and on Pole Line Road (served by Unitrans Routes L and T).

Emerging Transportation Technology and Travel Options

Transportation and mobility are being transformed through a number of forces ranging from new technologies, different personal preferences, and the unique effects of the COVID-19 pandemic, the combination of which could alter traditional travel demand relationships in the near- and long-term. These disruptive trends increase uncertainty in forecasting future travel conditions, especially considering that new technologies such as automated vehicles (AVs) may be operating on future transportation networks once the project would be complete and operational. Information about how technology is affecting and will affect travel is accumulating over time.

- **COVID-19 pandemic**. The COVID-19 pandemic and subsequent actions by federal, State, and local governments to curtail mobility and encourage physical distancing (i.e., limit in-person economic and social interactions) temporarily but profoundly changed travel conditions. While travel activity has returned to some form of normality as the pandemic has subsided, it is possible that some of these temporary changes will influence people's travel choices into the future, including either accelerating or diminishing some of the emerging trends in transportation that were already underway prior to the pandemic. Some of the emergent changes already influencing travel behavior that could accelerate in the future include the following:

    - Substituting telework for in-office work/commute travel.
    - Substituting internet shopping and home delivery for some shopping or meal-related travel.
    - Substituting participating on social media platforms for social/recreational travel.
    - Substituting telemedicine appointments for eligible in-person medical appointments.

- **Using new travel modes and choices.** Transportation network companies such as Uber and Lyft, car sharing, bicycle/scooter sharing, and on-demand microtransit services have

increased the options available to travelers in the Sacramento area and have contributed to changes in traditional travel demand relationships. For example, combined bus and rail ridership on SacRT declined by approximately 19 percent between 2016 and 2019 (prior to the COVID-19 pandemic) and by approximately 54 percent between 2016 and 2022 (after the COVID-19 pandemic).The travel demand model used for the TIS, known as SACSIM19 and discussed in further detail below, was calibrated to 2016 conditions and may not fully capture all the factors influencing transit ridership declines today or in the future.

- **Automation of vehicles**. Both passenger vehicles and commercial vehicles and trucks are evolving to include more automation. Research, development, and deployment testing is proceeding on AVs; AVs do not require an operator and navigate roadways autonomously. Forecasts of how quickly research, development, and deployment testing will transition to full deployment and marketing of AVs vary widely both on the pace of the transition and the market acceptance of fully automated operation. More uncertainty exists around the behavioral response to AVs. In terms of VMT impacts on the transportation system and the environment, the worst-case scenario would be one in which AVs are privately owned, as they are now, but the automated function of AVs would cause them to be used more, as described below.

  AVs could be repositioned to serve different members of a household (e.g., have an AV drop a worker at their workplace, then drive back home empty to serve another trip such as taking a student to school). The repositioning of AVs could add significantly to traffic volumes and VMT.

  AVs could reduce the value travelers place on time spent in a vehicle, resulting in an increase in willingness to make longer trips. For example, if a person could read or do work in an AV instead of focusing on driving, they might be willing to commute longer distances to work. Conversely, a worker who would prefer to live in a rural area but is unwilling to drive far enough to act on that preference in a conventional vehicle may be willing to do so using an AV.

  AVs could increase willingness to drive more to avoid parking costs or tolls. For example, a person going to a sporting event in an area that charges for parking might use an AV to be dropped off at the venue, and then re-position and park the AV in an area that does not charge for parking.

- **Connected vehicles.** Connected vehicles (CVs) can communicate wirelessly with its surroundings, including other vehicles, bicyclists, pedestrians, roadway infrastructure (i.e., traffic signals, toll facilities, and traffic management facilities), and the internet. The influence that CVs may have is still speculative but includes potential for reductions in collisions and congestion and greater overall network performance optimization.

- **Navigation apps.** The increased prevalence and use of navigation apps (e.g., Google Maps, WAZE, etc.) in recent years provides motorists with real-time and predictive travel time information that can influence route selection. The use of navigation apps can result in changes to travel patterns and traffic volumes during different times of the day and days of the week, particularly during recurrent congested time periods or when incidents occur that affect travel times (e.g., a crash on the freeway that requires lane closures). Diverted

local and regional traffic can occur on roadways near the project site during extended periods of very low travel speeds on eastbound I-80 from the causeway, through Davis, and into Solano County. During congested conditions, low mainline travel speeds substantially increase travel times for motorists on eastbound I-80. Hence, diverting off of I-80 onto local roadways such as Covell Boulevard and Mace Boulevard often provides a faster alternative to remaining on the freeway through Davis. Similarly, locally generated traffic utilizing eastbound I-80 can experience faster travel times by accessing I-80 as far east as possible (e.g., motorists departing Downtown Davis for Sacramento accessing I-80 at Mace Boulevard or CR 32A instead of Richards Boulevard).

While the SACSIM19 model represents state of the practice or advance practice, travel behavior and the transportation systems are changing quickly in response to emerging trends, new technologies, and different preferences. The trajectory of deployment, market acceptance, and government regulation of the new travel options and technologies is difficult to predict, and such elements directly influence the inputs and algorithms for the SACSIM19 model. As such, SACSIM19 as a travel forecasting model has limitations in the ability to capture the full range of potential travel effects from emerging travel options and technologies.

The SACSIM19 model does include some scenario testing capabilities that can begin to test different hypotheses of aforementioned impacts, but until more research is done about the likely behavioral responses to new modes and technologies is completed, travel models cannot fully capture such changes in a reliable way. Initial testing of AVs effects using SACSIM19, such as lowering costs to use vehicles and making them more convenient by eliminating parking at trip ends, does generate increases in overall vehicle travel and reductions in transit ridership with all else being equal. The information suggests the model is sensitive to how cost and convenience influence travel behavior but within the limits of the observed data used to develop the model.

Vehicle Miles Traveled

VMT is a measure of the total amount of vehicle travel occurring on a given roadway system. VMT is a metric that accounts for the number of vehicle trips generated and the length or distance of those trips. For analysis purposes, VMT refers to automobile VMT, specifically passenger vehicles and light trucks; heavy truck traffic is typically excluded. VMT does not directly measure traffic operations; instead, VMT is a measure of transportation network use and efficiency, especially when expressed as a function of population (i.e., VMT per capita). The key VMT metric used for the following analysis is residential VMT per capita, which is defined as all automobile (i.e., passenger cars and light-duty trucks) vehicle-trips that start or end at the home, but non-home-based trips made by residents elsewhere on the network are excluded.

As a result of Senate Bill (SB) 743, passed in 2013, local jurisdictions may not rely on vehicle LOS and similar measures related to delay as the basis for determining the significance of transportation impacts under CEQA. Thus, consistent with the CEQA Guidelines, VMT is the primary metric used to identify transportation impacts to roadway systems within this chapter. The City of Davis has not yet adopted VMT procedures or standards.

The VMT estimates and forecasts contained in this analysis were obtained from the SACOG travel demand model, known as SACSIM19. According to SACSIM19, existing residential VMT per capita for the City of Davis and the Sacramento Area Council of Governments (SACOG) region is 30.1 and 21.7 VMT per capita, respectively. Residential VMT per capita generated by existing residential uses within the project site vicinity (e.g., the Cannery, North Davis, etc.) is

approximately 31 VMT per capita, three percent above the existing City average and 43 percent above the existing SACOG average. For reference, existing residential VMT per capita in more centrally located Davis neighborhoods such as Central Davis and Old East Davis measures in the range of 25 to 27 VMT per capita, while existing residential VMT per capita in more outlying areas such as Mace Ranch or South Davis measures in the range of 33 to 36 VMT per capita.

4.13.3 REGULATORY CONTEXT

The following is a description of the regulatory context under which transportation issues are managed at the State and local levels.

State Regulations

The following are the State environmental laws and policies relevant to transportation.

Assembly Bill 32

Assembly Bill (AB) 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. AB 32 also requires that "(a) the statewide GHG emissions limit shall remain in effect unless otherwise amended or repealed; (b) it is the intent of the Legislature that the statewide GHG emissions limit continues in existence and be used to maintain and continue reductions in emissions of GHGs beyond 2020; and (c) the CARB shall make recommendations to the Governor and the Legislature on how to continue reductions of GHG emissions beyond 2020."

While AB 32 does not contain specific expectations related to individual land use projects, it does set statewide expectations for GHG reduction that have influenced VMT reduction expectations from land development projects as part of SB 375 and SB 743.

Senate Bill 375

SB 375 requires metropolitan planning organizations (MPO) to prepare a sustainable communities strategy (SCS) as part of their regional transportation plans (RTP). The SCS demonstrates how the region could meet its GHG reduction targets through integrated land use, housing, and transportation planning. Specifically, the SCS must identify land use and transportation strategies that combined with the RTP project list will reduce GHG emissions from automobiles and light trucks in accordance with targets set by the California Air Resources Board (CARB).

Senate Bill 743

SB 743 creates or encourages several statewide changes to the evaluation of transportation and traffic impacts under the CEQA. First, SB 743 directs the Governor's Office of Planning and Research (OPR), which has since been renamed to the Governor's Office of Land Use and Climate Innovation (LCI) to amend the CEQA Guidelines to establish new metrics for determining the significance of transportation impacts of projects within transit priority areas (TPA) and allows LCI to extend use of the new metrics beyond TPAs. In the amended CEQA Guidelines, LCI selected automobile VMT as the preferred transportation impact metric and applied their discretion to recommend its use statewide. The California Natural Resources Agency certified and adopted the amended CEQA Guidelines in December 2018. The amended CEQA Guidelines state that "generally, VMT is the most appropriate measure of transportation impacts" and the provisions requiring the use of VMT apply statewide as of July 1, 2020. The amended CEQA Guidelines further state that land use "projects within 0.5 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."

SB 743 establishes that aesthetic and parking impacts of residential, mixed-use residential, or employment center projects on an infill site within a TPA are not considered significant impacts on the environment. SB 743 added Section 21099 to the California Public Resources Code (PRC), which states that automobile delay, as described by LOS or similar measures of vehicular capacity or traffic congestion, is not considered a significant impact on the environment upon certification of the CEQA Guidelines by the California Natural Resources Agency. Following certification of the amended CEQA Guidelines in December 2018, LOS or similar measures of vehicular capacity or traffic congestion are not considered a significant impact on the environment.

Finally, SB 743 establishes a CEQA exemption for residential, mixed-use, and employment center projects a) within transit priority areas, b) consistent with a specific plan for which an EIR has been certified, and c) consistent with a SCS. The exemption requires further review if the project or circumstances changes significantly.

Technical Advisory on Evaluating Transportation Impacts in CEQA

In December of 2018, the OPR (now LCI) published the Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory), which is a guidance document to provide advice and recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures. The Technical Advisory is intended to be a resource for the public to use at their discretion, and the LCI does not enforce any part of the recommendations contained therein. The Technical Advisory includes recommendations regarding methodology, screening thresholds, and recommended thresholds per land use type. Lead agencies may consider and use these recommendations at their discretion.

The Technical Advisory identifies screening thresholds to quickly identify when a project is expected to cause a less-than-significant impact without conducting a detailed study. The Technical Advisory suggests that projects meeting one or more of the following criteria should be expected to have a less-than-significant impact on VMT:

- Small projects – Projects consistent with an SCS and local general plan that generate or attract fewer than 110 trips per day;
- Projects near major transit stops – Certain projects (residential, retail, office, or a mix of these uses) proposed within 0.5 mile of an existing major transit stop or an existing stop along a high-quality transit corridor;
- Affordable residential development – A project consisting of a high percentage of affordable housing may be a basis to find a less-than-significant impact on VMT;
- Local-serving retail – Local-serving retail development tends to shorten trips and reduce VMT. The Technical Advisory encourages lead agencies to decide when a project will likely be local-serving, but generally acknowledges that retail development including stores larger than 50,000 square feet might be considered regional-serving. The Technical Advisory suggests lead agencies analyze whether regional-serving retail would increase or decrease VMT (i.e., not presume a less-than-significant impact); and
- Projects in low-VMT areas – Residential and office projects that incorporate similar features (i.e., density, mix of uses, transit accessibility) as existing development in areas with low VMT will tend to exhibit similarly low VMT.

The Technical Advisory also identifies recommended numeric VMT thresholds for residential, office, and retail projects, as described below:

- Residential development that would generate vehicle travel exceeding 15 percent below existing residential VMT per capita may indicate a significant transportation impact. Existing VMT per capita may be measured as a regional VMT per capita or as city VMT per capita;
- Office projects that would generate vehicle travel exceeding 15 percent below existing regional VMT per employee may indicate a significant transportation impact; and
- Retail projects that result in a net increase in total VMT may indicate a significant transportation impact.

For mixed-use projects, the Technical Advisory suggests either evaluating each component independently and applying the significance threshold for each project type included (e.g., residential and retail), or evaluating VMT associated only with the project's dominant use.

The Technical Advisory also provides guidance on impacts on transit. Specifically, the Technical Advisory suggests that lead agencies generally should not treat the addition of new transit users as an adverse impact. As an example, the Technical Advisory suggests that "an infill development may add riders to transit systems and the additional boarding and alighting may slow transit vehicles, but it also adds destinations, improving proximity and accessibility. Such development also improves regional vehicle flow by adding less vehicle travel onto the regional network."

California Department of Transportation

The California Department of Transportation (Caltrans) is responsible for planning, designing, constructing, operating, and maintaining the State Highway System (SHS), including in Yolo County. As part of these responsibilities, Caltrans reviews local development projects subject to CEQA to assess potential impacts on the SHS based on the following technical guidance.

Vehicle Miles Traveled-Focused Transportation Impact Study Guide

The VMT Focused Transportation Impact Study Guide (TISG) outlines how Caltrans will review land use projects with a focus on supporting State land use goals, State planning priorities, and GHG emissions reduction goals. The VMT TISG endorses OPR's (now LCI) Technical Advisory as the basis for transportation impact analysis methodology and thresholds, including the use of screening to streamline qualified projects because they help achieve the State's VMT reduction and mode shift goals.

Caltrans Safety Impact Guidance

The Caltrans Safety Impact Guidance provides technical instructions on how to evaluate potential safety impacts on the SHS. The guidance largely focuses on the actions of Caltrans district staff in performing the analysis and providing relevant impact information to lead agencies. The interim guidance recommends that safety analyses include a review of three primary elements related to transportation safety: design standard compliance, collision history, and collision risk (consistent with the Federal Highway Administration's Systemic Approach to Safety). The interim guidance does not establish specific analysis methods or significance thresholds for determining safety impacts under CEQA. Additionally, Caltrans notes that local agencies may use the interim guidance at their own discretion as a guide for review of local facilities.

Local Regulations and Policies

The following are applicable local regulations and policies relevant to transportation.

Sacramento Area Council of Governments

SACOG is an association of local governments from six counties and 22 cities within the Sacramento Region. The counties include El Dorado, Placer, Sacramento, Sutter, Yolo, and Yuba. SACOG is responsible for the preparation of, and updates to, the Metropolitan Transportation Plan (MTP)/SCS for the region. The MTP/SCS provides a 20-year transportation vision and corresponding list of projects. The 2020 MTP/SCS was adopted by the SACOG board in November 18, 2019.

The SACOG 2020 MTP/SCS provides the basis for air quality conformity findings related to the federal Clean Air Act and determinations of whether the region is complying with GHG reduction targets for automobiles and light trucks established under SB 375. Major projects that are inconsistent with the plan could jeopardize the plan's effectiveness for air pollution and GHG reduction. Consequently, consistency with the MTP/SCS is a potential basis for determining adverse impacts related to these environmental topics.

City of Davis General Plan

The City of Davis General Plan Transportation Element was updated in 2013. The following goals, performance objectives, policies, and actions related to transportation and circulation are applicable to the project:

Transportation Element

Goal #1 Davis will provide a comprehensive, integrated, connected transportation system that provides choices between different modes of transportation.

Performance Objective #1.1 Achieve at least the following mode share distribution for all trips by 2035:

- 10 percent of trips by walking;
- 10 percent of trips by public transportation; and
- 30 percent of trips by bicycle.

Performance Objective #1.2 Increase use of walking, bicycling, and public transportation to and from the following places:

- Work;
- Schools (elementary, junior high, and senior high);
- UC Davis; and
- Downtown.

Goal #2 The Davis transportation system will evolve to improve air quality, reduce carbon emissions, and improve public health by encouraging usage of clean, energy-efficient, active (i.e. human powered), and economically sustainable means of travel.

Policy TRANS 1.6	Reduce carbon emissions from the transportation system in Davis by encouraging the use of non-motorized and low carbon transportation modes.
Policy TRANS 2.1	Provide Complete Streets to meet the needs of drivers, public transportation vehicles and riders, bicyclists, and pedestrians of all ages and abilities in all transportation planning, programming, design, construction, reconstruction, retrofit, operations, and maintenance activities and products. The City shall view all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in Davis, and recognizes bicycle, pedestrian, fixed-route transit, and demand-response para-transit modes as integral elements of the transportation system along with motor vehicles.
Policy TRANS 2.2	Implement state-of-the-art street design solutions to improve bicycle/pedestrian access, comfort, and safety that may include: • Bicycle boxes at intersections; • Cycletracks; • Shared lane markings (sharrows); • Contraflow bicycle lanes; • Improved bicycle detection at intersections; • Two-stage turn queue boxes; • Colored bicycle lanes; and • Bicycle route wayfinding.
Policy TRANS 2.3	Apply best practices in sustainability to new streets and redesigns of existing streets/corridors.
Policy TRANS 2.4	As part of the initial project review for any new project, a project-specific traffic study may be required. Studies shall identify impacted transportation modes and recommend mitigation measures designed to reduce these impacts to acceptable levels.
Policy TRANS 2.5	Create a network of street and bicycle facilities that provides for multiple routes between various origins and destinations.
Policy TRANS 2.6	Maintain existing bicycle facilities in good repair.
Policy TRANS 2.7	Minimize impacts of vehicle traffic on local streets to maintain or enhance livability of the neighborhoods. Consider traffic calming measures along collector

		and minor arterial streets, where appropriate and feasible, to slow speeds.
	Policy TRANS 2.8	Improve the function, safety, and appearance of selected corridors as illustrated.
	Policy TRANS 2.10	Prohibit through truck traffic on streets other than identified truck routes shown in the Transportation Element.
	Policy TRANS 3.1	Facilitate the provision of convenient, reliable, safe, and attractive fixed route, commuter, and demand responsive public transportation that meets the needs of the Davis community, including exploring innovative methods to meet specialized transportation needs.
	Policy TRANS 3.3	Require new development to be designed to maximize transit potential.
Goal #4	Davis will strengthen its status as a premier bicycling community in the nation by continuing to encourage bicycling as a healthy, affordable, efficient, and low-impact mode of transportation accessible to riders of all abilities, and by continuously improving the bicycling infrastructure.	
	Policy TRANS 4.2	Develop a continuous trails and bikeway network for both recreation and transportation that serves the Core, neighborhoods, neighborhood shopping centers, employment centers, schools and other institutions; minimize conflicts between pedestrians, bicyclists, equestrians, and automobiles; and minimize impacts on wildlife. Greenbelts and separated bike paths on arterials should serve as the backbone of much of this network.
	Policy TRANS 4.5	Establish and implement bicycle parking standards for new developments and significant redevelopment.
	Policy TRANS 4.7	Develop a system of trails around the edge of the City and within the City for recreational use and to allow pedestrians and bicyclists to reach open space and natural areas.
	Policy TRANS 4.10	Maintain existing bicycle paths in good repair.
	Policy TRANS 5.1	Use parking management techniques to efficiently manage motor vehicle parking supply and promote sustainability.

Policy TRANS 5.2	Existing and future off-street parking lots in development should contribute to the quality of the urban environment and support the goals of this chapter to the greatest extent possible.

Beyond Platinum Bicycle Action Plan

The City of Davis Beyond Platinum Bicycle Action Plan (Bicycle Action Plan), adopted in 2014, includes discussions regarding goals and objectives, bicycle facility guidelines, engineering standards, and implementation and funding.[4] Appendix C of the Bicycle Action Plan includes a variety of proposed bicycle facilities throughout the City, including the following proposed bicycle facility enhancements within the vicinity of the project site/BRPA site:

- Buffered bike lanes on East Covell Boulevard between F Street and Birch Lane (now completed in the westbound direction between Pole Line Road and J Street/Cannery Avenue) and on J Street between East Covell Boulevard and Eighth Street.
- Bike lanes on L Street between East Covell Boulevard and Eighth Street (now completed).
- Bike lane conflict markings (green) at the East Covell Boulevard/F Street (now completed) and at the East Covell Boulevard/Pole Line Road intersections.
- Bike/ped crossing markings on East Covell Boulevard at the Oak Tree Plaza driveways.
- Bike intersection crossing markings at East Covell Boulevard/Birch Lane intersection.
- Shared lane markings (green) on Birch Lane between East Covell Boulevard and Pole Line Road.

East Covell Corridor Plan

The East Covell Corridor Plan (ECCP)[5], completed in 2014, identifies multimodal transportation improvements that enhance safety, circulation, and access on East Covell Boulevard between F Street and Birch Lane. Specific improvements identified in the ECCP relevant to the Proposed Project and the BRPA include the following:

- At the East Covell Boulevard/F Street intersection, eliminate channelized right-turn lanes and construct right-turn pockets for the northbound, eastbound, and westbound approaches;
- Construct a new grade-separated crossing within the vicinity of J Street or L Street (now completed);
- At the East Covell Boulevard/J Street intersection, eliminate channelized right-turn lanes and construct a new north leg to provide access to the future development to the north (now completed);
- At the East Covell Boulevard/L Street intersection, eliminate channelized right-turn lanes, construct right-turn pockets for the eastbound and northbound approaches, and install a new traffic signal (now completed);
- At the East Covell Boulevard/Pole Line Road intersection, eliminate channelized right-turn lanes and construct a right-turn pocket for the westbound approach;
- At the East Covell Boulevard/Birch Lane intersection, install new high visibility bicycle and pedestrian crossing markings to facilitate north-south movements across East Covell Boulevard and Denison Drive;

[4] City of Davis. *Beyond Platinum Bicycle Action Plan*. February 2014.
[5] City of Davis. *East Covell Corridor Plan*. March 27, 2014.

- Construct a new shared-use path on the north side of East Covell Boulevard between J Street and Pole Line Road. This project is included in the City's Capital Improvement Program as project ET8289; and
- Install bicycle conflict markings where the existing shared-use path on the south side of East Covell Boulevard intersects with Oak Tree Plaza shopping center driveways.

4.13.4 IMPACTS AND MITIGATION MEASURES

This section describes the standards of significance and methodology utilized to analyze and determine the Proposed Project and the BRPA's potential impacts related to transportation and circulation.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines, the Proposed Project and the BRPA would be considered to result in a significant adverse impact on the environment in relation to transportation and circulation if they would result in any of the following:

- 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 hazards to vehicle safety 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.

VMT Standards of Significance

As of November 2024, the City of Davis has not adopted VMT procedures standards. Therefore, the VMT analysis within this chapter relies on guidance from the OPR (now LCI) Technical Advisory. Pursuant to the Technical Advisory, the Proposed Project and the BRPA would result in a significant VMT impact if it would cause the following:

- The residential component would generate residential VMT per capita exceeding 15 percent below baseline local or regional residential VMT per capita for residential uses.

The Proposed Project and the BRPA's residential uses represent the dominant uses and would be responsible for the vast majority of external vehicle trips (over 85 percent of daily trips) and VMT that would be generated by the Proposed Project or the BRPA. Therefore, consistent with the Technical Advisory, Fehr & Peers determined that it is appropriate to evaluate project VMT impacts associated with the proposed residential component only. As discussed above, according to the TIS, the existing residential VMT per capita for the City of Davis and the SACOG region is 30.1 and 21.7 VMT per capita, respectively. Therefore, the Proposed Project and the BRPA would result in a significant impact if it would generate residential VMT per capita exceeding 15 percent below either the baseline City average or regional average VMT per capita for residential uses (i.e., 25.6 and 18.5 VMT per capita, respectively).

Method of Analysis

The analysis methodology provided in the TIS prepared for the Proposed Project and the BRPA by Fehr & Peers is discussed below.

Project Trip Generation

The TIS used the MXD+ mixed-use trip generation tool to estimate vehicle trip generation, including internal trip capture that would result from complementary land uses within the project site/BRPA site. In addition, the TIS trip generation analysis accounts for pass-by trip reductions associated with the Neighborhood Mixed-Use components of the Proposed Project and the BRPA. Pass-by trips represent existing vehicle trips on the roadway network that would travel to and from a new trip generator. For the purposes of this analysis, a pass-by trip percentage of 40 percent is applied to external vehicle trips generated by the Neighborhood Mixed-Use project component.

Prior to 2007, conventional methods available to transportation engineers systematically overestimated the trips generated by and impacts of mixed-use development because they did not accurately reflect the amount of internal trip linking or the level of external trips made by transit, biking, and/or walking. This resulted in increased development costs due to oversized infrastructure, skewed public perception, and resistance to approving smart growth. While the Institute of Transportation Engineers (ITE) Trip Generation Handbook does include a methodology for estimating internal trips, it only applies to AM and PM peak hour conditions and has been shown to be less accurate than more academically-oriented efforts.

In the early 2000's, two significant research studies provided the opportunity to improve the state of practice. One study sponsored by the U.S. Environmental Protection Agency (EPA) (MXD) and another by the Transportation Research Board (NCHRP 684) have developed means to improve trip generation estimation for mixed-use development (MXD). The two studies examined over 240 mixed-use development sites throughout the U.S. and, using different approaches, developed new quantification methods. Fehr & Peers has reviewed the two methods, including the basis, capabilities, and appropriate uses of each, to produce a new method, MXD+, that combines the strengths of the two individual tools to establish a new best practice. MXD+ recognizes that traffic generation by mixed-use and other forms of sustainable development relate closely to the density, diversity, design, destination accessibility, transit proximity, and scale of development.

The MXD+ method explains 97 percent of the variation in trip generation among mixed-use developments, compared to 65 percent for the methods previously recommended by ITE. While remaining slightly (two to four percent) conservative to avoid systematically understating impacts, it substantially reduces the 35 to 37 percent average overestimate of traffic generation produced by conventional ITE methods.

MXD+ improves the accuracy of impact estimation and gives planners a tool to rationally balance land use mix and to incorporate urban design, context compatibility, and transit orientation to create lower impact development. Inputs for the MXD+ tool include the types and quantities of project land uses, in accordance with land use categories included in the ITE Trip Generation Manual, 11th Edition. Table 4.13-2 summarizes the individual land uses of the Proposed Project consistent with Table 3-1 and Table 3-2 in Chapter 3, Project Description, of this EIR, as well as their corresponding ITE land use type, code, and quantity used in this analysis; Table 4.13-3 provides the same information for the BRPA land uses, consistent with Table 3-3 and Table 3-4 in Chapter 3 of this EIR. Information needed to identify the appropriate ITE residential land use categories was verified by City of Davis staff and the project applicant team, including the anticipated number of floors for the project's multifamily units and the number of single-family units that would be attached or detached.

Table 4.13-2
Proposed Project Land Uses

Proposed Land Uses				Transportation Analysis Land Use Inputs	
Neighborhood/Land Use Designation		**Land Use Type**	**Quantity[1]**	**ITE Land Use Category (Type and Code)**	**Quantity[1]**
North, East, and South Villages	Residential Low Density	Market-Rate Single-Family Units and Duplexes	680 DU	Single Family Detached Housing (210)	640 DU
				Single Family Attached Housing (215)	40 DU
Central Village and Parkside Village East	Residential Medium Density	Starter Single-Family Units	310 DU	Single Family Detached Housing (210)[2]	310 DU
		Townhomes and Cottages	160 DU	Single Family Attached Housing (215)	160 DU
Parkside Village West	Residential Medium Density	Condominiums and Stacked Flats	150 DU	Multifamily Housing Low Rise (220)	150 DU
West Park Village North	Residential Medium Density	Affordable Multifamily Units	60 DU	Affordable Housing Income Limits (223)	60 DU
North Park Apartments	Residential Medium High Density	Market Rate Apartments	200 DU	Multifamily Housing Low Rise (220)	200 DU
West Park Village South	Residential High Density	Affordable Multifamily Units	240 DU	Affordable Housing Income Limits (223)	240 DU
Neighborhood Mixed-Use		Neighborhood Services	2.8 Acres	Strip Retail Plaza (822)	30.5 KSF[3]
Public/Semi Public		Fire Station	2.5 Acres	Fire and Rescue Station (575)[4]	32.1 KSF[5]
		Pre-K Early Learning Center	2.4 Acres	Day Care Center (565)	17.7 KSF[6]
Parks/Recreation		Heritage Oak Park	20.3 Acres	Public Park (411)	20.3 Acres
		Village Trails Park	7.5 Acres	Public Park (411)	7.5 Acres

[1] DU = Dwelling Unit. KSF = 1,000 square feet.
[2] Starter single family units would be affordable-by-design, detached homes developed and sold through a Developer Contribution Program (DCP). The ITE Trip Generation Manual does not include a land use category for affordable single family detached homes. Therefore, this analysis adjusts the trip rates for ITE land use category Single Family Detached Housing (210) based on the ratios of daily, AM peak hour, and PM peak hour trip rates for ITE land use categories Multifamily Housing Low Rise (220) and Affordable Housing Income Limits (223), applied to trip rates for ITE land use category Single Family Detached Housing (210).
[3] Estimated using a floor area ratio (FAR) of 0.25 applied to the 2.8-acre site.
[4] The ITE Trip Generation Manual does not include daily or AM peak hour trip rates for land use category Fire and Rescue Station (575). Therefore, this analysis estimates daily and AM peak hour trip generation for this land use using the daily-to-PM peak hour and AM peak hour-to-PM peak hour ratio of trip rates for ITE land use category Free Standing Emergency Room (650), applied to the PM peak hour trip rate for Fire and Rescue Station (575).
[5] Estimated using an FAR of 0.30 applied to the 2.5-acre site. FAR derived from weighted average FAR for existing City of Davis Fire Stations 31, 32, and 33.
[6] Estimated using an FAR of 0.17 applied to the 2.4-acre site. FAR derived from weighted average FAR for existing preschool and day care facilities in Davis, including Peregrine School on Lillard Drive, Merryhill Preschool on La Vida Way, and Redbud Montessori on Patwin Road.

Source: Fehr & Peers, 2024.

Table 4.13-3
BRPA Land Uses

BRPA Project Description			Transportation Analysis Land Use Inputs	
Land Use Type		**Quantity[1]**	**ITE Land Use Category (Type and Code)**	**Quantity[1]**
Residential Dwelling Units		1,800 DU	Single Family Detached Housing (210)	1,230 DU
			Single Family Detached Housing (210)[2]	90 DU
			Single Family Attached Housing (215)	120 DU
			Multifamily Housing Low Rise (220)	90 DU
			Affordable Housing Income Limits (223)	270 DU
Neighborhood Mixed-Use	Neighborhood Services	2.8 Acres	Strip Retail Plaza (822)	30.5 KSF[3]
Public/Semi Public	Fire Station	2.5 Acres	Fire and Rescue Station (575)[4]	32.1 KSF[5]
	Pre-K Early Learning Center	2.4 Acres	Day Care Center (565)	17.7 KSF[6]
Parks/Recreation	Heritage Oak Park	20.3 Acres	Public Park (411)	20.3 Acres
	Village Trails Park	7.5 Acres	Public Park (411)	7.5 Acres

1 DU = Dwelling Unit. KSF = 1,000 square feet.
2 Starter single family units would be affordable-by-design, detached homes developed and sold through a Developer Contribution Program (DCP). The ITE Trip Generation Manual does not include a land use category for affordable single family detached homes. Therefore, this analysis adjusts the trip rates for ITE land use category Single Family Detached Housing (210) based on the ratios of daily, AM peak hour, and PM peak hour trip rates for ITE land use categories Multifamily Housing Low Rise (220) and Affordable Housing Income Limits (223), applied to trip rates for ITE land use category Single Family Detached Housing (210).
3 Estimated using a floor area ratio (FAR) of 0.25 applied to the 2.8-acre site.
4 The ITE Trip Generation Manual does not include daily or AM peak hour trip rates for land use category Fire and Rescue Station (575). Therefore, this analysis estimates daily and AM peak hour trip generation for this land use using the daily-to-PM peak hour and AM peak hour-to-PM peak hour ratio of trip rates for ITE land use category Free Standing Emergency Room (650), applied to the PM peak hour trip rate for Fire and Rescue Station (575).
5 Estimated using an FAR of 0.30 applied to the 2.5-acre site. FAR derived from weighted average FAR for existing City of Davis Fire Stations 31, 32, and 33.
6 Estimated using an FAR of 0.17 applied to the 2.4-acre site. FAR derived from weighted average FAR for existing preschool and day care facilities in Davis, including Peregrine School on Lillard Drive, Merryhill Preschool on La Vida Way, and Redbud Montessori on Patwin Road.

Source: Fehr & Peers, 2024.

Using the methods described above, Table 4.13-4 summarizes the estimated weekday and peak hour trip generation for the Proposed Project. As shown therein, the Proposed Project would generate an estimated 13,885 net new daily trips, 1,089 net new AM peak hour trips, and 1,471 net new PM peak hour trips during a typical weekday. Similarly, Table 4.13-5 summarizes the estimated weekday and peak hour trip generation for the BRPA. As shown therein, the BRPA would generate an estimated 15,415 net new daily trips, 1,199 net new AM peak hour trips, and 1,631 net new PM peak hour trips during a typical weekday.

Bicycle, Walking, and Transit Trip Reductions

The TIS used the U.S. Census Bureau American Community Survey (ACS) for journey to work mode share data to estimate external peak hour commute vehicle trip reductions attributable to bicycle, pedestrian, and transit (i.e., non-auto) trips associated with the Proposed Project and BRPA. Because trip rates from the ITE Trip Generation Handbook are derived from survey sites nationwide, the process of calculating mode share requires accounting for local and national commute mode share patterns, as follows:

1. Calculate non-auto journey to work mode share for existing residential neighborhoods near the project site/BRPA site with similar land use and transportation system characteristics.
2. Calculate non-auto journey to work mode share for the United States.
3. Calculate the difference between local and national non-auto journey to work mode share.
4. Apply the local/national non-auto mode share difference to the raw external peak hour vehicle trip estimates attributable to home-based-work trips generated by the proposed residential uses.

Table 4.13-6 summarizes the non-auto journey to work mode share used in the TIS analysis.

VMT Analysis

As discussed above, the VMT impact analysis relies on guidance provided in the OPR (now LCI) Technical Advisory. Fehr & Peers determined that because neither the Proposed Project nor the BRPA qualify for any of the screening criteria, a quantitative VMT analysis is necessary.

The SACOG SASCIM19 travel demand model was utilized to derive VMT estimates for the Proposed Project and the BRPA. The SACSIM19 model is a sophisticated activity-based model that predicts the travel demand and travel patterns for residents, workers, students, visitors, and commercial vehicles throughout the SACOG region. The model requires inputs such as population and employment to represent the land use and transportation network associated with each scenario. For the purposes of this analysis, the base year SACSIM19 model was refined to include traffic analysis zone (TAZ) splits, land use inputs, and centroid connectors that align with the various land use components and access locations of the project. Proposed Project and BRPA land uses were incorporated by updating the parcel, household, and synthetic population inputs in the SACSIM19 model.

For the residential component VMT analysis, the SACSIM19 model was utilized to estimate residential VMT per capita that would be generated by the residential component of the Proposed Project and the BRPA. Residential VMT includes all automobile (i.e., passenger cars and light-duty trucks) vehicle-trips that are traced back to the residence of the trip-maker. Residential VMT includes all vehicle “tours” (both work/commute vehicle tours and non-work vehicle tours) that start and end at residential units. VMT from these tours are summed to the home location.

Table 4.13-4
Proposed Project Vehicle Trip Generation

Land Use	ITE Code	Units	Quantity	Daily	AM In	AM Out	AM Total	PM In	PM Out	PM Total
Net New Uses										
Single-Family Detached (Market Rate)	210[1]	Dwelling Units	640	6,035	116	332	448	379	223	602
Single-Family Detached (Starter Home)	210[2]	Dwelling Units	310	2,086	61	135	196	155	108	263
Single-Family Attached	215[3]	Dwelling Units	200	1,440	30	66	96	65	49	114
Multifamily Housing Low Rise	220[4]	Dwelling Units	350	2,359	34	106	140	113	66	179
Affordable Housing	223[5]	Dwelling Units	300	1,443	31	77	108	81	57	138
Public Park	411[6]	Acres	27.8	22	1	0	1	2	1	3
Day Care Center	565[7]	1,000 sf	17.7	843	103	92	195	93	104	197
Fire and Rescue Station	575[8]	1,000 sf	32.1	252	6	5	11	4	11	15
Strip Retail Plaza	822[9]	1,000 sf	30.5	1,517	43	29	72	101	101	202
			Raw External Vehicle Trips	*15,997*	*425*	*842*	*1,267*	*993*	*720*	*1,713*
Reductions										
			Internal Capture[10]	-1,268	-40	-80	-120	-74	-54	-128
			External Walk, Bike, and Transit[11]	-285	-5	-27	-32	-25	-15	-40
			Retail Pass-By[12]	-559	-16	-10	-26	-37	-37	-74
			Total Reductions	*-2,112*	*-61*	*-117*	*-178*	*-136*	*-106*	*-242*
			Net New External Vehicle Trips	**13,885**	**364**	**725**	**1,089**	**857**	**614**	**1,471**

1 ITE Trip Generation land use category (210) Single-Family Detached Housing (Adj Streets, 7-9A, 4-6P).
Daily: T = 9.43(X)
AM Peak Hour: T = 0.70(X) (25% in, 75% out)
PM Peak Hour: T = 0.94(X) (63% in, 37% out)

2 ITE Trip Generation land use category (210) Single-Family Detached Housing (Adj Streets, 7-9A, 4-6P), with adjustments for affordability. This analysis adjusts the trip rates for ITE land use category Single Family Detached Housing (210) based on the ratios of daily, AM peak hour, and PM peak hour trip rates for ITE land use categories Multifamily Housing Low Rise (220) and Affordable Housing Income Limits (223), applied to trip rates for ITE land use category Single Family Detached Housing (210).
Daily: T = 6.73(X)
AM Peak Hour: T = 0.63(X) (31% in, 69% out)
PM Peak Hour: T = 0.85(X) (59% in, 41% out)

3 ITE Trip Generation land use category (215) Single-Family Attached Housing (Adj Streets, 7-9A, 4-6P)
Daily: T = 7.20(X)
AM Peak Hour: T = 0.48(X) (31% in, 69% out)
PM Peak Hour: T = 0.57(X) (57% in, 43% out)

4 ITE Trip Generation land use category (220) Multifamily Housing (Low-Rise) Not Close to Rail Transit (Adj Streets, 7-9A, 4-6P)

Table 4.13-4
Proposed Project Vehicle Trip Generation

Daily: T = 6.74(X)
AM Peak Hour: T = 0.40(X) (20% in, 80% out)
PM Peak Hour: T = 0.51(X) (65% in, 35% out)

[5] ITE Trip Generation land use category (223) Affordable Housing - Income Limits (Adj Streets, 7-9A, 4-6P)
Daily: T = 4.81(X)
AM Peak Hour: T = 0.36(X) (29% in, 71% out)
PM Peak Hour: T = 0.46(X) (59% in, 41% out)

[6] ITE Trip Generation land use category (411) - Public Park (Adj Streets, 7-9A, 4-6P)
Daily: T = 0.78(X)
AM Peak Hour: T = 0.02(X) (56% in, 44% out)
PM Peak Hour: T = 0.11(X) (57% in, 43% out)

[7] ITE Trip Generation land use category (565) Day Care Center (Adj Streets, 7-9A, 4-6P)
Daily: T = 47.62(X)
AM Peak Hour: T = 11.00(X) (53% in, 47% out)
PM Peak Hour: T = 11.12(X) (47% in, 53% out)

[8] ITE Trip Generation land use category (575) Fire and Rescue Station (Adj Streets, 7-9A, 4-6P), with adjustments for daily and AM peak hour trip rates. This analysis estimates daily and AM peak hour trip generation for this land use using the daily-to-PM peak hour and AM peak hour-to-PM peak hour ratio of trip rates for ITE land use category Free Standing Emergency Room (650), applied to the PM peak hour trip rate for Fire and Rescue Station (575).
Daily: T = 7.85(X)
AM Peak Hour: T = 0.34(X) (55% in, 45% out)
PM Peak Hour: T = 0.47(X) (29% in, 71% out)

[9] ITE Trip Generation land use category (822) Strip Retail Plaza (<40k) (Adj Streets, 7-9A, 4-6P)
Daily: T = 42.20(X) + 229.68
AM Peak Hour: T = 2.36(X) (60% in, 40% out)
PM Peak Hour: T = 6.59(X) (50% in, 50% out)

[10] Internal capture reductions based on application of MXD+ model: Daily = 7.9%, AM Peak Hour = 9.5%, PM Peak Hour = 7.5%.

[11] External walk, bike, and transit trip reductions based on MXD+ model for daily trips and US Census Bureau ACS journey to work data for AM and PM peak hour trips: Daily = 1.8%, AM Peak Hour = 2.5%, PM Peak Hour = 2.3%.

[12] External retail pass-by trip reductions (40%) derived from *2021 Pass-By Tables for ITE Trip Generation Appendices* for ITE land use category Shopping Plaza (821).

Source: Fehr & Peers, 2024.

Table 4.13-5
BRPA Vehicle Trip Generation

Land Use	ITE Code	Units	Quantity	Daily	AM In	AM Out	AM Total	PM In	PM Out	PM Total
Net New Uses										
Single-Family Detached (Market Rate)	210[1]	Dwelling Units	1,230	11,599	224	637	861	728	428	1,156
Single-Family Detached (Starter Home)	210[2]	Dwelling Units	90	606	18	40	58	45	32	77
Single-Family Attached	215[3]	Dwelling Units	120	864	18	40	58	39	29	68
Multifamily Housing Low Rise	220[4]	Dwelling Units	90	607	9	27	36	29	17	46
Affordable Housing	223[5]	Dwelling Units	270	1,299	28	69	97	73	51	124
Public Park	411[6]	Acres	27.8	22	1	0	1	2	1	3
Day Care Center	565[7]	1,000 Sq. Ft. GLA	17.7	843	103	92	195	93	104	197
Fire and Rescue Station	575[8]	1,000 Sq. Ft. GLA	32.1	252	6	5	11	4	11	15
Strip Retail Plaza	822[9]	1,000 Sq. Ft. GLA	30.5	1,517	43	29	72	101	101	202
			Raw External Vehicle Trips	*17,609*	*450*	*939*	*1,389*	*1,114*	*774*	*1,888*
Reductions										
			Internal Capture[10]	-1,370	-41	-87	-128	-81	-57	-138
			External Walk, Bike, and Transit[11]	-264	-5	-31	-36	-28	-15	-43
			Retail Pass-By[12]	-560	-16	-10	-26	-38	-38	-76
			Total Reductions	*-2,194*	*-62*	*-128*	*-190*	*-147*	*-110*	*-257*
			Net New External Vehicle Trips	**15,415**	**388**	**811**	**1,199**	**967**	**664**	**1,631**

[1] ITE Trip Generation land use category (210) Single-Family Detached Housing (Adj Streets, 7-9A, 4-6P).
Daily: T = 9.43(X)
AM Peak Hour: T = 0.70(X) (25% in, 75% out)
PM Peak Hour: T = 0.94(X) (63% in, 37% out)

[2] ITE Trip Generation land use category (210) Single-Family Detached Housing (Adj Streets, 7-9A, 4-6P), with adjustments for affordability. This analysis adjusts the trip rates for ITE land use category Single Family Detached Housing (210) based on the ratios of daily, AM peak hour, and PM peak hour trip rates for ITE land use categories Multifamily Housing Low Rise (220) and Affordable Housing Income Limits (223), applied to trip rates for ITE land use category Single Family Detached Housing (210).
Daily: T = 6.73(X)
AM Peak Hour: T = 0.63(X) (31% in, 69% out)
PM Peak Hour: T = 0.85(X) (59% in, 41% out)

[3] ITE Trip Generation land use category (215) Single-Family Attached Housing (Adj Streets, 7-9A, 4-6P)
Daily: T = 7.20(X)
AM Peak Hour: T = 0.48(X) (31% in, 69% out)
PM Peak Hour: T = 0.57(X) (57% in, 43% out)

[4] ITE Trip Generation land use category (220) Multifamily Housing (Low-Rise) Not Close to Rail Transit (Adj Streets, 7-9A, 4-6P)

Table 4.13-5
BRPA Vehicle Trip Generation

Daily: T = 6.74(X)
AM Peak Hour: T = 0.40(X) (20% in, 80% out)
PM Peak Hour: T = 0.51(X) (65% in, 35% out)

[5] ITE Trip Generation land use category (223) Affordable Housing - Income Limits (Adj Streets, 7-9A, 4-6P)
Daily: T = 4.81(X)
AM Peak Hour: T = 0.36(X) (29% in, 71% out)
PM Peak Hour: T = 0.46(X) (59% in, 41% out)

[6] ITE Trip Generation land use category (411) - Public Park (Adj Streets, 7-9A, 4-6P)
Daily: T = 0.78(X)
AM Peak Hour: T = 0.02(X) (56% in, 44% out)
PM Peak Hour: T = 0.11(X) (57% in, 43% out)

[7] ITE Trip Generation land use category (565) Day Care Center (Adj Streets, 7-9A, 4-6P)
Daily: T = 47.62(X)
AM Peak Hour: T = 11.00(X) (53% in, 47% out)
PM Peak Hour: T = 11.12(X) (47% in, 53% out)

[8] ITE Trip Generation land use category (575) Fire and Rescue Station (Adj Streets, 7-9A, 4-6P), with adjustments for daily and AM peak hour trip rates. This analysis estimates daily and AM peak hour trip generation for this land use using the daily-to-PM peak hour and AM peak hour-to-PM peak hour ratio of trip rates for ITE land use category Free Standing Emergency Room (650), applied to the PM peak hour trip rate for Fire and Rescue Station (575).
Daily: T = 7.85(X)
AM Peak Hour: T = 0.34(X) (55% in, 45% out)
PM Peak Hour: T = 0.47(X) (29% in, 71% out)

[9] ITE Trip Generation land use category (822) Strip Retail Plaza (<40k) (Adj Streets, 7-9A, 4-6P)
Daily: T = 42.20(X) + 229.68
AM Peak Hour: T = 2.36(X) (60% in, 40% out)
PM Peak Hour: T = 6.59(X) (50% in, 50% out)

[10] Internal capture reductions based on application of MXD+ model: Daily = 7.9%, AM Peak Hour = 9.5%, PM Peak Hour = 7.5%.

[11] External walk, bike, and transit trip reductions based on MXD+ model for daily trips and US Census Bureau ACS journey to work data for AM and PM peak hour trips: Daily = 1.8%, AM Peak Hour = 2.5%, PM Peak Hour = 2.3%.

[12] External retail pass-by trip reductions (40%) derived from *2021 Pass-By Tables for ITE Trip Generation Appendices* for ITE land use category Shopping Plaza (821).

Source: Fehr & Peers, 2024.

Table 4.13-6
Non-Auto Journey to Work Mode Share

Mode	Journey to Work Mode Share		
	Local[1]	National	Difference (Local – National)
Public Transportation	2.2%	4.2%	-2.0%
Walked	1.0%	2.5%	-1.5%
Bicycle	10.6%	0.5%	10.1%
Non-Auto Total	**13.9%**	**7.2%**	**6.7%**

Notes:

[1] Local non-auto mode share estimates represent the weighted averages for Census Tracts 105.05, 106.09, and 106.11, which include The Cannery, Wildhorse, and East Davis neighborhoods immediately adjacent to the project site/BRPA site.

Source: Fehr & Peers, 2024.

VMT for each home is then summed by TAZ and divided by the total population in that TAZ to arrive at residential VMT per capita. Project-generated residential VMT per capita was estimated using the latest SACOG-recommended methodology, which accounts for the full amount of VMT generated by trips with a trip end located outside of the SACOG region.

A select zone analysis was performed for the TAZ containing the project site/BRPA site to determine the number of project-generated residential vehicle trips estimated by the SACSIM19 model. The resulting project-generated residential VMT per capita was then compared to the baseline local and regional residential VMT per capita averages to determine whether the residential component of the Proposed Project and/or the BRPA would exceed the applicable VMT threshold of significance (i.e., whether the residential component of the Proposed Project and/or the BRPA would generate residential VMT per capita exceeding 15 percent below baseline local or regional residential VMT per capita for residential uses).

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts is based on implementation of the Proposed Project and BRPA in comparison with the standards of significance identified above.

4.13-1 Conflict with a program, plan, ordinance, or policy addressing the circulation system during construction activities. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

Because the components of the Proposed Project and the BRPA would be developed within the same overall site boundaries and would require similar construction activities, the following evaluation applies to both the Proposed Project and the BRPA.

Proposed Project, Biological Resources Preservation Alternative

Construction activities associated with the Proposed Project and the BRPA would include use of construction equipment, including on-site earth-moving vehicles, bulldozers, and other heavy machinery, as well as building materials delivery, and construction worker commutes. The transport of heavy construction equipment to the

site, haul truck trips, and construction worker commutes could affect the local roadway network.

Construction workers typically arrive before the morning peak hour and leave before the evening peak hours of the traditional commute time periods. Deliveries of building material (lumber, concrete, asphalt, etc.) would also normally occur outside of the traditional commute time periods. In addition, any truck traffic to the project site/BRPA site would follow designated truck routes, and construction would likely stage any large vehicles (i.e., earth- moving equipment, cranes, etc.) on the site prior to beginning site work and remove such vehicles at project completion. However, detailed information related to the construction routes and equipment staging, or a construction management plan, is not available. As a result, construction activities could include disruptions to the transportation network near the site.

As noted in Chapter 4.3, Air Quality, Greenhouse Gas Emissions, and Energy, of this EIR, substantial earthwork would be required to elevate the project site/BRPA site. Approximately 1,000,000 cubic yards of soil would be hauled from the Urban Agricultural Transition Area (UATA) portion of the site to the development footprint. However, the project applicant has stated that the haul trucks shall stay within the site, and will not need to access F Street or Pole Line Road to transfer the hauled soil.

Based on the above, without proper planning of construction activities, construction traffic and potential street closures could interfere with existing roadway operations, including pedestrian, bicycle, and transit facilities, during the construction phase. Therefore, the Proposed Project and the BRPA have the potential to conflict with a program, plan, ordinance, or policy addressing the circulation system during construction activities, and a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

Proposed Project, Biological Resources Preservation Alternative

4.13-1 *Prior to any construction activities for the project site/BRPA site, the project applicant shall prepare a detailed Construction Traffic Control Plan (CTCP) and submit it for review and approval by the City Department of Public Works Engineering and Transportation. The applicant and the City shall consult with Yolo County, Caltrans, Unitrans, Yolobus, and local emergency service providers for their input prior to approving the CTCP. The CTCP shall ensure that acceptable operating conditions on local roadways and freeway facilities are maintained during construction. A copy of the CTCP shall be submitted to local emergency response agencies and the agencies shall be notified at least 14 days prior to the commencement of construction that would partially or fully obstruct roadways. At a minimum, the CTCP shall include:*

- *The number of truck trips, time, and day of street closures;*
- *Time of day of arrival and departure of trucks;*

- *Limitations on the size and type of trucks, provision of a staging area with a limitation on the number of trucks that can be waiting;*
- *Provision of a truck circulation pattern that minimizes effects on existing vehicle traffic during peak travel periods and maintains safe bicycle circulation;*
- *Prohibition on use of public roads by haul trucks transporting soil from the Urban Agricultural Transition Area (UATA) to the development portion of the project site;*
- *Resurface and/or repair any damage to roadways that occurs as a result of construction traffic;*
- *Provision of driveway access plan so that safe vehicular, pedestrian, and bicycle movements are maintained (e.g., steel plates, minimum distances of open trenches, and private vehicle pick up and drop off areas);*
- *Maintain safe and efficient access routes for emergency vehicles;*
- *Manual traffic control when necessary;*
- *Proper advance warning and posted signage concerning street closures; and*
- *Provisions for pedestrian safety.*

4.13-2 Conflict with a program, plan, ordinance, or policy addressing the circulation system, including pedestrian and bicycle facilities. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

As discussed throughout this chapter, LOS is no longer the applicable metric when evaluating transportation impacts of a project. The evaluation of VMT is discussed in Impact 4.13-4 of this chapter. Therefore, the following discussion focuses on whether the Proposed Project or the BRPA would result in impacts to existing or planned pedestrian and bicycle facilities and services within the project area.

Proposed Project, Biological Resources Preservation Alternative

The Proposed Project and the BRPA would not include any modifications to the existing pedestrian and bicycle facilities described in the Existing Setting section of this chapter; thus, neither the Proposed Project or the BRPA would physically disrupt existing pedestrian or bicycle facilities. However, as shown in Figure 3-8, Mobility, Bicycle, and Trail Circulation, and in Figure 3-18, Biological Resources Preservation Alternative Mobility, Bicycle, and Trail Circulation, in Chapter 3, Project Description, of this EIR, the Proposed Project and the BRPA would construct new pedestrian and bicycle facilities and expand the local network as follows:

- Construction of new Class I shared-use paths along the Pole Line Road (west side) and East Covell Boulevard (north side) project site/BRPA site frontages;
- Construction of new Class I shared-use path connections at the existing Cannery Avenue/Cannery Loop, East Covell Boulevard/L Street, Pole Line

Road/Picasso Avenue, Pole Line Road/Donner Avenue, and Pole Line Road/Moore Boulevard intersections;

- Construction of new Class I shared-use path connection between the project site/BRPA site and the existing Cannery Loop shared-use path at the northeast corner of the Cannery neighborhood;
- Construction of new Class I shared-use paths along the Cannery Loop, L Street, Picasso Avenue, and Donner Avenue roadway extensions into the project site/BRPA site;
- Construction of new Class I shared-use paths along greenbelts and drainage channels and within Heritage Oak Park located internal to the project site/BRPA site;
- Construction of new sidewalks on both sides of roadways internal to the project site/BRPA site;
- If feasible, construction of one pedestrian/bicycle crossing through an undercrossing near the Pole Line Road/Moore Boulevard intersection and one future grade-separated crossing at F Street. These crossings would be constructed in Phases 2, 3, or 4 of project implementation. Due to uncertainties regarding the timing and feasibility of the foregoing crossings, the TIS did not consider either as project components for the purpose of the analysis; and
- Construction of the following modifications at existing intersections:

    - East Covell Boulevard/L Street – New north leg and accompanying signal modifications;
    - Pole Line Road/Picasso Avenue – New west leg and traffic signal;
    - Pole Line Road/Donner Avenue – New west leg and traffic signal; and
    - Pole Line Road/Moore Boulevard – New west leg and roundabout.

The forgoing improvements would support the implementation of planned pedestrian and bicycle improvements, including the construction of new Class I shared-use paths on the north side of East Covell Boulevard between J Street and Pole Line Road and on the west side of Pole Line Road, as identified in the ECCP. As such, neither the Proposed Project nor the BRPA would interfere with the implementation of planned future pedestrian or bicycle facilities.

Considering the proposed land uses and location, the Proposed Project and the BRPA would create new pedestrian and bicycle desire lines, which refers to the preferred route a person will take to travel from one location to another, and would generate new demand for pedestrian and bicycle travel within the project site/BRPA site and between the site and other local neighborhoods and activity centers (e.g., Oak Tree Plaza shopping center, Community Park, Davis Senior High School, Holmes Junior High School, and Birch Lane Elementary School). New pedestrian and bicycle travel demand would be served by the proposed pedestrian and bicycle facilities improvements, as well as by existing pedestrian and bicycle facilities in the surrounding local active transportation system.

While most pedestrian and bicycle desire lines would be adequately accommodated by the existing and proposed active transportation network within and surrounding the project site/BRPA site, active transportation network gaps would impede pedestrian and bicycle access to and from the site at several locations. Additionally, at several

locations, inadequate bicycle and pedestrian facilities and/or crossing amenities, coupled with project-related increases to vehicle traffic, would exacerbate bicyclist and pedestrian exposure to conflicting vehicular traffic in a manner that could increase the potential for collisions. These locations are as follows:

- East Covell Boulevard/Pole Line Road intersection, due to a lack of marked crosswalks and accompanying pedestrian crossing signals on the north and west legs, and due to channelized right-turn lanes on the eastbound and westbound approaches;
- Pole Line Road/Moore Boulevard, Pole Line Road/Donner Avenue, and East Pole Line Road/Picasso Avenue intersections, due to a lack of marked bicycle and pedestrian crossings of Pole Line Road. While a roundabout at the Pole Line Road/Moore Boulevard intersection and traffic signals at the Pole Line Road/Donner Avenue and Pole Line Road/Picasso Avenue intersections are proposed, design details regarding bicycle and pedestrian crossing amenities have not yet been determined;
- East Covell Boulevard/Birch Lane intersection, due to a lack of bicycle crossing markings to facilitate north-south bicycle movements across East Covell Boulevard and Denison Drive;
- Cannery Loop elbow adjacent to Cannery Dog Park, due to impeded sight distance at the diagonal crossing between the existing Class I shared-use path on the north side of Cannery Loop and the Class I shared-use path that extends south underneath the East Covell Boulevard overcrossing;
- Oak Tree Plaza driveways along East Covell Boulevard, due to a lack of marked pedestrian and bicycle crossings at the driveway intersections with the existing Class I shared-use path; and
- Birch Lane between East Covell Boulevard and Pole Line Road, due to a lack of designated bicycle facilities.

Project-related traffic on the network would result in the above-noted adverse effects or, in the case of bullets three and six, exacerbate existing deficiencies. The adverse effects on pedestrian and bicycle travel and safety would be inconsistent with City plans and policies that promote pedestrian and bicycle travel, including City of Davis General Plan Goals #1, #2, and #4 and Policies TRANS 1.6, 2.1, 2.2, and 2.5, and the City of Davis Beyond Platinum Bicycle Action Plan. The BRPA is anticipated to have the same effects as the Proposed Project. Therefore, the Proposed Project and/or the BRPA could conflict with a program, plan, ordinance, or policy addressing pedestrian facilities or bicycle facilities, and a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above potential impact to a *less-than-significant* level.

Proposed Project, Biological Resources Preservation Alternative

4.13-2(a) *In conjunction with submittal of a tentative map, the Project applicant shall submit a focused traffic impact study to determine if any of the intersection and roadway mitigations are required based on the additional traffic generated by the subject development phase. The*

focused traffic study shall address the impact of adding the individual phase of development to existing plus other approved/pending development projects. The project applicant shall construct physical improvements as identified in the focused traffic study.

4.13-2(b) *Prior to occupancy of the first residential unit during Phase 1 of the Proposed Project/BRPA, the project applicant shall implement modifications to improve the East Covell Boulevard/Pole Line Road intersection as follows, to the satisfaction of the City of Davis City Engineer:*

- *Install marked crosswalks and accompanying pedestrian crossing signals on the north and west legs to provide temporal separation between pedestrians and conflicting vehicular movements.*
- *Eliminate the eastbound and westbound channelized right-turn lanes and replace them with standard right-turn pockets. Alternatively, modify the eastbound and westbound channelized right-turn lanes to reduce the speed of turning vehicles and to reduce pedestrian/bicycles exposure to conflicting vehicular traffic.*
- *Install high visibility bike lane conflict markings at the intersection approaches.*

Implementation of the foregoing improvements, or a set of improvements of equal effectiveness as determined by the City Engineer, would reduce the potential for conflicts involving bicyclists and pedestrians that would otherwise be caused by the project and promote bicycle and pedestrian travel to and from the project site. Improvements that would further enhance safety for people walking and biking would include the conversion of the intersection into a protected intersection (similar to East Covell Boulevard/L Street) or a roundabout.

4.13-2(c) *The project applicant shall construct a roundabout with pedestrian and bicycle crossings on all legs at the Pole Line Road/Moore Boulevard intersection. Bicycle and pedestrian crossings shall be placed through the splitter islands for each roundabout approach to minimize the number of multi-lane crossings, and shall be designed to the satisfaction of the City Engineer. In addition, the project applicant shall install traffic signals and pedestrian crossings on all legs at the Pole Line Road/Donner Avenue and Pole Line Road/Picasso Avenue intersections.*

Implementation of the foregoing improvements, or a set of improvements of equal effectiveness as determined by the City Engineer, would reduce the potential for conflicts involving bicyclists or pedestrians that would otherwise be caused by the project and promote bicycle and pedestrian travel to and from the project site/BRPA site.

4.13-2(d) *Prior to occupancy of the first residential unit during Phase 1 of the Proposed Project/BRPA, the project applicant shall install bicycle and pedestrian crossing improvements at the East Covell Boulevard/Birch Lane intersection, consistent with the planned improvements identified in the East Covell Corridor Plan (ECCP), to the satisfaction of the City Engineer. The improvements shall include: installation of high visibility bike lane conflict markings in the northbound and southbound direction across both East Covell Boulevard and Denison Drive; high visibility marked crosswalks across the east leg of the East Covell Boulevard/Birch Lane intersection and across the east and south legs of the Birch Lane/Denison Drive intersection; and installation of a bike lane with conflict markings at the northbound approach of the East Covell Boulevard/Birch Lane intersection.*

Implementation of the foregoing improvements, or a set of improvements of equal effectiveness as determined by the City Engineer, would reduce the potential for conflicts involving bicyclists or pedestrians that would otherwise be exacerbated by the project and promote bicycle and pedestrian travel to and from the project site/BRPA site.

4.13-2(e) *Prior to occupancy of the first residential unit during Phase 1 of the Proposed Project/BRPA, the project applicant shall install bicycle and pedestrian crossing improvements at the Cannery Loop elbow adjacent to Cannery Dog Park, to the satisfaction of the City Engineer. Improvements shall include the installation of high visibility crosswalk markings and the installation of a rapid-rectangular flashing beacon (RRFB) at the existing diagonal crossing.*

Implementation of the foregoing improvements, or a set of improvements of equal effectiveness as determined by the City Engineer, would reduce the potential for conflicts involving bicyclists or pedestrians that would otherwise be caused by the project and promote bicycle and pedestrian travel to and from the project site/BRPA site.

4.13-2(f) *Prior to occupancy of the first residential unit during Phase 1 of the Proposed Project/BRPA, the project applicant shall install high visibility bicycle and pedestrian crossing markings and accompanying signage at the three Oak Tree Plaza driveway intersections with the East Covell Boulevard shared-use path, consistent with the ECCP, to the satisfaction of the City Engineer.*

Implementation of the foregoing improvements, or a set of improvements of equal effectiveness as determined by the City Engineer, would reduce the potential for conflicts involving bicyclists or pedestrians that would otherwise be exacerbated by the project and promote bicycle and pedestrian travel to and from the project site/BRPA site.

4.13-2(g) Prior to occupancy of the first residential unit during Phase I of the Proposed Project/BRPA, to the satisfaction of the City Engineer, the project applicant shall install Class III bike route pavement markings (e.g., green-backed sharrows) and accompanying signage on Birch Lane between East Covell Boulevard and Pole Line Road.

Implementation of the foregoing improvements, or a set of improvements of equal effectiveness as determined by the City Engineer, would reduce the potential for conflicts involving bicyclists or pedestrians that would otherwise be exacerbated by the project and promote bicycle and pedestrian travel to and from the project site.

4.13-3 Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit facilities and services. Based on the analysis below, even with mitigation, the impact is *significant and unavoidable*.

Because the components of the Proposed Project and the BRPA would be developed within the same overall site boundaries and would result in similar effects related to transit facilities, the following evaluation applies to both the Proposed Project and the BRPA.

Proposed Project, Biological Resources Preservation Alternative

As discussed in the Existing Setting section of this chapter, the project site/BRPA site would be served by the following existing bus stops:

- Eastbound and westbound East Covell Boulevard at J Street and Pole Line Road;
- Northbound Pole Line Road at Picasso Avenue and Donner Avenue;
- Eastbound Moore Road at Pole Line Road; and
- Southbound J Street at Cranbrook Court.

The Proposed Project and the BRPA also include the construction of a new bus stop on East Covell Boulevard at L Street. The Proposed Project and the BRPA do not include any improvements that would have the potential to physically disrupt existing transit facilities or interfere with the implementation of planned future transit facilities.

The Proposed Project and the BRPA would introduce new land uses that would be situated within walking distance of existing bus stops. As discussed above, the project site/BRPA site vicinity is served by Unitrans Routes E, F, L, P, Q, and T, which serve a variety of retail, employment, medical, institutional, and recreational destinations throughout the City and on the UC Davis campus, as well as Yolobus Route 43, which provides commute bus service for Davis residents who work in Downtown Sacramento.

Table 4.13-7 summarizes route-level ridership, productivity (passengers per revenue hour), and on-time performance for Unitrans routes serving the project site/BRPA site.

Unitrans policy is to increase daily headways from 30 minutes to 15 minutes on routes with more than 60 passengers per hour. The Unitrans routes that serve the project site/BRPA site have ridership levels that are well under the 60 passenger per hour threshold. As shown in Table 4.13-4 and Table 4.13-5, both the Proposed Project and the BRPA would generate fewer than 50 pedestrian/bicycle/transit trips during AM and PM peak hours. According to the TIS, transit trips represent approximately 16 percent of commute pedestrian/bicycle/transit trips in nearby residential areas; as such, the Proposed Project and the BRPA are conservatively estimated to generate approximately eight new transit passenger boardings during the AM and PM peak hours (50 pedestrian/bicycle/transit trips X 16 percent transit commute mode share among pedestrian/bicycle/transit trips). Such trips would be distributed across various Unitrans and Yolobus routes that would serve the project site/BRPA site. Therefore, although the Proposed Project and the BRPA would increase ridership, according to the TIS, neither the Proposed Project nor the BRPA would result in an increase above the 60 passengers per hour threshold.

Table 4.13-7
Unitrans Route Performance Summary in the Project Site/BRPA Site Vicinity

Route	Annual Ridership	Passengers per Revenue Hour	On-Time Performance
E – Downtown/F Street/J Street	72,260	30	86%
F – Oak/Anderson/F Street	58,965	26	89%
L – East 8th/Pole Line/Moore/Loyola	85,698	18	96%
P – MU/Davis Perimeter Counter Clockwise	209,774	27	75%
Q – MU/Davis Perimeter Clockwise	219,980	28	71%
T – Davis High/Holmes & Harper Junior High	9,286	27	--

Source: Fehr & Peers, 2024.

On-time performance is defined by Unitrans as a bus arriving at the terminal before the scheduled time or within five minutes of the scheduled time. Arriving more than five minutes late is defined as “late.” Unitrans has a systemwide on-time performance target of 90 percent. Systemwide, Unitrans on-time performance was 87 percent during the 2022-23 fiscal year, and, thus, failed to meet their on-time performance target. The Unitrans General Manager’s Report for Fiscal Year 2022-23 notes that the P and Q lines, both of which would serve the Proposed Project and the BRPA, experience the lowest on-time performance systemwide.

According to the TIS, the Proposed Project and the BRPA would increase vehicle travel demand and cause increases to peak hour delay on roadways within the project site vicinity, including East Covell Boulevard, Pole Line Road, Mace Boulevard, F Street, J Street, and L Street. Unitrans routes that operate in mixed-flow traffic on these roadways would similarly experience increased delays due to increased vehicle demand generated by project buildout. The P and Q lines, which currently experience on-time performance of 75 percent and 71 percent, respectively, would be impacted

due to existing peak hour delays on segments of their alignments including Mace Boulevard, East Covell Boulevard, F Street, and Fourteenth Street. Thus, the Proposed Project/BRPA would exacerbate currently deficient Unitrans performance with respect to on-time performance targets. Therefore, the Proposed Project and the BRPA could conflict with a program, plan, ordinance, or policy addressing transit facilities and services, and a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the Mitigation Measure 4.13-3(a) refers to the Transportation Demand Management (TDM) mitigation measure (Mitigation Measure 4.13-4) to address the VMT impact associated with the Proposed Project/BRPA. However, because the effectiveness of the TDM strategies identified in Mitigation Measure 4.13-3(a) are not known, subsequent vehicle trip reduction effects and, in turn, reductions to delays to transit, cannot be guaranteed. Additionally, the improvements that are necessary to improve transit service and facilities identified in Mitigation Measure 4.13-3(b) would require additional actions and implementation by Unitrans and Yolobus, and the specific improvements identified in the transit service and facilities plan and their efficacy are not known at this time. Therefore, due to the uncertainties regarding the ability for the following mitigation to reduce the impact to a less-than-significant level, impacts related to transit facilities and services would be considered *significant and unavoidable*.

Proposed Project, Biological Resources Preservation Alternative

4.13-3(a) *Implement Mitigation Measure 4.13-4.*

4.13-3(b) *Prior to occupancy of the first residential unit during Phase 1 of the Proposed Project/BRPA, the project applicant shall fund a Transit Service and Facilities Plan for the area encompassing the project site and other development along the north side of the Covell Boulevard and Mace Boulevard corridor between the westerly city limits and the I-80 interchange. The plan shall be led either by Unitrans and Yolobus, or by the City with Unitrans and Yolobus participating as active project partners. The plan shall be guided by the Unitrans and Yolobus service development processes, and shall be subject to approval by the City of Davis Public Works (Engineering and Transportation) Department. The Transit Service and Facilities Plan shall identify transit service and facility improvements required in accordance with Unitrans and Yolobus policies related to unmet transit needs, timing for improvements, transit service warrants, and performance standards.*

The applicant shall fund the implementation of transit service and facilities improvements to the extent that they are identified in the aforementioned Transit Service and Facilities Plan with the explicitly focus of implementing improvements that would address Proposed Project/BRPA-related contributions to unmet transit needs and project-related deficiencies with respect to transit service warrants and performance standards. The Proposed Project/BRPA shall not be responsible for funding improvements that address existing deficiencies. Potential transit improvements include the following:

1) *Modifying existing transit routes or adding new routes to serve the project site, adding service capacity (through increased headways and/or larger vehicles) to prevent overcrowding and maintain productivity standards.*
2) *Constructing transit priority treatments to improve on-time performance (i.e., transit signal priority and/or Intelligent Transportation Systems (ITS) upgrades at East Covell Boulevard traffic signals, transit queue jumps at East Covell Boulevard intersections, etc.).*
3) *Improving terminal facilities (i.e., stops) to accommodate additional passengers and transit vehicles.*
4) *Implementing transit pass/fare subsidies for residents and employees.*

Improvements shall be selected based on relevant performance data and targeted to address those areas not meeting established Unitrans performance standards. Transit facility improvements shall be designed and constructed pursuant to applicable City of Davis, Unitrans, and Yolobus standards.

To implement this mitigation measure, the Proposed Project/BRPA shall establish an appropriate funding mechanism (e.g., Community Facilities District or other mechanism determined acceptable by the City), to fund transit service and facilities improvements to adhere to Unitrans and Yolobus policies related to unmet transit needs, transit service warrants, and performance standards. The funding mechanism shall provide funding for capital costs and on-going operation of transit services. On-going annual fees would be identified and paid by the applicant to fund necessary transit service and facility improvements. Fees would be assessed on all future project land uses that generate an increased demand for transit services, including residential, commercial, civic, and recreation land uses. The project's funding contributions allocated through the funding mechanism shall be limited to improvements and/or portions of improvements that are attributable to the project's contributions to deficient transit service and/or operations. The project shall not contribute funding towards improvements needed to address existing deficiencies and/or improvements needed to address deficiencies attributable to other future land use projects.

Prior to establishing the funding mechanism, the applicant shall submit to the City for review and approval a complete and adequate report supporting the level of assessments/fees necessary for the establishment and continuation of the funding mechanism. The report shall be prepared by a registered engineer, in consultation with a qualified financial consultant. The report shall identify the transit services intended to be funded by the mechanism, the cost to establish and operate these services, the portion of the overall costs to be funded by the applicant, and the assessment/fees to obtain the necessary

funding, including a methodology for calculating fee increases over time. A transit service to be explicitly funded by the mechanism and included in the report would be the implementation of transit service and facilities improvements necessary to adhere to Unitrans and Yolobus policies related to unmet transit needs, transit service warrants, and performance standards. Project contributions towards on-going operating costs shall consider other regular established transit funding sources, such as the State of California Local Transportation Fund (LTF) and State Transit Assistance (STA) fund, as well as potential contributions from other future development that would benefit from these transit improvements.

4.13-4 Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). Based on the analysis below, even with mitigation, the impact is *significant and unavoidable*.

Impacts related to VMT associated with the Proposed Project and the BRPA are addressed separately below.

Proposed Project

According to the TIS, the residential component of the Proposed Project would generate 31.5 residential VMT per capita. Table 4.13-8 compares project-generated, baseline local (City of Davis), and baseline regional (SACOG region) residential VMT per capita.

Table 4.13-8
Proposed Project Residential Component Weekday Residential VMT per Capita

Scenario	Residential VMT per Capita	Proposed Project Residential Component Compared to Baseline Average
Proposed Project Residential Component	31.5	--
Baseline City of Davis Average	30.1	+4.5%
Baseline SACOG Region Average	21.7	+45.4%

As shown in Table 4.13-8, residential VMT per capita generated by the residential component of the Proposed Project would be 4.5 percent and 45.4 percent above baseline local and regional residential VMT per capita averages, respectively. As such, the residential component of the Proposed Project would generate residential VMT per capita exceeding 15 percent below baseline local and regional residential VMT per capita averages.

Biological Resources Preservation Alternative

According to the TIS, the residential component of the BRPA would generate 32.8 residential VMT per capita. Table 4.13-9 compares Project-generated, baseline local (City of Davis), and baseline regional (SACOG region) residential VMT per capita.

Table 4.13-9
BRPA Residential Component Weekday Residential VMT per Capita

Scenario	Residential VMT per Capita	BRPA Residential Component Compared to Baseline Average
BRPA Residential Component	32.8	--
Baseline City of Davis Average	30.1	+8.9%
Baseline SACOG Region Average	21.7	+51.2%

As shown in Table 4.13-9Table 4.13-8, residential VMT per capita generated by the residential component of the BRPA would be 8.9 percent and 51.2 percent above baseline local and regional residential VMT per capita averages, respectively. As such, the residential component of the BRPA would generate residential VMT per capita exceeding 15 percent below baseline local and regional residential VMT per capita averages.

Conclusion

Based on the above, both the Proposed Project and the BRPA would conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b), and a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of TDM strategies can result in reductions to a project's vehicle trip generation based on certain types of project site modifications, programming, and operational changes. The California Air Pollution Control Officers Association (CAPCOA) *Handbook for Assessing GHG Emission Reductions, Climate Vulnerabilities, and Health and Equity* (December 2021) identifies numerous TDM strategies and quantifies their potential vehicle trip reduction effects. While each strategy provides standalone VMT reduction potential, multiplicative dampening limits the VMT reduction potential in instances where multiple strategies are implemented together.

The TIS identifies the following potential TDM strategies, including the associated VMT reduction potential, which represents raw VMT reduction percentages without adjustments for multiplicative dampening and/or category maximums:

1. **Unbundle residential parking costs from property costs (CAPCOA Handbook Strategy T-16)**: This measure would unbundle, or separate, a residential project's parking costs from property costs, requiring those who wish to purchase parking spaces to do so at an additional cost. The measure would result in decreased vehicle ownership and, therefore, a reduction in VMT. The strategy would be relevant to any rental dwelling units that comprise the residential component of the proposed project. The revenue generated can also be used for supporting public transportation system operations and management.

According to CAPCOA, assuming an annual parking cost per space of $3,000 ($250 per month), the strategy would reduce residential VMT by 2.61 percent.

2. **Implement carshare program (CAPCOA Handbook Strategy T-20-A)**: This measure would increase carshare access in the project site by deploying conventional carshare vehicles. Examples include programs like Zipcar and GIG Car Share. Carsharing offers people convenient access to a vehicle for personal or commuting purposes, which helps encourage transportation alternatives and reduces vehicle ownership, thereby avoiding VMT. The project applicant shall partner with a carshare service provider and ensure that carshare vehicles are available to project residents prior to occupancy of the first phase of the project residential component.

   According to CAPCOA, this strategy would have a maximum reduction potential of 0.15 percent of residential VMT.

Incorporating one or more of the foregoing TDM strategies, the proposed project shall be subject to the following mitigation:

Proposed Project, Biological Resources Preservation Alternative

4.13-4 *Prior to occupancy of the first residential unit, the project applicant shall implement TDM strategies to reduce the number of vehicle trips that would be generated by the residential component of the Proposed Project/BRPA, subject to review and approval by the City Engineer. The TDM strategies may include, but not necessarily be limited to, CAPCOA Handbook Strategy T-16 and T-20-A.*

Implementation of Mitigation Measure 4.13-4 would reduce residential VMT per capita associated with the residential component of the Proposed Project or BRPA by implementing TDM strategies to reduce external vehicle trips generated by residents of the Proposed Project/BRPA.

However, the effectiveness of the TDM strategies cannot be quantified at this time and subsequent vehicle trip reduction effects cannot be guaranteed. Existing evidence indicates that the effectiveness of TDM strategies with regards to vehicle trip reduction can vary based on a variety of factors, including the context of the surrounding built environment (e.g., urban versus suburban) and the aggregate effect of multiple TDM strategies deployed together. Moreover, many TDM strategies are not just site specific, but also rely on implementation and/or adoption by private entities (e.g., elective use of carpool program by residents) and other agencies (e.g., transit service operators). Finally, even if implemented, it is uncertain if TDM strategies would be able to sufficiently reduce VMT generated by the project to levels below the thresholds of significance. For example, residential VMT per capita generated by the residential component of the Proposed Project would need to decrease by 42 percent in order to fall below the threshold of significance (15 percent or more below the baseline local or regional residential VMT per capita averages), and residential VMT per capita generated by the residential component of the BRPA would need to decrease by 44 percent. Available evidence suggests that conventional TDM strategies are not capable of achieving such trip reduction outcomes in suburban settings such as that

of the project site. Due to uncertainties regarding the ability for the aforementioned mitigation measure to reduce VMT impacts to less-than-significant levels, VMT impacts of both the Proposed Project and the BRPA would be considered *significant and unavoidable*.

4.13-5 Result in inadequate emergency access. Based on the analysis below, the impact is *less than significant*.

Because the components of the Proposed Project and the BRPA would be developed within the same overall site boundaries and would include the development of similar transportation infrastructure, the following evaluation applies to both the Proposed Project and the BRPA.

Proposed Project, Biological Resources Preservation Alternative

The Proposed Project and the BRPA would include six full vehicular access points, including two on East Covell Boulevard and four on Pole Line Road. Altogether, these connections would provide multiple opportunities and routes for emergency vehicles to access the project site/BRPA site from multiple directions.

Additionally, the Proposed Project and the BRPA would include the construction of a fire station which would consist of a joint-use facility for emergency services such as fire protection, emergency medical, and police personnel. Currently, fire access to the project site/BRPA site from the South Davis, West Davis, and Downtown Davis fire stations requires travel distances of approximately three miles, 3.6 miles, and 1.3 miles, respectively. Construction of the fire station would reduce emergency response times to the site and surrounding neighborhoods relative to existing conditions.

Medical emergency service access to and from Sutter Davis Hospital, located approximately 1.9 miles west of the project site/BRPA site, would be available from East Covell Boulevard and Pole Line Road. East Covell Boulevard has traffic signals equipped with emergency vehicle pre-emption, providing signal priority to emergency vehicles in the event of an emergency. The Proposed Project/BRPA would install new traffic signals at the Pole Line Road/Picasso Avenue and Pole Line Road/Donner Avenue intersections, which would also provide signal priority to emergency vehicles in the event of an emergency.

Regarding the Proposed Project/BRPA's effects on emergency vehicle access to the existing La Buena Vida and Green Meadows neighborhoods located east of the project site/BRPA site, the Pole Line Road/Donner Avenue intersection provides the lone vehicle access point to the La Buena Vida neighborhood and the northerly portion of the Green Meadows neighborhood. The Pole Line Road/Picasso Avenue and East Covell Boulevard/Matisse Street intersections provide vehicle access to the southerly portion of the Green Meadows neighborhood. The Proposed Project and the BRPA would increase peak hour traffic volumes and delay on Pole Line Road at Donner Avenue and Picasso Avenue. However, the Proposed Project and the BRPA would include the installation of new traffic signals at the Pole Line Road/Donner Avenue and Pole Line Road/Picasso Avenue, which would be equipped with emergency vehicle preemption to provide priority to emergency vehicles accessing the La Buena Vida and Green Meadows neighborhoods in the event of an emergency.

Moreover, the construction of the on-site fire station would reduce emergency response times to the La Buena Vida and Green Meadows neighborhoods relative to existing conditions. Despite project-related increases to peak hour vehicle traffic volume and delay, the installation of new traffic signals at Donner Avenue and Picasso Avenue and the construction of the fire station would maintain adequate emergency vehicle access to the La Buena Vida and Green Meadows neighborhoods with the implementation of the Proposed Project and the BRPA.

The design of the on-site roadways and intersections will be subject to City of Davis code and Public Works Department staff review and approval. Overall, by providing multiple access and egress points, the Proposed Project and the BRPA would meet City of Davis standards for providing emergency vehicle access to the site. Therefore, the Proposed Project and the BRPA would provide adequate emergency access and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

4.13-6 Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). Based on the analysis below, the impact is *less than significant*.

Because the components of the Proposed Project and the BRPA would be developed within the same overall site boundaries and would include the development of similar transportation infrastructure, the following evaluation applies to both the Proposed Project and the BRPA.

Proposed Project, Biological Resources Preservation Alternative

The Proposed Project and the BRPA would include the construction of new on-site multi-modal transportation facilities and access intersections/driveways, as well as the modification of existing transportation facilities on Pole Line Road, East Covell Boulevard, and Cannery Avenue. All new roadway, bicycle, and pedestrian infrastructure improvements constructed as part of the project would be subject to, and designed in accordance with, applicable City of Davis design and safety standards to avoid creating a geometric design hazard.

The Proposed Project and the BRPA would consist of mixed-use development consistent with the existing land use character of the surrounding area, which is comprised of single-family residential, multi-family residential, office, retail, and recreational uses. As such, the Proposed Project and the BRPA would generate a mix of traffic that would generally be similar to existing conditions, and, thus would not increase hazards due to incompatible uses.

However, as discussed under Impact 4.13-2, the Proposed Project and the BRPA would result in increases to walking and bicycling activity in the project site vicinity and between the project site/BRPA site and nearby destinations and activity centers. With more people traveling to and from the site, the volume of traffic across modes would

increase and this may result in slower travel speeds for some modes and additional physical mixing between transportation modes. Additional physical mixing between bicyclists, pedestrians, and vehicles at the specific locations described in Impact 4.13-2 would increase the potential for conflicts involving people walking and biking that are attributable to the Proposed Project/BRPA.

In addition, Fehr & Peers analyzed peak hour traffic operations to determine the extent to which the Proposed Project and the BRPA could cause off-ramp queues to spill back to the I-80 and SR 113 mainline. To the extent possible, Caltrans strives to prevent off-ramp queues from extending to the freeway mainline in order to minimize the potential for associated adverse operational and safety effects (e.g., speed differentials between vehicle traffic on the freeway mainline and stopped/queued off-ramp vehicle traffic that could increase the potential for conflicts).

Table 4.13-10 displays the maximum freeway off-ramp queues at the SR 113/West Covell Boulevard, I-80/Mace Boulevard/Chiles Road, and I-80/CR 32A/CR 32B interchanges under Existing and Existing Plus Project conditions. Under Existing Plus Project conditions, all maximum queues would be accommodated within the available off-ramp storage.

Based on the above, changes associated with the Proposed Project/BRPA would not cause conditions that warrant modification of the existing roadway or transit facilities. However, as discussed under Impact 4.13-2, the Proposed Project and the BRPA could be inconsistent with City plans and policies that promote pedestrian and bicycle travel; implementation of Mitigation Measures 4.13-2(a) through 4.13-2(f) would reduce such impacts to a less-than-significant level. Therefore, the project would not result in hazards due to a geometric design feature or incompatible uses, and a ***less than significant*** impact would occur.

Mitigation Measure(s)

None required.

Table 4.13-10
Freeway Off-Ramp Queuing – Existing and Existing Plus Project Conditions

Off-Ramp	Off-Ramp Distance[1]	Maximum Queue Length[2]			
		Existing Conditions		Existing Plus Project Conditions	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
West Covell Boulevard/SR 113 SB Ramps	1,375 feet	475 feet	250 feet	500 feet	325 feet
West Covell Boulevard/SR 113 NB Ramps	1,275 feet	300 feet	375 feet	350 feet	625 feet
Mace Boulevard/I-80 WB Off-Ramp	1,200 feet	200 feet	175 feet	200 feet	225 feet
Chiles Road/I-80 EB Off-Ramp	1,100 feet	125 feet	175 feet	150 feet	125 feet
CR 32A/I-80 WB Ramps	1,020 feet	100 feet	100 feet	125 feet	100 feet
Chiles Road/CR 32B/I-80 EB Ramps	875 feet	50 feet	50 feet	50 feet	50 feet

[1] Measured from the intersection stop bar to the gore point of the freeway off-ramp. Does not include auxiliary lane on freeway mainline.
[2] Maximum queue estimates are based on results from SimTraffic micro-simulation model. Queues are maximum per lane, rounded up to the nearest 25 feet.

Source: Fehr & Peers, 2024.

Cumulative Impacts and Mitigation Measures

The following discussion of impacts is based on the implementation of the Proposed Project and the BRPA in combination with other proposed and pending projects in the region. Refer to Chapter 6, Statutorily Required Sections, of this EIR for more detail.

4.13-7 Conflict with a program, plan, ordinance, or policy addressing the circulation system, including pedestrian and bicycle facilities, associated with cumulative development of the Proposed Project or the BRPA in combination with future buildout of the City of Davis. Based on the analysis below and with implementation of mitigation, the impact is *less than significant*.

The following discussion includes an analysis of potential impacts related to cumulative development which could result in a conflict with a program, plan, ordinance, or policy addressing the circulation system, including pedestrian and bicycle facilities, associated with the Proposed Project and the BRPA. Because the components of the Proposed Project and the BRPA would be developed within the same overall site boundaries, the following evaluation applies to both the Proposed Project and the BRPA.

Proposed Project, Biological Resources Preservation Alternative

With the exception of the improvements to bicycle and pedestrian facilities associated with the Proposed Project and the BRPA described under Impact 4.13-2, reasonably foreseeable new bicycle or pedestrian facilities are not anticipated to be constructed in the immediate vicinity of the project site/BRPA site under cumulative conditions.

Bicycle, pedestrian, and vehicle travel activity would increase in the site vicinity due to development of the Proposed Project/BRPA in combination with other reasonably foreseeable development located on the East Covell Boulevard/Mace Boulevard corridor, such as the Palomino Place, Shriners Property, Bretton Woods projects, and DiSC 2022 projects. However, according to the TIS, growth in background travel activity would not materially change the adverse effects to bicycle and pedestrian facilities that would be attributable to the Proposed Project/BRPA. Therefore, the project-specific bicycle and pedestrian impact analysis provided in under Impact 4.13-2 would similarly apply under cumulative conditions. As discussed therein, the Proposed Project and/or the BRPA could conflict with a program, plan, ordinance, or policy addressing pedestrian facilities or bicycle facilities, and a ***significant*** cumulative impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

Proposed Project, Biological Resources Preservation Alternative

4.13-7 Implement Mitigation Measures 4.13-2(a) through (f).

4.13-8 Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit facilities and services, associated with cumulative development of the Proposed Project or the BRPA in combination with future buildout of the City of Davis. Based on the analysis below, even with mitigation, the impact is *cumulatively considerable* and *significant and unavoidable*.

Because the components of the Proposed Project and the BRPA would be developed within the same overall site boundaries and would result in similar effects related to transit facilities, the following evaluation applies to both the Proposed Project and the BRPA.

Proposed Project, Biological Resources Preservation Alternative

Under cumulative conditions, substantial increases in background vehicle travel activity would occur on study area roadways due to reasonably foreseeable land use development elsewhere in and around the City of Davis. Together with the increase in vehicle travel activity caused by the Proposed Project/BRPA, increases in vehicle travel activity would cause adverse effects to transit operations by increasing transit service delay and running times in a manner inconsistent with Unitrans performance standards. Because growth in background vehicle travel activity would not materially change the adverse effects to transit services that would be attributable to the

Proposed Project/BRPA, the transit service and facility impact analysis provided under Impact 4.13-3 would similarly apply to cumulative conditions

Therefore, the Proposed Project and the BRPA, in combination with future buildout of the City of Davis, could conflict with a program, plan, ordinance, or policy addressing transit facilities and services, and a ***cumulatively considerable*** and ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would help reduce the incremental contribution towards the cumulative impact related to a conflict with a program, plan, ordinance, or policy addressing transit facilities and services. However, due to the uncertainties regarding the ability for the following mitigation to reduce the impact to a less-than-significant level, the impact would remain *cumulatively considerable* and *significant and unavoidable*.

Proposed Project, Biological Resources Preservation Alternative

4.13-8 Implement Mitigation Measures 4.13-3(a) and (b).

4.13-9 Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) associated with cumulative development of the Proposed Project or the BRPA in combination with future buildout of the City of Davis. Based on the analysis below, even with mitigation, the impact is *cumulatively considerable* and *significant and unavoidable*.

Impacts related to VMT associated with both the Proposed Project and the BRPA is addressed below.

Proposed Project, Biological Resources Preservation Alternative

The discussion under Impact 4.13-4 provides an evaluation of potential impacts to VMT associated with the Proposed Project and the BRPA under Existing Plus Project conditions. Under Existing Plus Project conditions, the Proposed Project and the BRPA would cause a significant impact to VMT by virtue of resulting in residential VMT per capita measuring above the applicable significance thresholds relative to existing local and regional residential VMT per capita averages. The VMT impact analysis for Existing Plus Project conditions applies to Cumulative Plus Project conditions for the following reasons:

- The VMT significance threshold compares residential VMT per capita generated by the Proposed Project and the BRPA to that of existing local and regional development. The comparison is useful because it provides information regarding how the Proposed Project/BRPA aligns with long-term environmental goals related to VMT established based on existing development levels. Use of VMT significance thresholds based on existing development levels is recommended in the LCI Technical Advisory on Evaluating Transportation Impacts in CEQA.

- The LCI Technical Advisory on Evaluating Transportation Impacts in CEQA indicates that VMT efficiency metrics, such as residential VMT per capita, are not appropriate for CEQA cumulative analysis. Instead, the Technical Advisory recommends that an impact finding from an efficiency-based project-specific VMT analysis (i.e., Existing Plus Project conditions) would imply an identical impact finding for a cumulative VMT analysis. An example provided by LCI explains that a project that falls below an efficiency-based threshold that is aligned with long-term environmental goals and relevant plans would have no cumulative impact distinct from the project impact.

Based on the above, the cumulative VMT impact associated with the Proposed Project and the BRPA would be the same as discussed under Impact 4.13-4. Therefore, both the Proposed Project and the BRPA, in combination with future buildout of the City of Davis, would conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b), and a ***cumulatively considerable*** and ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would help reduce the incremental contribution towards the cumulative impact related to conflicting or being inconsistent with CEQA Guidelines section 15064.3, subdivision (b). However, the effectiveness of the TDM strategies cannot be quantified at this time and subsequent vehicle trip reduction effects cannot be guaranteed. Existing evidence indicates that the effectiveness of TDM strategies with regards to vehicle trip reduction can vary based on a variety of factors, including the context of the surrounding built environment (e.g., urban versus suburban) and the aggregate effect of multiple TDM strategies deployed together. Moreover, many TDM strategies are not just site specific, but also rely on implementation and/or adoption by private entities (e.g., elective use of carpool program by residents) and other agencies (e.g., transit service operators). Finally, even if implemented, it is uncertain if TDM strategies would be able to sufficiently reduce VMT generated by the project to levels below the thresholds of significance. Therefore, the impact would remain *cumulatively considerable* and *significant and unavoidable*.

Proposed Project, Biological Resources Preservation Alternative

4.13-9 Implement Mitigation Measure 4.13-4.

4.13-10 Result in inadequate emergency access associated with cumulative development of the Proposed Project or the BRPA in combination with future buildout of the City of Davis. Based on the analysis below, the impact is *less than significant*.

Because the components of the Proposed Project and the BRPA would be developed within the same overall site boundaries and would include the development of similar transportation infrastructure, the following evaluation applies to both the Proposed Project and the BRPA.

Proposed Project, Biological Resources Preservation Alternative

As discussed under Impact 4.13-5, the Proposed Project and the BRPA would include six full vehicular access points, including two on East Covell Boulevard and four on Pole Line Road. Altogether, these connections would provide multiple opportunities and routes for emergency vehicles to access the project site/BRPA site from multiple directions. In addition, construction of the proposed fire station would reduce emergency response times to the site and surrounding neighborhoods relative to existing conditions, and the new traffic signals proposed for installation at the Pole Line Road/Picasso Avenue and Pole Line Road/Donner Avenue intersections would also provide signal priority to emergency vehicles in the event of an emergency. Furthermore, despite cumulative increases to peak hour vehicle traffic volume and delay, the installation of new traffic signals at Donner Avenue and Picasso Avenue and the construction of the fire station would maintain adequate emergency vehicle access to the La Buena Vida and Green Meadows neighborhoods with the implementation of the Proposed Project and the BRPA in combination with reasonably foreseeable development.

The design of the on-site roadways and intersections, as well as such development associated with future buildout of the City of Davis, will be subject to City of Davis code and Public Works Department staff review and approval. Therefore, the Proposed Project and the BRPA would provide adequate emergency access and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

4.13-11 Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) associated with cumulative development of the Proposed Project or the BRPA in combination with future buildout of the City of Davis. Based on the analysis below, even with implementation of mitigation, the impact is *cumulatively considerable* and *significant and unavoidable*.

Because the components of the Proposed Project and the BRPA would be developed within the same overall site boundaries and would include the development of similar transportation infrastructure, the following evaluation applies to both the Proposed Project and the BRPA.

Proposed Project, Biological Resources Preservation Alternative

The Proposed Project and the BRPA would include the construction of new on-site multi-modal transportation facilities and access intersections/driveways, as well as the modification of existing transportation facilities on Pole Line Road, East Covell Boulevard, and Cannery Avenue. All new roadway, bicycle, and pedestrian infrastructure improvements constructed as part of the project would be subject to, and designed in accordance with, applicable City of Davis design and safety standards to avoid creating a geometric design hazard.

The Proposed Project and the BRPA would consist of mixed-use development consistent with the existing land use character of the surrounding area, which is comprised of single-family residential, multi-family residential, office, retail, and recreational uses. As such, the Proposed Project and the BRPA would generate a mix of traffic that would generally be similar to existing conditions, and, thus would not increase hazards due to incompatible uses.

However, as discussed under Impact 4.13-2, the Proposed Project and the BRPA would result in increases to walking and bicycling activity in the project site vicinity and between the project site/BRPA site and nearby destinations and activity centers. With more people traveling to and from the site due to new travel demand generated by the Proposed Project/BRPA in combination with other reasonably foreseeable development, the volume of traffic across modes would increase and may result in slower travel speeds for some modes and additional physical mixing between transportation modes. Additional physical mixing between bicyclists, pedestrians, and vehicles at the specific locations described in Impact 4.13-2 would increase the potential for conflicts involving people walking and biking that are attributable to the Proposed Project/BRPA. Moreover, additional physical mixing and increased potential for conflicts involving people walking and biking would occur at the I-80/Mace Boulevard interchange area due to project-related increases to vehicle travel activity and background increases to bicycle and pedestrian travel activity attributable to reasonably foreseeable development such as the DiSC 2022 project.

Fehr & Peers analyzed peak hour traffic operations to determine the extent to which the Proposed Project and the BRPA could cause off-ramp queues to spill back to the I-80 and SR 113 mainline. To the extent possible, Caltrans strives to prevent off-ramp queues from extending to the freeway mainline in order to minimize the potential for associated adverse operational and safety effects (e.g., speed differentials between vehicle traffic on the freeway mainline and stopped/queued off-ramp vehicle traffic that could increase the potential for conflicts).

Table 4.13-11 displays the maximum freeway off-ramp queues at the SR 113/West Covell Boulevard, I-80/Mace Boulevard/Chiles Road, and I-80/CR 32A/CR 32B interchanges under cumulative conditions. Under cumulative conditions, maximum queues would spill back onto the freeway mainline at the West Covell Boulevard/SR 113 Southbound Ramps, West Covell Boulevard/SR 113 Northbound Ramps, Mace Boulevard/I-80 Westbound Off-Ramp, and Chiles Road/I-80 Eastbound Ramp ramp terminal intersections, which would conflict with Caltrans performance expectations related to safety for the State Highway System.

As shown in Table 4.13-11, the changes associated with the Proposed Project/BRPA, in combination with future buildout of the City of Davis, could result in hazards due to a geometric design feature or incompatible uses, and a ***significant*** impact could occur.

Table 4.13-11
Freeway Off-Ramp Queuing – Cumulative Conditions

Off-Ramp	Off-Ramp Distance[1]	Maximum Queue Length[2]	
		Existing Conditions	
		AM Peak Hour	PM Peak Hour
West Covell Boulevard/SR 113 SB Ramps	1,375 feet	1,975 feet	1,175 feet
West Covell Boulevard/SR 113 NB Ramps	1,275 feet	1,350 feet	1,900 feet
Mace Boulevard/I-80 WB Off-Ramp	1,200 feet	2,875 feet	300 feet
Chiles Road/I-80 EB Off-Ramp	1,100 feet	550 feet	1,350 feet
CR 32A/I-80 WB Ramps	1,020 feet	175 feet	200 feet
Chiles Road/CR 32B/I-80 EB Ramps	875 feet	50 feet	50 feet

Notes:

[1] Measured from the intersection stop bar to the gore point of the freeway off-ramp. Does not include auxiliary lane on freeway mainline.
[2] Maximum queue estimates are based on results from SimTraffic micro-simulation model. Queues are maximum per lane, rounded up to the nearest 25 feet.

Source: Fehr & Peers, 2024.

Mitigation Measure(s)

Implementation of Mitigation Measure 4.13-11 would reduce the Proposed Project/BRPA's contribution to cumulative impacts by reducing the potential for conflicts involving pedestrians and bicyclists at the Mace Boulevard/I-80 interchange area. Implementation of Mitigation Measure 4.13-11 would further reduce cumulative impacts by preventing off-ramp queues from spilling back onto the SR 113 and I-80 mainlines. However, elements of Mitigation Measure 4.13-11 would occur within Caltrans rights-of-way and would be subject to final approval and actions by Caltrans. Moreover, because the remaining fair share contributions needed for the construction of the improvements have not been identified by the relevant lead agency, fair share payment by the project applicant would not ensure construction. Therefore, the implementation and effectiveness of Mitigation Measure 4.13-11 cannot be guaranteed and this impact would be considered *significant and unavoidable*.

Elements of Mitigation Measure 4.13-11, particularly the identified roadway capacity increases at the West Covell Boulevard/SR 113 and Mace Boulevard/Chiles Road/I-80 interchanges, have the potential to exacerbate impacts to VMT described in Impact 4.13-9. Generally, roadway capacity increases have the potential to induce additional vehicle travel activity and associated VMT. As such, it is possible that the identified roadway capacity increases could induce additional VMT generated by the project and by other land uses in Davis. Moreover, existing evidence indicates that Covell Boulevard, Mace Boulevard, and connecting roadways such as Chiles Road are utilized as regional cut-through routes when I-80 experiences significant speed reductions and delays during p.m. peak periods. Therefore, increasing roadway capacity and reducing vehicle delays along these local roadways could increase the attractiveness of these routes as alternatives to I-80 and induce additional regional

cut-through travel activity on local roadways. Parallel local routes require longer trip distances than remaining on I-80; therefore, regional travel demand use of local routes would yield more VMT than use of I-80.

Proposed Project, Biological Resources Preservation Alternative

4.13-11 *Prior to occupancy of the first residential unit during Phase 1 of the Proposed Project/BRPA, to the satisfaction of the City of Davis, the project applicant shall enter into an agreement to contribute fair share funding, as determined by the City of Davis Public Works Engineering and Transportation Department, to cover their proportionate cost of the following improvements at the West Covell Boulevard/SR 113 and Mace Boulevard/Chiles Road/I-80 interchanges:*

- *Covell Boulevard between Shasta Drive/Risling Court and Birch Lane: Coordinate traffic signals, optimize signal timings, and operate with a 140 second cycle length during the a.m. peak period and a 150 second cycle length during the p.m. peak period. Note that these improvements may require controller or communications upgrades.*
- *Mace Boulevard between Alhambra Drive and Cowell Boulevard: Coordinate traffic signals, optimize signal timings, and operate with a 150 second cycle length during the a.m. and p.m. peak periods. Note that these improvements may require controller or communications upgrades.*
- *West Covell Boulevard/SR 113 Southbound Ramps: Construct a second westbound left-turn lane and a second receiving lane on the southbound on-ramp.*
- *West Covell Boulevard/SR 113 Northbound Ramps: Modify the northbound off-ramp to consist of three lanes approaching West Covell Boulevard, including one left-turn lane, one shared left/through/right lane, and one right-turn lane. Construct a second eastbound left-turn lane.*
- *Mace Boulevard/Second Street/County Road 32A: Modify the northbound approach to consist of five lanes, including two left-turn pockets, two through lanes, and a right-turn pocket.*
- *Mace Boulevard/I-80 Eastbound Slip On-Ramp: Extend the on-ramp and relocate the ramp meter 500 feet east of its current location. Convert the HOV lane to a general purpose lane and control both lanes with the ramp meter.*
- *Mace Boulevard/Chiles Road: Modify the southbound channelized right-turn lane to a standard right-turn lane.*
- *Chiles Road/I-80 Eastbound Off-Ramp: Modify the westbound approach to consist of a single through lane. Modify the eastbound approach to consist of two through lanes and begin the second through lane at the Hanlees Davis Toyota driveway.*
- *Mace Boulevard between Second Street/County Road 32A and Chiles Road: Construct bicycle and pedestrian facility improvements on this segment of Mace Boulevard. Potential improvement options include a Class I shared-use path, Class*

II bike lanes, or Class IV separated bikeways. Bicycle facility improvements should reduce the potential for conflicts involving bicyclists at intersections, crossings, and other mixing zones, including (but not limited to) appropriate pavement markings, signage, and physical separation. Pedestrian facility improvement options include modifications to pedestrian crossings of free/channelized vehicular movements to reduce the speed of turning vehicles and to reduce pedestrian exposure to conflicting vehicular traffic.

4.14. Utilities and Service Systems

4.14 UTILITIES AND SERVICE SYSTEMS

4.14.1 INTRODUCTION

The Utilities and Service Systems chapter of the EIR summarizes the setting information and identifies potential new demands resulting from the Proposed Project and Biological Resources Preservation Alternative (BRPA) on utilities and service systems, including water, sanitary sewer, electric power, telecommunication, and solid waste disposal services. The chapter evaluates the sufficiency of water supplies to meet the water demand of the Proposed Project and BRPA, the adequacy of the wastewater collection and treatment systems required to serve the Proposed Project and BRPA, and compliance with applicable regulations related to solid waste. Information for the Utilities and Service Systems chapter was drawn from a Water Supply Assessment (WSA) prepared for the Proposed Project by Brown and Caldwell (see Appendix S of this EIR),[1] Wastewater Treatment Plant Capacity Technical Memorandum (WWTP Capacity Memorandum) (see Appendix T of this EIR),[2] Wastewater Collection System Technical Memorandum (Wastewater Collection Memorandum)[3] prepared by West Yost (see Appendix U of this EIR), and a Biological Resource Preservation Alternative – Sewer and Water Evaluation Memo prepared by Cunningham Engineering (see Appendix V).[4] Further information was sourced from the City of Davis General Plan[5] and the associated General Plan EIR[6].

Impacts related to groundwater supplies and stormwater drainage are addressed in Chapter 4.8, Hydrology and Water Quality, of this EIR.

4.14.2 EXISTING ENVIRONMENTAL SETTING

The following section describes the existing utilities and service systems in the vicinity of the project site/BRPA site, including water supply, wastewater conveyance and treatment, solid waste, and gas, electric, and telecommunication infrastructure.

Water Supply

The project site/BRPA site is currently located in an unincorporated portion of Yolo County. Upon annexation of the site into the City limits, the City of Davis would be responsible for providing water to the site. The City of Davis provides water service to all residential, commercial, industrial, and irrigation customers within the City limits. Water is also provided by the City for open space and fire protection uses.

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1 Brown and Caldwell. *Water Supply Assessment for City of Davis: Village Farms Davis, Shriners, Palamino Place, and DiSC 2022*. April 24, 2024.
2 West Yost. *Technical Memorandum: Davis WWTP Capacity Impacts of Proposed Village Farms Development*. April 23, 2024.
3 West Yost. *Technical Memorandum: Collection System Impacts of Proposed Village Farms Development*. April 23, 2024.
4 Cunningham Engineering. *Biological Resource Preservation Alternative – Sewer and Water Evaluation Memo*. November 11, 2024.
5 City of Davis. *City of Davis General Plan.* Adopted May 2001, Amended January 2007.
6 City of Davis. *Draft Program EIR for the City of Davis General Plan Update and Project EIR for Establishment of a New Junior High School.* Certified May 2001.

As shown in Figure 4.14-1, which includes the City's current service area as well as additional service areas associated with future proposed development projects, the City's water system serves customers within the City of Davis, the El Macero and Willowbank County Service Areas (CSAs), and the Davis Creek Mobile Home Park.

An additional CSA known as North Davis Meadows (NDM) is located north of the City, within the City's water service area, but is pending connections to the City's water system. The system is supplied surface water from the Woodland-Davis Clean Water Agency (WDCWA) Regional Water Treatment Facility (RWTF) and groundwater from local wells. A portion of the WDCWA surface water is delivered to UC Davis through the surface water transmission main owned and maintained by the City prior to delivery to UC Davis' transmission main.

Surface Water

The City of Davis began participating in the WDCWA in 2016. The WDCWA was created in 2009 to convey water from the Sacramento River, transmit the water for treatment to the RWTF, and deliver wholesale treated surface water to the cities of Davis and Woodland, as well as UC Davis, for use in their respective service areas.

According to the WSA, WDCWA has two separate surface water rights: 45,000 acre-feet per year (AFY) from Permit 20281 from the State Water Resource Control Board (SWRCB), and up to 10,000 AFY from a supplemental water right purchased from the Conaway Preservation Group (CPG). Both surface water rights have conditions that can limit WDCWA's ability to divert water. Permit 20281 is subject to the SWRCB's Term 91, which requires permittees to cease diverting water when the State Water Project and the Central Valley Project are releasing stored water to meet water quality and flow requirements in the Sacramento-San Joaquin Delta.

The CPG water right is subject to limitation based on Lake Shasta water levels. The City is entitled to deliveries of 10.2 million gallons per day (mgd) from the WDCWA in a normal year, totaling approximately 11,420 AFY. Table 4.14-1 summarizes the projected wholesale surface water supplies for a normal year, a single dry year, and multiple dry years. The City does not anticipate any agreement changes with the WDCWA.

Table 4.14-1
Projected Wholesale Surface Water Supply, AFY

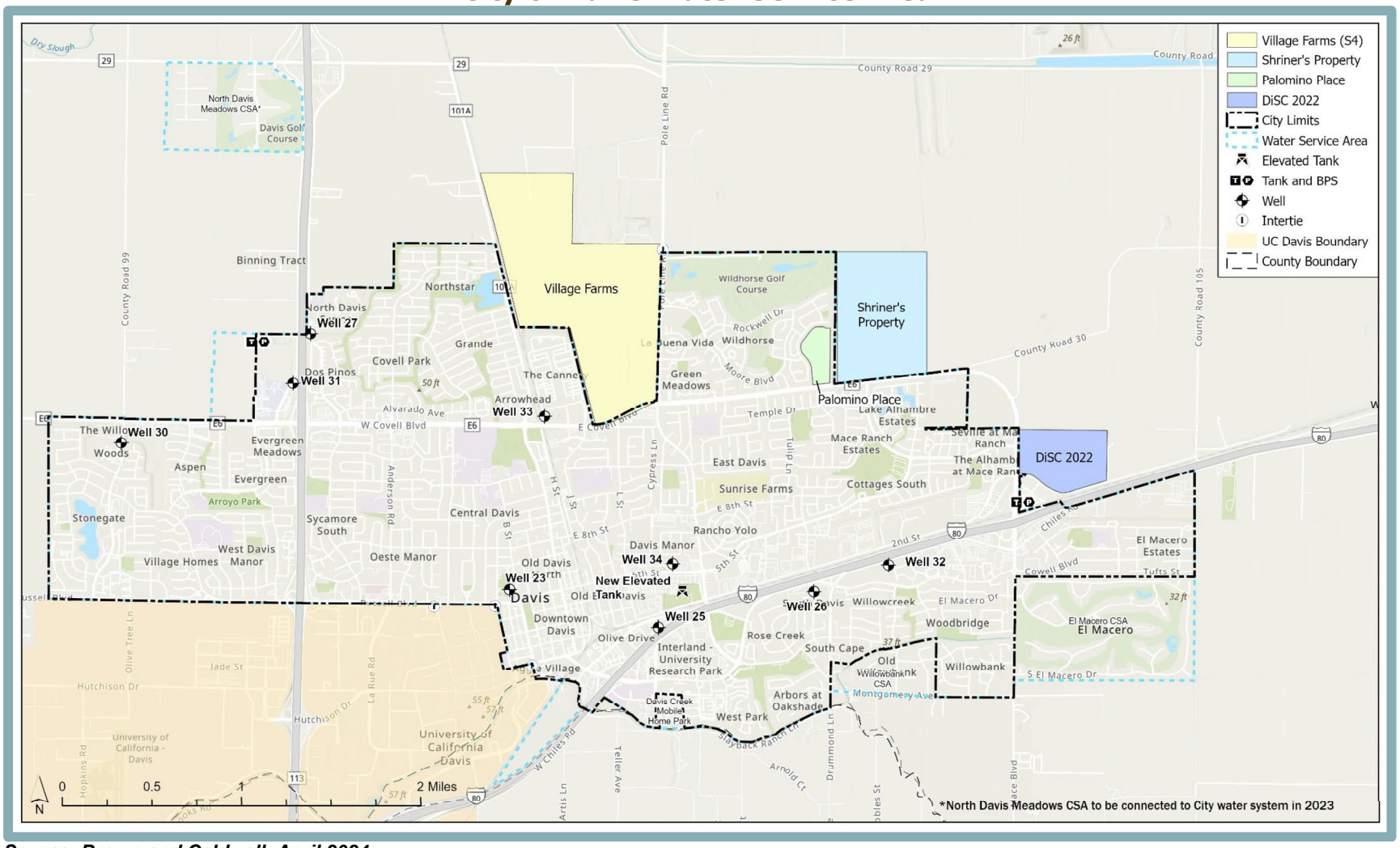
Year Type	2025	2030	2035	2040	2045
Normal Year	10,520	10,520	10,520	10,520	10,520
Single Dry Year	2,460	2,460	2,460	2,460	2,460
Multiple Dry Years	2,460	2,460	2,460	2,460	2,460

Source: Brown and Caldwell, April 2024.

Groundwater

The City pumps groundwater from the Yolo Subbasin, which is a portion of the larger Sacramento Valley Groundwater Basin. According to the WSA, the Department of Water Resources (DWR) does not consider the basin to be in overdraft. Municipal water users of the Yolo Subbasin include the cities of Davis, Woodland, and Winters; UC Davis; various community services districts and areas within Yolo County; Reclamation Districts 150, 307, and 999; and the Yolo County Flood Control and Water Conservation District (YCFCWCD).

Figure 4.14-1
City of Davis Water Service Area



Source: Brown and Caldwell, April 2024.

Areas outside of the cities and community service districts are predominantly agricultural. Most agricultural areas to the north of the City use groundwater, while other agricultural users within Yolo County are able to use surface water from the Sacramento River, Colusa Basin Drain, Putah Creek, Cache Creek, Yolo Bypass, Tule Canal, Willow Slough, and the Tehama-Colusa Canal.

The aquifer system under the Yolo Subbasin includes the upper Tehama Formation and is generally divided into three zones: shallow, intermediate, and deep. The City's major groundwater production zones for water supply are the intermediate and deep aquifer zones. The distinction is based on water chemistry, though both zones are geologically part of the larger Tehama Formation. The intermediate aquifer begins at a depth of approximately 200 feet and the deep aquifer at 700 feet below ground surface. Groundwater in the deep aquifer is more desirable for residential uses, while groundwater from the intermediate aquifer is more suited for irrigation water uses. Overall, high-quality water exists in the portion of the aquifer from which public community water systems draw.

According to the WSA, the projected sustainable yield of the Yolo Subbasin is 346,000 AFY. In addition, according to the Davis 2020 Urban Water Management Plan (UWMP), the groundwater storage capacity of the Yolo Subbasin between the depths of 20 to 420 feet is approximately 6.5 million AFY.[7] Seasonal variations show the shallowest depth to water levels occurs in the spring (March/April) with greatest depths in summer (July/August), when groundwater levels are at their lowest. The City tracks groundwater levels in the intermediate and deep wells, which generally decline during dry conditions due to continued reliance on groundwater for agricultural and municipal demands. However, groundwater levels substantially recover during wet years. Over the years, the depth to water was greatest from 2013 to 2015 and from 2021 to 2022 during the recent droughts. Groundwater levels rebounded after 2015 with the start of conjunctive-use programs that coordinate the use of both surface water and groundwater, and were consistent from 2018 to 2020. Similarly, groundwater levels have since rebounded again after notable wet seasons in 2021 through 2023.

The Yolo Subbasin is subject to the 2014 Sustainable Groundwater Management Act (SGMA), which became effective January 31, 2015. The SGMA applies to the 127 high and medium priority groundwater basins designated by DWR Bulletin 118, which account for approximately 96 percent of groundwater use in California. The Yolo Subbasin is designated as a high priority subbasin under the SGMA. The SGMA requires high and medium priority basins subject to critical conditions of overdraft to be managed under a Groundwater Sustainability Plan (GSP) by January 31, 2020 (Water Code Section 10720.7[a][2]). In addition, the SGMA 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 SGMA provides substantial time (20 years) for GSAs to implement plans and achieve long-term groundwater sustainability.

The Yolo Subbasin Groundwater Agency (YSGA), which includes the City of Davis as a member agency, adopted the Yolo Subbasin GSP on January 24, 2022.[8] The Yolo Subbasin GSP was approved by DWR on October 26, 2023. The Yolo Subbasin GSP establishes various standards, including, but not limited to, sustainability goals, minimum thresholds for groundwater conditions, interim milestones, monitoring protocols for the collection of groundwater, and reporting standards. Table 4.14-2 summarizes the projected groundwater supplies for a normal year, a

[7] City of Davis. *2020 Urban Water Management Plan.* June 15, 2021.
[8] Yolo Subbasin Groundwater Agency. *Yolo Subbasin Groundwater Agency 2022 Groundwater Sustainability Plan Yolo County, CA.* Approved January 24, 2022.

single dry year, and multiple dry years. The City's groundwater supply would meet demands during dry years when minimal surface water supply is available. During a dry year, the City's surface water supplies would be reduced, but groundwater supplies would be increased to meet demands.

Table 4.14-2
Projected Groundwater Supply, AFY

2025	2030	2035	2040	2045
12,800	12,800	12,800	12,800	12,800

Source: Brown and Caldwell, April 2024.

Water Delivery

The City's water distribution system includes three water storage tanks, nine groundwater wells comprised of five deep aquifer wells and four intermediate wells, and 191 miles of distribution and transmission mains.[9] The three water storage tanks include the Elevated Tank, West Area Tank, and the East Area Tank. The three tanks have a combined storage of 8.2 million gallons. The West Area Tank has a booster pumping capacity of 4,200 gallons per minute (gpm) and the East Area Tank has a total pumping capacity of 8,000 gpm. The West and East Area Tanks fill during off-peak demand periods, and the booster station pumps send water back into the system during peak periods based on time and system pressure.

The City's water pipes range from two to 14 inches in diameter. Approximately 90 percent of the distribution system consists of six- to 10-inch diameter pipelines. The City's pipeline system was originally constructed to support localized supply, with wells spread throughout the City, which did not require large diameter transmission mains. However, as a result of the recent changes to the City's water supply system, treated surface water from the RWTF is distributed by way of a six-mile, 30-inch pipeline along Pole Line Road.

Currently, the City of Davis maintains a 10-inch domestic water line within East Covell Boulevard to the south of the project site/BRPA site, and a 10- and 12-inch water line within Pole Line Road to the east of the project site/BRPA site.

Wastewater Collection and Treatment

The project site/BRPA site is currently located in an unincorporated portion of Yolo County. Upon annexation of the site into the City limits, the City of Davis would be responsible for providing wastewater conveyance and treatment services to the site. The City of Davis provides wastewater conveyance and treatment for all residents and businesses within the City of Davis and the unincorporated areas of North Davis Meadows, El Macero, Davis Creek Mobile Home Park, and the Teichert Construction Complex.

Wastewater Treatment Plant Capacity

The City of Davis is authorized by the Central Valley Regional Water Quality Board (RWQCB) to discharge treated wastewater from the City's wastewater treatment plant (WWTP) under Order R5-2018-0086 and National Pollutant Discharge Elimination System (NPDES) Permit No.

[9] City of Davis. *City Water Infrastructure.* Available at: https://www.cityofdavis.org/city-hall/public-works-utilities-and-operations/water/city-water-infrastructure. Accessed September 2024.

CA0079049, effective as of December 7, 2018.[10] Under the Permit Order, the WWTP is permitted to treat an average dry-weather flow (ADWF) of 7.5 mgd. ADWF is defined as the average of the three consecutive lowest-flow calendar months. For the City of Davis, the foregoing period usually coincides with the period of July through September. The existing treatment system design capacity is 6.0 mgd ADWF. The City has the ability to discharge treated wastewater from two different discharge points (Discharge Point Nos. 001 and 002). The treatment system for both discharge points consists of a mechanical bar screen, aerated grit tank, three primary sedimentation tanks, three facultative oxidation ponds, two aerated ponds, a polishing pond, an overland flow system, disinfection, and dechlorination. However, prior to the discharge at Discharge Point No. 002, the disinfected effluent passes through treatment wetlands. Each discharge point is located in a different receiving water. Treated wastewater is discharged from Discharge Point No. 001 to the Willow Slough Bypass, a water of the U.S., and part of the Yolo Bypass flood protection structure within the Sacramento River watershed. Treated wastewater is discharged from Discharge Point No. 002 to the Conaway Ranch Toe Drain, a water of the U.S., and a part of the Yolo Bypass within the Sacramento River watershed.

Wastewater Collection System

The City of Davis wastewater collection system conveys wastewater for the area within the City limits to the WWTP, located at 45400 County Road (CR) 28H. The collection system includes 164 miles of gravity sewers, 3,224 manholes, six pump stations, 2.63 miles of force mains ranging in size from four to 14 inches, and approximately 123 miles of sewer laterals.[11]

Within the project site/BRPA site vicinity, the existing sewer collection system includes a 42-inch sewer line that traverses through the project site/BRPA site in a north-to-south direction and pivots towards the east along the northern site boundary. In addition, a 12-inch sewer line extends east along Channel A from the north-to-south 42-inch sewer line.

Solid Waste Disposal

Solid waste collection and disposal in the City of Davis is provided by Recology Davis, which was renamed from Davis Waste Removal. Recology Davis has a drop-off and buy-back center and provides residential curbside, apartment, and business collection services. In addition to the weekly garbage service, Recology Davis provides green waste and recycling pickup and street sweeping service. Recoverable items include mixed paper, glass, aluminum cans, steel and tin cans, some plastics, corrugated cardboard, yard waste, and used motor oil. In July of 2016, Recology Davis began an organics collection program to allow for collection of organic material and food waste. The program will help achieve the City's goal of diverting waste sufficient to reduce citywide waste disposal to zero pounds per person per day by year 2025.

All non-recyclable, non-organic waste generated by the City of Davis is disposed of at the 770-acre Yolo County Central Landfill, which is located off CR 28H, near its intersection with CR 104. The landfill is owned and operated by the Yolo County Department of Public Works and Transportation. According to the California Department of Resources Recycling and Recovery (CalRecycle), the Yolo County Central Landfill is permitted to accept a maximum of 49,035,200

[10] Central Valley Regional Water Quality Control Board. *Order R5-2018-0086, NPDES No. CA0079049, Waste Discharge Requirements for the City of Davis Wastewater Treatment Plant, Yolo County.* Adopted December 2018.

[11] City of Davis. *Wastewater.* Available at: https://www.cityofdavis.org/city-hall/public-works-utilities-and-operations/wastewater. Accessed September 2024.

cubic yards (CY) of waste.[12] The landfill has a remaining capacity of 33,140,373 CY and is anticipated to operate through the year 2124. The landfill also includes a recycling drop-off facility, a wood-processing facility, and a methane gas collection facility, and accepts drop-offs of household hazardous waste free to County residents on designated Saturdays.

Electricity and Natural Gas

Gas and electric service in the City of Davis has been historically provided by Pacific Gas & Electric Company (PG&E) under a franchise granted to PG&E by the City. Based in San Francisco, PG&E is an investor-owned utility and the largest provider of gas and electric services in northern and central California. PG&E provides electricity to roughly 5.1 million customers and provides natural gas to nearly 4.2 million customers. A mix of generating sources, including hydropower, gas-fired steam, and nuclear energy, powers the electric system.

On October 25, 2016, the Davis City Council adopted Resolution Number 16-153, Series 2016, which approved the Joint Exercise of Powers Agreement with Yolo County to form the Valley Clean Energy Alliance, which is now referred to as simply Valley Clean Energy (VCE). The resolution adopted by the City, along with similar resolutions adopted by the City of Woodland and Yolo County, led to the formation of the VCE joint powers authority. Beginning in June 2018, the VCE began serving the electricity needs of the cities of Woodland, Davis, and unincorporated areas of Yolo County. Customers within the participating areas have the opportunity to continue receiving service from PG&E or receive energy from VCE. While VCE supplies the energy for customers enrolled in the VCE program, VCE electricity is transmitted through PG&E-owned-and-operated distribution and power lines.

Telecommunications

Residents in Davis subscribe to a mix of wireline providers and resellers including AT&T of California, Comcast, Omsoft, and Davis Community Network. A few businesses also use fixed wireless providers, including DigitalPath, Inc. and Winters Broadband.

Comcast has provided six strands of fiber to 22 “Major Facilities” throughout the City and connects three Yolo County facilities located within the City of Davis, which provides interconnection with the greater Yolo County fiber network. The Comcast network, known as the “I-Net” or Institutional Network, enables the City to provide connectivity for municipal operations, utilities, public safety, and general administration.[13]

4.14.3 REGULATORY CONTEXT

The following discussion contains a summary of regulatory controls pertaining to utilities and service systems, including federal, State, and local laws and ordinances.

Federal Regulations

The federal environmental policies and regulations relevant to utilities and service systems are primarily related to water quality, which is addressed in Chapter 4.8, Hydrology and Water Quality, of this EIR.

[12] California Department of Resources Recycling and Recovery. *SWIS Facility/Site Activity Details Yolo County Central Landfill (57-AA-0001)*. Available at: https://www2.calrecycle.ca.gov/SolidWaste/Site/Details/689. Accessed April 2024.

[13] Magellan Advisors, LLC. *Final Yolo Broadband Strategic Plan*. March 26, 2015.

State Regulations

The following are the State environmental policies and regulations relevant to utilities and service systems.

California Green Building Standards Code

The 2022 California Green Building Standards Code, otherwise known as the CALGreen Code (California Code of Regulations [CCR] Title 24, Part 11), is a portion of the California Building Standards Code (CBSC), which became effective on January 1, 2023. The CBSC is adopted every three years by the Building Standards Commission (BSC).

The purpose of the CALGreen Code 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. The CALGreen standards regulate the method of use, properties, performance, types of materials used in construction, alteration repair, improvement and rehabilitation of a structure or improvement to property. The provisions of the code apply to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure throughout California. Requirements of the current CALGreen Code include, but are not limited to, the following measures:

- Mandatory reduction in indoor water use through compliance with specified flow rates for plumbing fixtures and fittings;
- Mandatory reduction in outdoor water use through compliance with a local water-efficient landscaping ordinance or the DWR's Model Water Efficient Landscape Ordinance (MWELO);
- 65 percent of construction and demolition waste must be diverted from landfills;
- Mandatory inspections of energy systems to ensure optimal working efficiency;
- Inclusion of electric vehicle (EV) charging stations or designated spaces capable of supporting future charging stations; and
- Low-pollutant-emitting exterior and interior finish materials, such as paints, carpets, vinyl flooring, and particle boards.

The CALGreen standards also include voluntary efficiency measures that are provided at two tiers and implemented at the discretion of local agencies and applicants. According to Section A4.602 of Appendix A4 of the CALGreen Code, CALGreen's Tier 1 standards call for a 15 percent improvement in energy requirements, stricter water conservation, 65 percent diversion of construction and demolition waste, 10 percent recycled content in building materials, 20 percent permeable paving, 20 percent cement reduction, and cool/solar-reflective roofs. CALGreen's more rigorous Tier 2 standards call for a 30 percent improvement in energy requirements, stricter water conservation, 80 percent diversion of construction and demolition waste, 15 percent recycled content in building materials, 30 percent permeable paving, 25 percent cement reduction, and cool/solar-reflective roofs. The City of Davis has adopted Tier 1 of the CALGreen standards.

Senate Bill 7

On September 25, 2016, Senate Bill (SB) 7 was signed into law. The purpose of SB 7 is to further the State's water conservation efforts by requiring that new apartment buildings constructed after January 1, 2018, include submeters for every rental unit. Specifically, the bill authorizes the

Department of Housing and Community Development to develop, and propose for adoption, building standards that require the installation of water meters or submeters in multi-family residential buildings. In addition, if submeters are used to charge tenants separately for water use, SB 7 imposes requirements on landlords related to sub-metered water service to individual dwelling units.

California Water Code

The California Water Code requires coordination between land use lead agencies and public water purveyors. The purpose of this coordination is to ensure that prudent water supply planning has been conducted and that planned water supplies are adequate to meet both existing demands and the demands of planned development.

Water Code Sections 10910 through 10915 (inclusive), sometimes referred to as SB 610, require land use lead agencies: 1) to identify the responsible public water purveyor for a proposed development project, and 2) to request from the responsible purveyor a WSA. The purposes of the WSA are (a) to describe the sufficiency of the purveyors' water supplies to satisfy the water demands of the proposed development project, while still meeting the current and projected water demands of customers, and (b) in the absence of a currently sufficient supply to describe the purveyor's plans for acquiring additional water. Water Code Sections 10910 through 10915 delineate the specific information that must be included in the WSA.

As stated in CEQA Guidelines Section 15155, which reflects SB 610 requirements, any development with water demand exceeding the equivalent demand associated with 500 dwelling units is considered a "water-demand project" and is required to prepare a WSA. The Proposed Project and BRPA would each include a total of 1,800 dwelling units. Thus, a WSA is required for the Proposed Project and BRPA.

California Integrated Waste Management Act – Assembly Bill 939

To minimize the amount of solid waste that must be disposed of by transformation (i.e., recycling) and land disposal, the State Legislature passed the California Integrated Waste Management Act of 1989 (Assembly Bill [AB] 939), effective January 1990. According to AB 939, all cities and counties are required to divert 25 percent of all solid waste from landfill facilities by January 1, 1995, and 50 percent by January 1, 2000. Solid waste plans are required to explain how each city's AB 939 plan will be integrated within the respective County plans, which must promote source reduction, recycling and composting, and environmentally safe transformation and land disposal. Cities and counties that do not meet this mandate are subject to $10,000-per-day fines.

In 2007, SB 1016 amended portions of AB 939, which allows the California Integrated Waste Management Board (CIWMB) to use per capita disposal as an indicator in evaluating compliance with the requirements of AB 939. Jurisdictions track and report their per capita disposal rates to CalRecycle.

Assembly Bill 1327

AB 1327, the Solid Waste Reuse and Recycling Access Act of 1991, requires jurisdictions to adopt ordinances requiring development projects to provide adequate storage area for collection and removal of recyclable materials. The City of Davis has adopted a solid waste management ordinance under Chapter 32 of the Davis Municipal Code.

Assembly Bill 1881

AB 1881, the Water Conservation in Landscaping Act of 2006, required the DWR to update the MWELO. AB 1881 also required local agencies to adopt the updated model ordinance or an equivalent ordinance by January 1, 2010. If local jurisdictions failed to adopt the updated model ordinance or an equivalent by January 1, 2010, the DWR's updated model ordinance would automatically be adopted by statute. The City has adopted the MWELO (City of Davis Municipal Code Section 39.02.045[a][4]).

Local Regulations

The following are the local policies and regulations relevant to utilities and service systems.

City of Davis General Plan

The applicable Davis General Plan policies and standards related to utilities and service systems are presented below.

Water Chapter

Goal WATER 1 Minimize increases in water use. Reduce per capita water consumption by 20 percent as compared to historic use through programs encouraging water conservation.

- Policy WATER 1.1 Give priority to demand reduction and conservation over additional water resource development.
- Policy WATER 1.2 Require water conserving landscaping.
- Policy WATER 1.3 Do not approve future development within the City unless an adequate supply of quality water is available or will be developed prior to occupancy.

Goal WATER 5 Remain within the capacity of the City wastewater treatment plant.

- Policy WATER 5.1 Evaluate the wastewater production of new large scale development prior to approval to ensure that it will fall within the capacity of the plant.
- Policy WATER 5.2 Provided that the existing plant capacity is not exceeded, require new large scale development to pay its fair share of the cost of extending sewer service to the site.

Materials, Solid Waste and Recycling Chapter

Goal MAT 1 Enhance the quality of the environment by conserving resources and minimizing waste by reducing, reusing, recycling, and re-buying.

- Policy MAT 1.1 Promote reduced consumption of non-renewable resources.

Goal MAT 2 Provide adequate waste disposal capacity for Davis.

Policy MAT 2.1 Plan for the long-term waste disposal needs of Davis.

Davis Municipal Code

The Davis Municipal Code ordinances related to utilities and service systems that are applicable to the Proposed Project and BRPA are presented below.

Davis Municipal Code Chapter 32, Management of Solid Waste

Davis Municipal Code Article 32.01 contains various requirements and standards for existing and new developments related to solid waste, including specific regulations for waste collection service in individually serviced residences, commercial businesses, and other generators, including multi-family residences. Additionally, Article 32.04 of the Municipal Code establishes requirements for the diversion of construction and demolition debris, including requiring construction projects to provide proof of diversions.

Davis Municipal Code Article 38.01, Underground Utility Districts

Davis Municipal Code Article 38.01 requires that if underground construction is necessary to provide utility service within an area where poles, overhead wires, and associated overhead structures are prohibited, the supplying utility must furnish that portion of the conduits, conductors, and associated equipment required, consistent with the requirements established by the California Public Utilities Commission. Underground construction must occur in accordance with established construction standards and completed in such time to allow for the removal of overhead facilities deemed to be a risk to public health and safety.

Davis Municipal Code Article 40.42, Water Efficient Landscaping

The purpose of the landscaping standards set forth by Davis Municipal Code Article 40.42 is to comply with the Water Conservation in Landscaping Act of 2006, Government Code Sections 65591 et. seq. and to establish standards and procedures that promote the design, installation, and management of water-efficient landscaping. Article 40.42 applies to residential projects with developer-installed and homeowner-provided landscaping, non-residential projects and public agency projects, existing landscaping, and cemeteries.

City of Davis 2020 Urban Water Management Plan

In June 2021, the City of Davis prepared the UWMP to address current and future water demands and supplies, as required by the Urban Water Management Planning Act of 1983. The UWMP also discusses the conservation and efficient use of water in the City's service area, and the development and implementation of plans to assure reliable water service in the future. The UWMP contains projections for future water use, discusses the reliability of the City's water supply, describes the City's water treatment system, and contains a water shortage contingency plan. The UWMP also contains demand management measures to reduce water demands.

4.14.4 IMPACTS AND MITIGATION MEASURES

The section below describes the standards of significance and methodology used to analyze and determine the potential impacts related to utilities and service systems associated with the Proposed Project and BRPA. In addition, a discussion of the specific potential impacts, as well as mitigation measures where necessary, are also presented.

Standards of Significance

In accordance with Appendix G of the CEQA Guidelines, impact determinations regarding public utilities and service systems require consideration as to whether the Proposed Project and BRPA would:

- Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects;
- 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 adequate 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
- Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

Impacts related to groundwater supplies and stormwater drainage facilities are addressed in Chapter 4.8, Hydrology and Water Quality, of this EIR.

Method of Analysis

Information related to water supply was primarily drawn from the WSA (see Appendix S of this EIR) prepared by Brown and Caldwell. Information related to wastewater conveyance and treatment was primarily drawn from the Wastewater Collection Memorandum (see Appendix U of this EIR) and WWTP Capacity Memorandum (see Appendix T of this EIR), respectively, both of which were prepared by West Yost. The method of analysis used in each of the aforementioned assessments is discussed further below.

Water Supply Assessment

Water supply projections for the City's existing water service area are discussed above in the Existing Environmental Setting section of this chapter and are based on projections included in the City's Draft 2023 Water System Optimization Plan (WSOP), which was prepared by Brown and Caldwell and includes a revised water demand analysis and updated supply projections, making the water demand and supply analysis in the 2023 WSOP more current that what was included in the City's 2020 UWMP.

The projected water demands for the existing water service area (excluding UC Davis, but including North Davis Meadows) in the WSA are based on the 2023 WSOP and are summarized in Table 4.14-3. The water demand projections for 2025 through 2045 assume a normal water year type and do not include the Proposed Project or BRPA.

To calculate the projected water demands for the Proposed Project, the WSA relied upon unit water demand factors (UWDFs) from a 2015 WSA prepared for the City of Davis by Brown and Caldwell, as the 2015 WSA UWDFs result in the highest demand estimate for the Proposed Project, as compared to the UWDFs used in the 2023 WSOP, and are, thus, conservative.

Table 4.14-3
Historical and Projected Water Demands by Sector for the Existing Water Service Area (AFY)[1,2,3]

Year	2021	2022	2025	2030	2035	2040[4]	2045[4]
Single-Family Residential	5,130	4,820	5,100	5,350	5,260	5,200	5,200
Multi-Family Residential	1,930	2,070	1,750	1,886	1,860	1,840	1,840
CII[5]	860	870	600	800	840	850	850
CII Irrigation	1,320	1,320	1,410	1,440	1,510	1,570	1,570
Losses	980	820	930	830	830	840	840
Total	**10,120**	**9,910**	**9,790**	**10,310**	**10,300**	**10,290**	**10,290**

1 Individual values are rounded to nearest 10, which may result in some rounding errors in totals.
2 Based on data from the 2023 WSOP.
3 Demands are the same as those in a normal year, but dry years are projected to include water demand that will increase in the summer due to decreased precipitation and increased ETo rates.
4 Demand levels off due to the City reaching single- and multi-family buildout in 2029 and 2031, respectively. Full buildout is estimated to occur in 2039 and reduction occurs in projected demands due to water savings.
5 Commercial, Industrial, and Institutional.

Source: Brown and Caldwell, April 2024.

The 2015 WSA UWDFs are summarized in Table 4.14-5. The projected water demands for the Proposed Project are summarized in Table 4.14-6. The projected water demand for the BRPA is summarized in Table 4.14-7.

Wastewater Collection System Technical Memorandum

An analysis completed by West Yost in 2022 established a then-current per capita ADWF of 62 gallons per day (gpd) per capita, based on WWTP influent flow data for non-drought years in 2012, 2013 and 2017 through 2019. Since then, another non-drought year occurred in 2023. With the addition of 2023 flows, the Wastewater Collection Memorandum updated current ADWF per capita flows to be slightly lower at 61 gpd per capita. The preferred methodology in the Wastewater Collection Memorandum for establishing service area population was as follows:

1. The population density was assumed to be 2.4 persons per equivalent dwelling unit (EDU), based on a review of recent U.S. Census information and discussions with City staff; and
2. The service population for the existing sewer connections was estimated from the 2.4 persons/EDU times the number of EDUs. The actual service area population may be slightly lower (based on recent U.S. Census data); however, this approach adds an appropriate level of conservatism to the analysis.

The Wastewater Collection Memorandum evaluated four development scenarios: existing development conditions within City limits (Scenario 1); existing development conditions including the approved and reasonably foreseeable projects identified in Table 4.14-4, respectively (i.e., buildout conditions) (Scenario 2); existing development conditions plus the Proposed Project (Scenario 3); and the City's General Plan buildout conditions plus the Proposed Project (Scenario 4).

Total EDUs for each of the foregoing scenarios were established from the EDU values listed above in conjunction with a City staff-derived estimate for the total existing unit count within the City limits of 28,553 EDUs. Corresponding service area populations were established by multiplying the total EDUs by 2.4 persons per EDU. Those populations were then multiplied by the current ADWF per capita of 61 gpd per capita to obtain estimates of the ADWF for each scenario. The total EDUs for Scenarios 1 through 4 are summarized in Table 4.14-4.

Table 4.14-4
Total EDUs, Service Area Populations, and ADWFs for Scenarios 1 through 4

Scenario	Total Dwelling Units (EDUs)	Estimated Service Area (persons)[1]	ADWF (mgd)[2]
Existing City Limits[3]	28,553	68,530	4.2
Buildout[4]	31,410	75,380	4.6
Existing Plus Proposed Project	30,353	72,850	4.4
Buildout Plus Proposed Project	33,210	79,700	4.9

1 Population = EDUs X 2.4 persons per EDU.
2 Based on a detailed unit count conducted by City staff.
3 ADWF = population X 61 gpd per capita.
4 Buildout = existing connections plus Nishi, Bretton Woods, DiSC 202 and Shriners residential connections and DiSC 2022 non-residential connections.

Source: West Yost, April 2024.

Table 4.14-5
Unit Water Demand Factors for the Proposed Project

Use	GPD/ Dwelling Unit	GPD/ acre	GPD/ Employee	GPD/ Employee (Indoor)	GPD/1,000 sf (Manufacturing or Development Water)	GPD/ Room	GPD/ Visitor or Customer	GPD/ Person (Indoor)	GPD/ Connection	Gallons per Capita per Day Through 2020	Gallons per Capita per Day After 2020
Single-Family Residential	345	--	--	--	--	--	--	57	345	--	--
Multi-Family Residential	174	--	--	--	--	--	--	57	3,888	--	--
CII	--	2,400	38	15	90	--	--	--	1,890	--	--
Landscape	--	2,712	--	--	--	--	--	--	--	--	--
Retail/Convention	--	--	--	--	--	--	3	--	--	164	150
Hotel	--	--	--	--	--	150	--	--	--	--	--

Source: Brown and Caldwell, April 2024.

Table 4.14-6
Projected Water Demands for the Proposed Project

Land Use Designation	Land Use	Estimated City Billing Classification[1]	Acres	Dwelling Units	Unit Water Demand Factor	Average Day Demand	Average Day Demand[2]
					GPD/Unit or GPD/Acre	GPD	AFY
Park/Open Space	Park/Recreation	Irrigation	27.8	--	2,712	75,400	85
	Neighborhood Greenbelt	Irrigation	39.7	--	2,712	107,800	121
	Urban Agricultural Transition Area	--	118.4	--	0	0	0
Neighborhood Retail	Neighborhood Retail	Commercial	2.8	--	2,400	6,800	8
Public/Semi-Public	Education Farm	Public (School)	2.8	--	2,400	6,700	8
	City Stormwater Conveyance	--	25.8	--	0	0	0
	Public Day School	Public (School)	2.4	--	2,400	5,800	6
	Public Safety Center	Public (City)	2.5	--	2,400	6,000	7
High Density Residential	West Park	Multi-Family Residential/Irrigation	7.9	240	174	41,800	47
Medium High Density Residential	North Park Apartments	Multi-Family Residential/Irrigation	11.6	200	174	34,800	39
Medium Density Residential	Central Village	Single-Family Residential	40.0	320	345	110,400	124
	Parkside Village West	Single-Family Residential	15.1	150	345	51,800	58
	Parkside Village East	Single-Family Residential	16.1	150	345	51,800	58
	West Park North	Single-Family Residential	5.9	60	345	20,700	23
Low Density Residential	North Village	Single-Family Residential	64.8	220	345	75,900	85
	East Village	Single-Family Residential	39.6	220	345	75,900	85
	South Village	Single-Family Residential	53.0	240	345	82,800	93
Total	--	--	476.2	1,800	--	754,500	850

1 Assumed billing classifications and land use categories from the 2023 WSOP.
2 Gpd converted to AFY. Individual values are rounded to nearest 1 and totals to nearest 10, which may result in some rounding errors in the totals.

Source: Brown and Caldwell, April 2024.

Table 4.14-7
Projected Water Demands for the BRPA

Land Use Designation	Land Use	Acres	Dwelling Units	Unit Water Demand[1] GPD/Unit or GPD/Acre	Average Day Demand GPD	Average Day Demand AFY
Park/Open Space	Park/Recreation	27.1	--	2,712	73,500	82
	Neighborhood Greenbelt	40.8	--	2,712	110,600	124
	Urban Agricultural Transition Area	118.4	--	0	0	0
Natural Habitat Area	Natural Habitat Area	47.1	--	0	0	0
Neighborhood Retail	Neighborhood Mixed Use	2.9	--	2,400	7,000	8
Public/Semi-Public	Education Farm	2.8	--	2,400	6,700	8
	City Stormwater Conveyance	21.4	--	0	0	0
	Public Day School	2.4	--	2,400	5,800	6
	Public Safety Center	2.5	--	2,400	6,000	7
High Density Residential	West Park South	7.1	210	174	36,500	41
	West Park North	5.1	150	174	26,100	29
Medium Density Residential	East Village	41.4	265	345	91,400	102
	Central Village East	20.7	155	345	53,500	60
	Central Village West	19.4	160	345	55,200	62
	North Park Village	38.2	391	345	134,900	151
	Parkside Village East	8.1	68	345	23,500	26
	Parkside Village West	8.1	91	345	31,400	35
Low Density Residential	North Village	61.4	310	345	107,000	120
Total	--	474.9	1,800	--	769,100	862

[1] Based on 2023 SB 610 Water Supply Assessment of Village Farms Davis Table 3-4.

Source: Brown and Caldwell, April 2024.

For buildout conditions, several previously approved developments need to be considered in the current analysis. These proposed developments include the following:

- Nishi development, located in the triangle between Interstate 80 (I-80), the Union Pacific Railroad (UPRR), and the western end of Olive Drive;
- Bretton Woods development, located in west Davis north of Covell Boulevard and west of Sutter Davis Hospital;
- Davis Innovation and Security Campus (DiSC) 2022 development, which includes the Mace Triangle property and is located on the northeast side of the City, north of I-80 and east of Mace Boulevard;
- Shriners development, located north of East Covell Boulevard and east of the Wildhorse agricultural area; and
- Palomino Place project, located at the southeast corner of the Wildhorse Ranch.

The Palomino Place project is within the existing City limits, and wastewater generation from the area is already accounted for in the City's existing sewer system model. Therefore, Palomino Place does not require further consideration.

The other four developments would consist of 700, 240, 460 and 1,200 residential EDUs, respectively. The DiSC 2022 development also includes 58 acres of non-residential development, equivalent to 257 EDUs using 2.4 persons per EDU and 61 gpd/capita from the West Yost analysis combined with a unit wastewater flow factor of 647 gpd per acre from the Mace Ranch Water Supply Assessment and a study on the Impacts of Innovation Center/Nishi Property Development on WWTP Capacity. The combination of existing sewer connections plus connections from the four foregoing developments, all of which are outside the existing City Limits, is referred to as “buildout” conditions.

West Yost used the proposed 1,800 EDUs planned for the Proposed Project, 2.4 persons per EDU, and 61 gpd per capita to obtain an ADWF of 0.264 mgd. For the BRPA, Cunningham Engineering confirmed that the ADWF would be the same as the Proposed Project.[14]
The ADWF for the buildout scenario in the Wastewater Collection Memorandum hydraulic model totaled 4.27 mgd, whereas the buildout ADWF from the WWTP Capacity Memorandum totaled 4.32 mgd. To align the two analyses, the buildout flows in the hydraulic model were scaled up to match the buildout flow value from the WWTP Capacity Memorandum.

The modeled buildout PWWF values and flow depth (d) to pipe diameter (D) (d/D) results, both with and without the Proposed Project, are shown in Table 4.14-8 for each of the gravity mains between East Covell Boulevard and the WWTP.

Wastewater Treatment Plant Capacity Technical Memorandum

The WWTP Capacity Memorandum builds upon a capacity analysis of the WWTP completed by West Yost for the City in 2022, which provided then-current WWTP influent flows, loads and service area population, and defined the capacity of each WWTP process unit in terms of ADWF. The 2022 West Yost capacity analysis identified the WWTP’s ADWF capacity as 4.3 mgd, the average of ADWFs for the recent non-drought years 2012, 2013 and 2017 through 2019.

[14] Cunningham Engineering. *Biological Resource Preservation Alternative – Sewer and Water Evaluation Memo* [Table S-1]. November 11, 2024.

Table 4.14-8
Modeled Wastewater Flows

System ID			Existing Pipe Diameter (inches)	Modeled PWWF (mgd)		d/D Results	
Gravity Main	Upstream Node	Downstream Node		Buildout	Buildout Plus Village Farms	Buildout	Buildout Plus Village Farms
O14-004.1	O14-004	N14-004	42	8.07	8.05	0.41	0.41
N14-004.1	N14-004	N14-003	42	8.07	8.05	0.41	0.41
N14-003.1	N14-003	N14-002	42	8.07	8.05	0.41	0.41
N14-002.1	N14-002	N14-001	42	8.06	8.04	0.41	0.41
N14-001.1	N14-001	M14-004	42	8.06	8.04	0.48	0.48
M14-004.1	M14-004	M14-003	42	8.04	8.02	0.65	0.66
M14-003.1	M14-003	M14-002	42	8.06	8.48	0.65	0.66
M14-002.1	M14-002	M14-001	42	8.04	8.46	0.59	0.60
M14-001.1	M14-001	L14-001	42	8.15	8.45	0.54	0.55
L14-001.1	L14-001	L14-002	42	8.15	8.45	0.53	0.54
L14-002.1	L14-002	L14-003	42	8.15	8.45	0.51	0.52
L14-003.1	L14-003	L14-004	42	8.14	8.45	0.44	0.45
L14-004.1	L14-004	M15-001	42	8.14	8.45	0.42	0.43
M15-001.1	M15-001	M15-002	42	8.14	8.44	0.60	0.61
M15-002.1	M15-002	M15-003	42	8.13	8.44	0.60	0.61
M15-003.1	M15-003	M15-004	42	8.13	8.43	0.47	0.48
M15-004.1	M15-004	M15-005	42	8.12	8.43	0.47	0.48
M15-005.1	M15-005	M15-006	42	8.12	8.42	0.47	0.48
M15-006.1	M15-006	M16-001	42	8.11	8.41	0.48	0.49
M16-001.1	M16-001	M16-006	42	8.10	8.41	0.49	0.50
M16-006.1	M16-006	M16-002	42	8.94	9.23	0.49	0.50
M16-002.1	M16-002	M16-003	42	8.93	9.23	0.49	0.50
M16-003.1	M16-003	M16-004	42	8.93	9.22	0.49	0.50
M16-004.1	M16-004	M16-005	42	8.92	9.21	0.48	0.49
M16-005.1	M16-005	M17-001	42	8.92	9.21	0.47	0.48
M17-001.1	M17-001	M17-002	42	8.91	9.20	0.47	0.48
M17-002.1	M17-002	M17-003	42	8.91	9.20	0.47	0.48
M17-003.1	M17-003	M17-004	42	8.90	9.19	0.47	0.49
M17-004.1	M17-004	M17-005	42	8.90	9.18	0.48	0.50
M17-005.1	M17-005	M18-012	42	8.89	9.18	0.50	0.52
M18-012.1	M18-012	M18-006A	42	8.89	9.17	0.50	0.52
M18-006A.1	M18-006A	M18-006	42	9.79	10.44	0.50	0.52
M18-006.1	M18-006	M18-007	42	9.78	10.44	0.49	0.51
M18-007.1	M18-007	M18-008	42	9.78	10.43	0.49	0.51
M18-008.1	M18-008	M18-009	42	9.78	10.43	0.49	0.51
M18-009.1	M18-009	M18-010	42	9.77	10.43	0.49	0.51
M18-010.1	M18-010	M18-011	42	9.77	10.42	0.49	0.51
M18-011.1	M18-011	M19-001	42	9.77	10.42	0.48	0.49
M19-001.1	M19-001	M19-002	42	9.76	10.41	0.48	0.49
M19-002.1	M19-002	M19-003	42	9.76	10.41	0.48	0.50
M19-003.1	M19-003	M19-004	42	9.76	10.41	0.48	0.50
M19-004.1	M19-004	M19-005	42	9.75	10.40	0.49	0.51
M19-005.1	M19-005	M20-001	42	9.75	10.40	0.50	0.52
M20-001.1	M20-001	M20-002	42	9.75	10.40	0.50	0.52
M20-002.1	M20-002	M20-003	42	9.74	10.61	0.48	0.51
M20-003.1	M20-003	M20-004	42	9.74	10.61	0.48	0.50
M20-004.1	M20-004	M20-005	42	9.74	10.61	0.47	0.50
M20-005.1	M20-005	M20-006	42	9.73	10.61	0.44	0.46
M20-006.1	M20-006	M20-007	42	9.73	10.60	0.43	0.45
M20-007.1	M20-007	L21-001	42	10.80	11.68	0.56	0.59
L21-001.1	L21-001	L21-002	42	10.79	11.67	0.58	0.61
L21-002.1	L21-002	L21-003	42	10.78	11.66	0.60	0.63
L21-003.1	L21-003	L21-004	42	10.78	11.66	0.64	0.67
L21-004.1	L21-004	L21-005	42	10.77	11.65	0.64	0.67
L21-005.1	L21-005	L21-006	42	10.76	11.65	0.53	0.56
L21-006.1	L21-006	L21-007	42	10.76	11.64	0.54	0.56
L21-007.1	L21-007	L21-008	42	10.75	11.63	0.54	0.56
L21-008.1	L21-008	L21-009	42	10.75	11.63	0.54	0.56
L21-009.1	L21-009	L21-010	42	10.74	11.62	0.53	0.56
L21-010.1	L21-010	K21-001	42	10.74	11.62	0.53	0.56
K21-001.1	K21-001	K21-002	42	10.73	11.61	0.53	0.56
K21-002.1	K21-002	K21-003	42	10.73	11.61	0.53	0.56
K21-003.1	K21-003	K21-004	42	10.72	11.60	0.53	0.55
K21-004.1	K21-004	K21-005	42	10.72	11.60	0.52	0.54
K21-005.1	K21-005	J21-WWTP	42	10.72	11.60	0.50	0.52

Note: gravity mains with d/D ratios of greater than the City's design criteria of 0.6 are highlighted in yellow.

Source: West Yost, April 23, 2024.

The associated service area population for the current ADWF was about 69,000 people, and the associated per capita ADWF was 62 gpd per capita.

A target design ADWF of 5.3 mgd was established in the 2022 West Yost capacity analysis using the 62 gpd per capita and a previously established design population for the WWTP of 85,700 people. Thus, the WWTP Capacity Memorandum identified the WWTP's ADWF capacity as 5.3 mgd. The WWTP Capacity Memorandum evaluated the same four development scenarios used in the Wastewater Collection Memorandum. As previously discussed, the buildout ADWF in the Wastewater Collection Memorandum hydraulic model totaled 4.27 mgd, whereas the buildout ADWF from the WWTP Capacity Memorandum totaled 4.32 mgd. To align the two analyses, the buildout flows in the hydraulic model were scaled up to match the buildout flow value from the WWTP Capacity Memorandum. The WWTP Capacity Memorandum relied on the following information:

- The total EDUs anticipated for existing and planned sewer connections within the City Limits is 28,553 EDUs, which includes Palomino Place;
- Buildout of the collection system also includes the Nishi, Bretton Woods, DiSC 2022, and Shriners developments, which would consist of 700, 240, 460, and 1,200 EDUs, respectively;
- The DiSC 2022 development also includes 58 acres of non-residential development, equivalent to 257 EDUs using 2.4 persons per EDU and 61 gpd/capita from the West Yost analysis combined with a unit wastewater flow factor of 647 gpd per acre from the Mace Ranch Water Supply Assessment and a study on the Impacts of Innovation Center/Nishi Property Development on WWTP Capacity;
- The Proposed Project would add an additional 1,800 EDUs;
- The total EDUs that must be accounted for through the capacity study is 33,210 EDUs;
- At 2.4 persons per EDU, the total population is anticipated to be 79,700; and
- With the addition of 2023 flows to the WWTP influent flow analysis, an updated current ADWF per capita flow is calculated as 61 gpd per capita, which is slightly lower than that established in the 2022 West Yost capacity analysis.

The calculated EDUs, service area populations, and ADWFs for the development scenarios of interest are shown in Table 4.14-4.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts is based on the implementation of the Proposed Project in comparison with the standards of significance identified above.

4.14-1 Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. Based on the analysis below, the impact is *less than significant*.

The following discussion includes an analysis of potential impacts related to the new utility infrastructure installed as part of the Proposed Project and BRPA, the construction or relocation of which could cause significant environmental effects.

Because the Proposed Project and BRPA would require generally similar utility improvements, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

The following discussions evaluate the potential for the proposed water, wastewater, electric power, and telecommunication improvements to result in significant environmental effects.

Water Conveyance Infrastructure

Upon annexation of the project site/BRPA site into the City limits, water service would be provided to the Proposed Project or BRPA by the City of Davis. In the immediate project vicinity, East Covell Boulevard contains an existing 10-inch line and Pole Line Road contains an existing water line that ranges in diameter from 10 inches to 12 inches. As shown in Figures 3-9 and 3-19 in Chapter 3, Project Description, of this EIR and reproduced herein as Figure 4.14-2 and Figure 4.14-3, new eight-inch, 10-inch, and 12-inch water lines would be installed and extended into the project site/BRPA site within the new on-site internal streets from the existing water lines in East Covell Boulevard and Pole Line Road. From the new water lines, water service would be provided to each structure through new water laterals. In addition, the Proposed Project and BRPA would include installation of off-site water line improvements in three existing roadways in the project vicinity. Within Fifth Street, southeast of the project site near Pole Line Road, 75 linear feet of 10-inch water line would be replaced with water lines 12 to 16 inches in diameter. At the Anderson Road/Alvarado Avenue intersection, 150 linear feet of 10-inch water line would be replaced with water lines 12 to 14 inches in diameter. Within Sycamore Lane, near West Covell Boulevard, 75 linear feet of 12-inch water line would be replaced with new 12-inch water lines.

Installation of the new water supply infrastructure, including new fire water lines and hydrants, would occur either in existing road right-of-way (ROW) or in areas proposed for disturbance as part of development of the Proposed Project or BRPA. All potential physical environmental impacts that could result from development of the Proposed Project and BRPA, including the new on-site and off-site water distribution infrastructure, have been evaluated throughout the technical chapters of this EIR. All new water infrastructure would be designed consistent with the applicable standards established by the City of Davis Public Works Department Standard Specifications.

Based on the above, the Proposed Project and BRPA would not require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects.

Wastewater Infrastructure

Upon annexation of the project site/BRPA site into the City limits, wastewater conveyance service would be provided to the Proposed Project or BRPA by the City of Davis. An existing 42-inch sewer line traverses through the project site/BRPA site in a north-to-south direction and pivots towards the east along the northern site boundary. As shown in Figures 3-10 and 3-20 in Chapter 3, Project Description, of this EIR and reproduced herein as Figure 4.14-4 and Figure 4.14-5, new eight-inch, 10-inch, and 12-inch sewer lines would be installed and extended into the project site/BRPA site within the new on-site internal streets.

Figure 4.14-2
Proposed Water Infrastructure

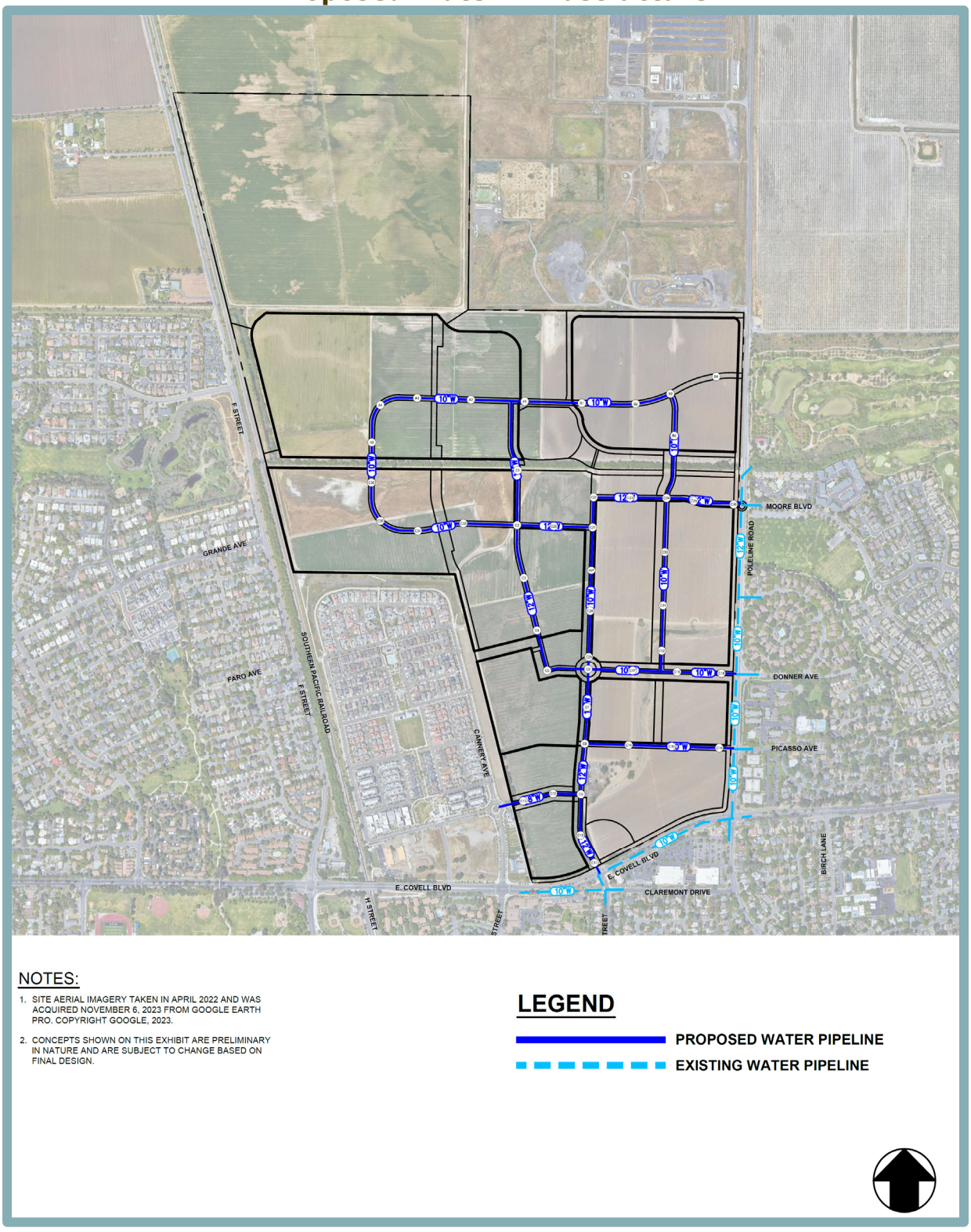
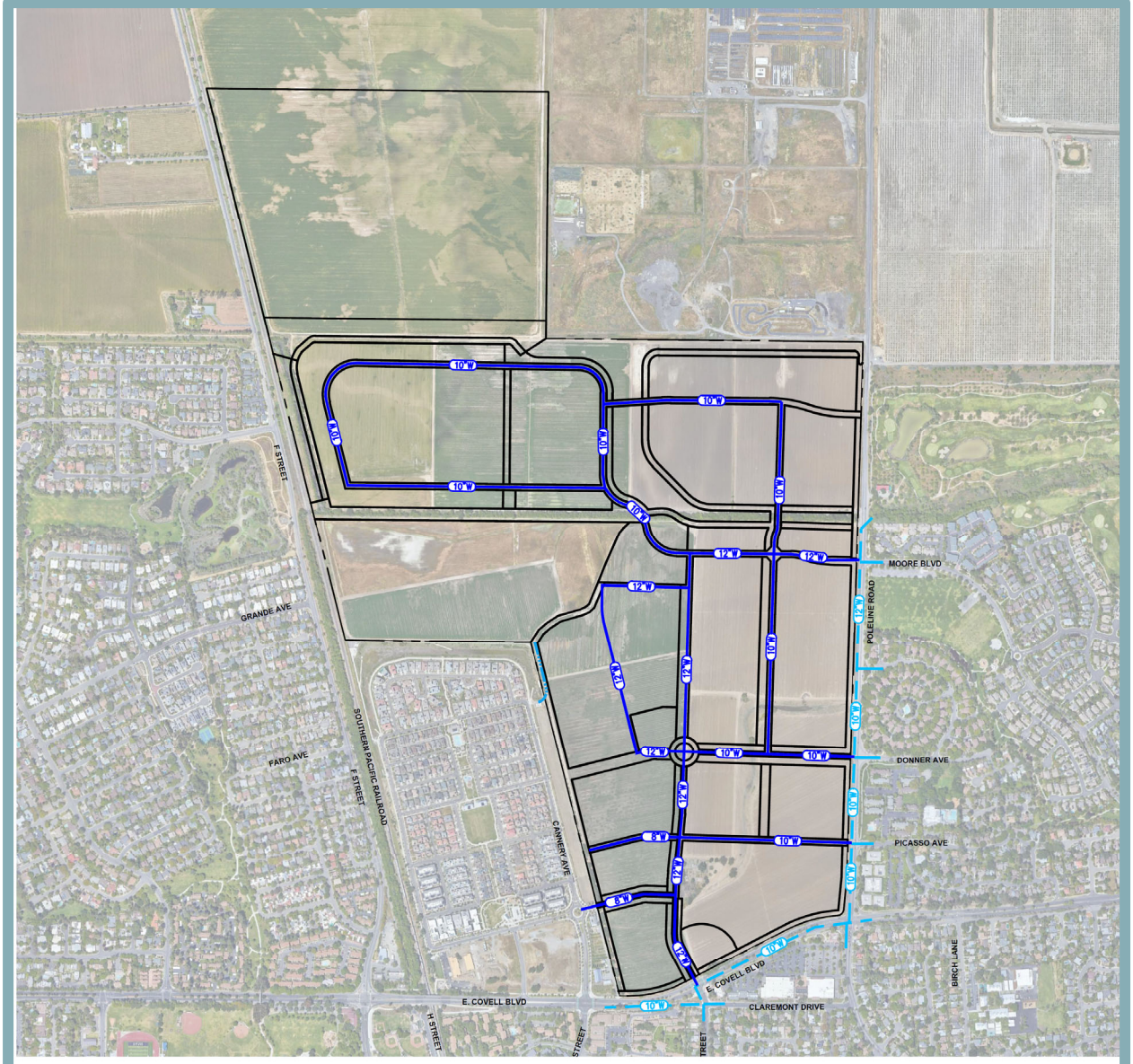


Figure 4.14-3
Biological Resources Preservation Alternative Water Infrastructure



NOTES:

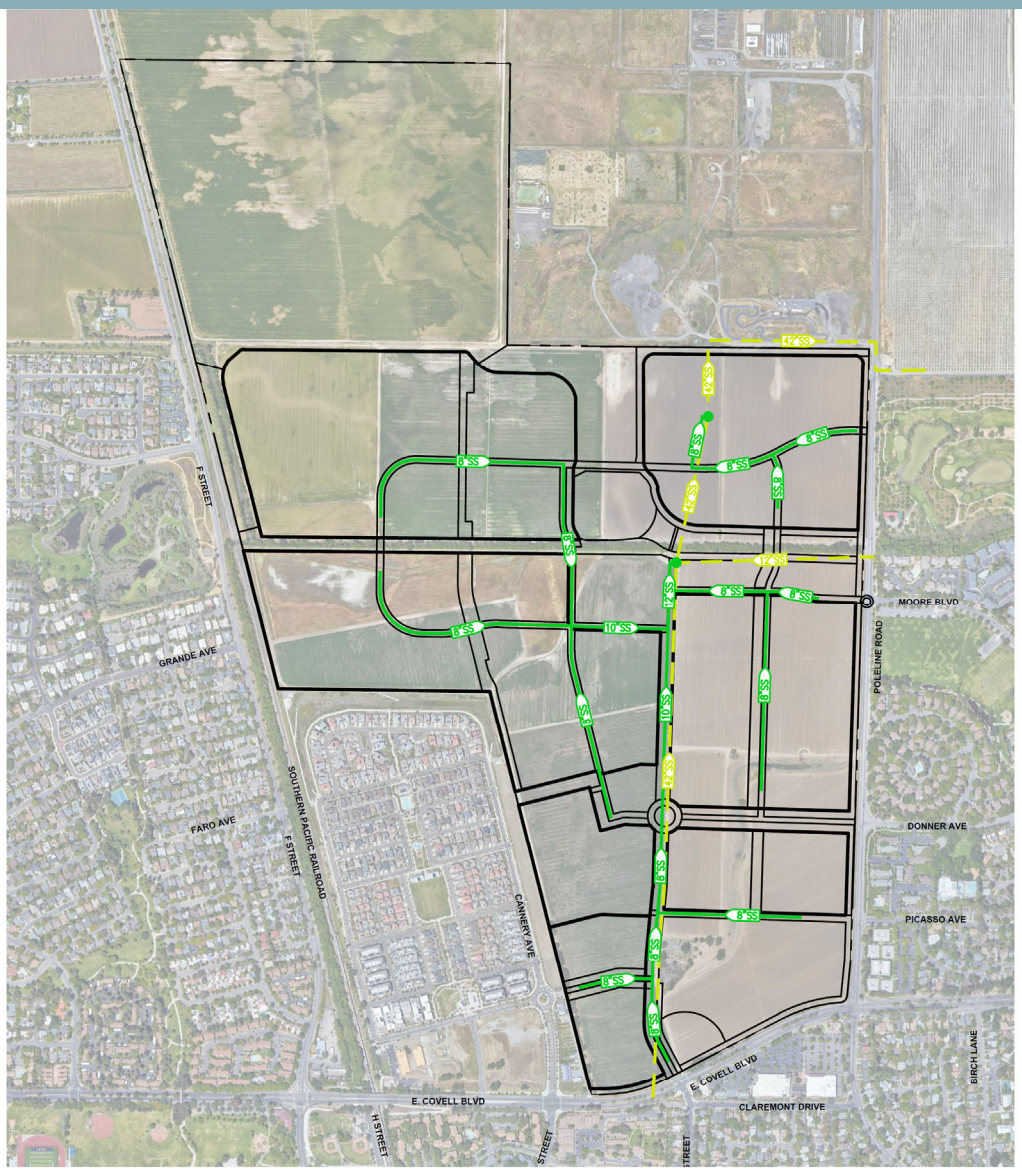
1. SITE AERIAL IMAGERY TAKEN IN APRIL 2022 AND WAS ACQUIRED NOVEMBER 6, 2023 FROM GOOGLE EARTH PRO. COPYRIGHT GOOGLE, 2023.
2. CONCEPTS SHOWN ON THIS EXHIBIT ARE PRELIMINARY IN NATURE AND ARE SUBJECT TO CHANGE BASED ON FINAL DESIGN.

LEGEND

PROPOSED WATER PIPELINE

EXISTING WATER PIPELINE

Figure 4.14-4
Proposed Sewer Infrastructure



NOTES

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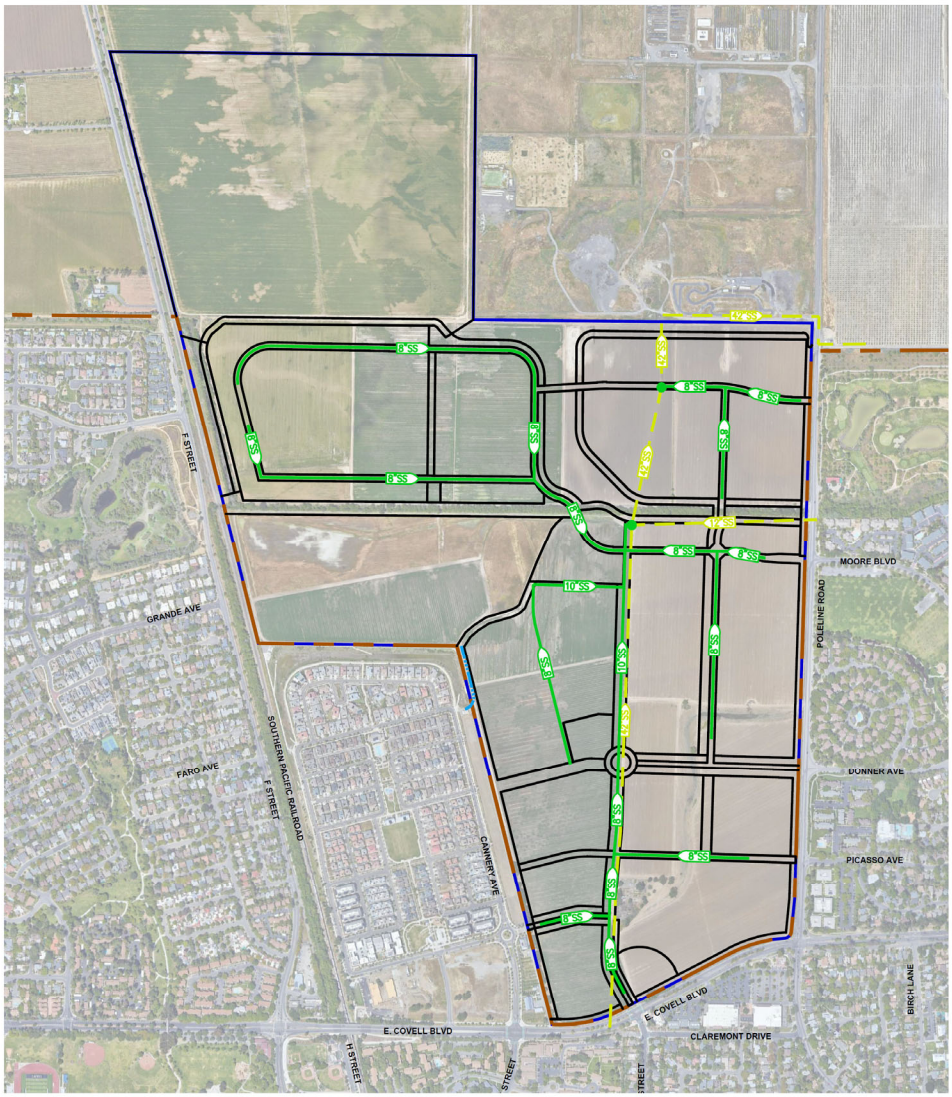
LEGEND

- PROPOSED SEWER PIPELINE
- EXISTING SEWER PIPELINE
- POINT OF CONNECTION AT EXISTING MANHOLE

Figure 4.14-5
Biological Resources Preservation Alternative Sewer Infrastructure



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2. CONCEPTS SHOWN ON THIS EXHIBIT ARE PRELIMINARY IN NATURE AND ARE SUBJECT TO CHANGE BASED ON FINAL DESIGN.

LEGEND

- PROPOSED SEWER PIPELINE
- EXISTING SEWER PIPELINE
- POINT OF CONNECTION AT EXISTING MANHOLE

From the new sewer lines, sewer conveyance services would be provided to each structure through new sewer laterals.

All potential physical environmental impacts that could result from development of the Proposed Project and BRPA, including new on-site sewer infrastructure, have been evaluated throughout the technical chapters of this EIR. The new sewer infrastructure would be designed and constructed in accordance with the applicable standards set forth in the City of Davis Public Works Design Standards, ensuring the new sewer lines are constructed in conformance with proper materials and sizing.

In addition, according to the Wastewater Collection Memorandum, the Proposed Project and BRPA are anticipated to result in wastewater ADWF flows of 0.264 mgd. The modeled buildout PWWF values and d/D results, both with and without the Proposed Project/BRPA, are shown in Table 4.14-8 for each of the gravity mains between East Covell Boulevard and the WWTP. The City's design criteria allows for a maximum d/D ratio of 0.6. The gravity mains with d/D ratios of greater than 0.6 are highlighted to identify an exceedance of the City's design criteria. As shown in Table 4.14-8, four gravity main segments do not exceed the criteria without the Proposed Project/BRPA but exceed the criteria after the flows from the Proposed Project/BRPA are added. However, the Wastewater Collection Memorandum found that the effect of the Proposed Project/BRPA is very slight, increasing the d/D ratio at the identified sewer main segments from 0.6 to 0.61. Such an increase does not warrant system improvements. Thus, the Wastewater Collection Memorandum concluded wastewater flows generated by the Proposed Project/BRPA could be accommodated by the existing conveyance system.

Based on the above, the Proposed Project and BRPA would not require or result in the relocation or construction of new or expanded wastewater facilities, the construction or relocation of which could cause significant environmental effects.

Electricity and Telecommunications Infrastructure

The Proposed Project and BRPA would connect to existing electricity and telecommunications infrastructure located in the project vicinity. It should be noted that the proposed residences would be all-electric and, thus, would not connect to existing natural gas infrastructure. Given that the project site/BRPA site is adjacent to existing development, the Proposed Project and BRPA would not require major infrastructure improvements related to existing electrical and telecommunications utilities beyond the necessary infrastructure to connect to existing systems.

The new connections to existing electricity and telecommunications infrastructure would be installed consistent with Davis Municipal Code Article 38.01, ensuring that the new infrastructure is installed underground in accordance with established construction standards, as well as with the rules and regulations authorized by the State Public Utilities Commission.

Based on the above, development of the Proposed Project and BRPA would not require or result in the relocation or construction of new or expanded electricity and

telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

Conclusion

Based on the above, development of the Proposed Project and BRPA would not require or result in the relocation or construction of new or expanded water, wastewater, electricity, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. Therefore, a ***less-than-significant*** impact could occur.

Mitigation Measure(s)

None required.

4.14-2 Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, single dry, and multiple dry years. Based on the analysis below, the impact is *less than significant*.

The following discussions evaluate the potential for the City to have sufficient water supplies available to serve the Proposed Project and BRPA. Although the Proposed Project and BRPA would both include development of 1,800 dwelling units, as well as neighborhood services and public, semi-public, and educational uses, the following discussion evaluates the water demand associated with each development scenarios separately.

Proposed Project

As part of the WSA and as summarized in Table 4.14-9, the total projected water supplies and demand during normal, single dry, and multiple dry years from 2025 to 2045 was calculated for the City of Davis, including demands associated with the Proposed Project.

As shown in Table 4.14-9, the City's projected available water supply would meet the anticipated demand for water generated by the Proposed Project and the City's existing commitments, as well as reasonably foreseeable cumulative development, during normal, single dry, and multiple dry years.

Biological Resources Preservation Alternative

Table 4.14-7 provides a summary of the water demand calculations for the proposed Village Farms Davis BRPA project. Consistent with the WSA for the Proposed Project prepared by Brown and Caldwell (see Appendix T of this EIR), the water demand factors are based on Table 3-4 of the WSA. The Proposed Project resulted in a water demand of 754,500 gpd (850 AFY); the BRPA would result in slightly higher water demand as compared to the Proposed Project due to the higher ratio of single-family units to apartment units. While the Proposed Project resulted in a water demand of 754,500 gpd (850 AFY), the BRPA would result in a total water demand of 769,100 gpd (862 AFY). As identified in the WSA, the water supply in the City of Davis is 23,320 AFY in a normal year and 15,260 AFY in dry years. Historical and projected water demands in the City, without the Proposed Project/BRPA, are estimated to be 10,300

AFY in 2035. Because the BRPA is anticipated to be built out by 2035, the cumulative water demand in the City would be an estimated 11,162 AFY. Based on the projected water supply, adequate water supply for the BRPA would exist.

Table 4.14-9
City of Davis Plus Proposed Project Water Demand and Supply – Normal, Single Dry, and Multiple Dry Years (AFY)

		2025	2030	2035	2040	2045
Normal Year						
Total Demand		9,790	11,439	12,091	12,081	12,081
Total Supply		23,320	23,320	23,320	23,320	23,320
Supply Minus Demand		**13,530**	**11,881**	**11,229**	**11,239**	**11,239**
Single Dry Year						
Total Demand		9,790	11,439	12,091	12,081	12,081
Total Supply		15,260	15,260	15,260	15,260	15,260
Supply Minus Demand		**5,470**	**3,821**	**3,169**	**3,179**	**3,179**
Multiple Dry Years						
First Year	Total Demand	9,790	11,439	12,091	12,081	12,081
	Total Supply	15,260	15,260	15,260	15,260	15,260
	Supply Minus Demand	**5,470**	**3,821**	**3,169**	**3,179**	**3,179**
Second Year	Total Demand	9,790	11,439	12,091	12,081	12,081
	Total Supply	15,260	15,260	15,260	15,260	15,260
	Supply Minus Demand	**5,470**	**3,821**	**3,169**	**3,179**	**3,179**
Third Year	Total Demand	9,790	11,439	12,091	12,081	12,081
	Total Supply	15,260	15,260	15,260	15,260	15,260
	Supply Minus Demand	**5,470**	**3,821**	**3,169**	**3,179**	**3,179**
Fourth Year	Total Demand	9,790	11,439	12,091	12,081	12,081
	Total Supply	15,260	15,260	15,260	15,260	15,260
	Supply Minus Demand	**5,470**	**3,821**	**3,169**	**3,179**	**3,179**
Fifth Year	Total Demand	9,790	11,439	12,091	12,081	12,081
	Total Supply	15,260	15,260	15,260	15,260	15,260
	Supply Minus Demand	**5,470**	**3,821**	**3,169**	**3,179**	**3,179**

Source: Brown and Caldwell, December 2023.

Conclusion

Based on the above, the City would have sufficient water supplies available to serve buildout of the Proposed Project and the BRPA, as well as reasonably foreseeable future development, during normal, single dry, and multiple dry years, and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

4.14-3 Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments. Based on the analysis below, the impact is *less than significant*.

The following discussions evaluate the potential for the wastewater treatment provider to have adequate capacity to serve the Proposed Project or BRPA in addition to the provider's existing commitments. Because the Proposed Project and BRPA would both include development of 1,800 dwelling units, as well as neighborhood services and public, semi-public, and educational uses, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

The WWTP Capacity Memorandum concluded that the City of Davis WWTP had an influent ADWF design target at or above 5.3 mgd available capacity, with the exception of the anaerobic digesters. The WWTP's anaerobic digesters were determined to have a slightly lower ADWF of 5.1 mgd. As shown in Table 4.14-4, the maximum influent ADWF for Existing Plus Village Farms Davis Project is estimated to be 4.4 mgd, of which 0.264 mgd would be associated with the development of the Proposed Project or BRPA. Because the maximum influent ADWF of 4.4 mgd would not exceed the established ADWF capacity of 5.1 mgd, the WWTP Capacity Memorandum concluded that the City's WWTP would have sufficient capacity to accommodate flows generated by the Proposed Project or BRPA, as well as the City's existing commitments.

Based on the above, the Proposed Project and BRPA would not result in a determination by the wastewater treatment provider that adequate capacity to serve the project's projected demand in addition to the provider's existing commitments does not exist. Thus, a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

4.14-4 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 conflict with federal, State, and local management and reduction statutes and regulations related to solid waste. Based on the analysis below, the impact is *less than significant*.

The following discussions evaluate the potential for the Proposed Project and BRPA to 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 conflict with federal, State, and local management and reduction statutes and regulations related to solid waste. Because the Proposed Project and

BRPA would both include development of 1,800 dwelling units, as well as neighborhood services and public, semi-public, and educational uses, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

Solid waste services (collection and recycling) are provided to the City of Davis by Recology Davis. All non-recyclable wastes collected from the City are disposed of at the 770-acre Yolo County Central Landfill in the northeast portion of the Davis planning area. According to CalRecycle, the Yolo County Central Landfill has a remaining capacity of 33,140,373 CY (or 68 percent remaining capacity) and has a current anticipated closure date of 2124.[15]

According to the U.S. Environmental Protection Agency (USEPA) report, Estimating 2003 Building-Related Construction and Demolition Materials Amounts, residential construction activities generate an average of 4.39 pounds per square foot (lbs/sf) of waste.[16] Both the Proposed Project and the BRPA would include construction of 1,800 new residences; however, the total building square footage of the future units is currently unknown. Therefore, for analysis purposes, each unit was conservatively estimated to include 2,500 sf of building space. The construction of 1,800 new residences could result in a total estimated buildout square footage of 4,500,000 sf, the construction of which would produce approximately 19,755,000 pounds (9,877.5 tons) of construction waste (4.39 lbs/sf x 4,500,000 sf).

In addition, the Proposed Project and BRPA would include development of neighborhood services and public and semi-public uses, the latter of which would consist of a fire station, a Davis Joint Unified School District (DJUSD) Pre-kindergarten (Pre-K) Early Learning Center, and an Educational Farm. The Transportation Impact Study (TIS) prepared by Fehr & Peers estimated square footage for each of the foregoing uses in Table 4 of the TIS (see Appendix R of this EIR).[17] As discussed therein, the neighborhood services are expected to total 30,500 sf, the fire station is anticipated to be 32,100 sf, and the Pre-K Early Learning Center is projected to include 17,700 sf. Overall, the new non-residential uses would total 80,300 sf. According to the USEPA, non-residential construction activities generate an average of 4.34 lbs/sf of waste.[18] As such, the construction of the neighborhood services and public/semi-public uses would result in approximately 348,502 pounds (174.25 tons) of construction waste (4.34 lbs/sf x 80,300 sf).

Overall, construction of the uses evaluated in this EIR would produce a maximum of 20,103,502 pounds (10,051.75 tons) of potential waste production from construction. The CALGreen Code requires at least 65 percent diversion of construction waste for projects permitted after January 1, 2017. As such, a minimum of 6,533.64 tons of

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15 California Department of Resources Recycling and Recovery. *SWIS Facility/Site Activity Details Yolo County Central Landfill (57-AA-0001)*. Available at: https://www2.calrecycle.ca.gov/SolidWaste/Site/Details/689. Accessed April 2024.

16 U.S. Environmental Protection Agency. *Estimating 2003 Building-Related Construction and Demolition Materials Amounts.* 2009.

17 Fehr & Peers. *Village Farms Davis Transportation Impact Study*. November 2024.

18 U.S. Environmental Protection Agency. *Estimating 2003 Building-Related Construction and Demolition Materials Amounts.* 2009.

waste would be diverted away from landfill disposal during construction. Considering the applicable CALGreen Code requirements, buildout of the Proposed Project and BRPA would be anticipated to produce up to 3,518.11 tons of waste during construction, using conservative assumptions. Construction waste generation represents a short-term increase in waste generation. Considering that the Yolo County Central Landfill has a remaining capacity of 68 percent of the total permitted capacity of the landfill, the construction waste would represent only an incremental contribution to the waste received at the landfill, and a less-than-significant impact would occur.

Operational solid waste generation from the Proposed Project and BRPA has been estimated based on an average waste generation rate for households and institutional square footage, as published by CalRecycle.[19] The proposed 1,800 residences would produce approximately 22,014 lbs/day (11.01 tons/day) (1,800 x 12.23 lbs/household/day) of operational solid waste. The total non-residential square footage would produce approximately 562.1 lbs/day (0.28 tons/day) (80,300 sf x 0.007 lbs/sf/day) of operational solid waste. Overall, operational solid waste associated with the development of the Proposed Project or BRPA would total 11.29 tons/day. The Yolo County Central Landfill has a permitted throughput of 3,000 tons/day and, thus, would be able to accommodate the operational waste generated by the Proposed Project or BRPA. In addition, considering that the Yolo County Central Landfill has a remaining capacity of 68 percent, the operational waste associated with the Proposed Project or BRPA would represent only an incremental contribution to the waste received at the landfill.

Based on the above, the Proposed Project and the BRPA would not 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. In addition, neither development scenario would conflict with applicable federal, State, and local management and reduction statutes and regulations related to solid waste. Thus, a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

Cumulative Impacts and Mitigation Measures

As defined in Section 15355 of the CEQA Guidelines, “cumulative impacts” refers to two or more individual effects which, when considered together, are considerable, compound, or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.

The cumulative setting for impacts related to public services and recreation encompasses buildout of the Proposed Project or BRPA in conjunction with the development of the Davis General Plan

[19] California Department of Resources Recycling and Recovery. *Estimated Solid Waste Generation Rates*. Available at: https://www2.calrecycle.ca.gov/wastecharacterization/general/rates. Accessed November 2023.

planning area, as well as a list of present and probable future projects. For more details regarding the cumulative setting, refer to Chapter 6, Statutorily Required Sections, of this EIR.

4.14-5 Increase in demand for utilities and service systems associated with the Proposed Project, in combination with future buildout of the City of Davis General Plan. Based on the analysis below, the cumulative impact is *less than significant*.

The cumulative analysis in this EIR is based upon development of either the Proposed Project or the BRPA, in conjunction with buildout of the Davis General Plan planning area, as well as a list of present and probable future projects. In addition to the Proposed Project/BRPA, Shriners Property, a 234-acre residential subdivision project located north of the East Covell Boulevard/Alhambra Drive intersection, is currently under review by the City. Just west of Shriners Property, north of the East Covell Boulevard/Monarch Lane intersection, is the Palomino Place Project, which is proposed on a 25-acre site and would include single- and multi-family housing, as well as health and training facilities open to the public. Other development projects undergoing planning review are located in the southern portion of the City, including two new multi-family residential apartment buildings, a new commercial hotel building, and a 700-unit residential neighborhood located on the 46.9-acre site formerly known as the Nishi Housing Site. The Bretton Woods University Retirement Community project, located northwest of the West Covell Boulevard/Risling Place intersection, is currently under review by the City of Davis. Finally, the City of Davis previously approved the Davis Innovation and Sustainability Campus (DiSC) 2022 Project, which was proposed for a 102-acre site (plus the 16.5-acre Mace Triangle property) located immediately to the east of Mace Boulevard and to the north of CR 32A, northeast of the City limits.

Because the Proposed Project and BRPA would both include development of 1,800 dwelling units, as well as neighborhood services and public, semi-public, and educational uses, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

The following discussions provide an analysis of the contribution of the Proposed Project and BRPA to cumulative impacts associated with water supply, wastewater treatment, dry utilities, and solid waste within the City of Davis under cumulative conditions.

Water Supply

Cumulative development, in conjunction with the Proposed Project or BRPA, would result in increased demand for water supplies provided by the City. According to the Citywide WSA, the total projected water supply in a normal year would be 23,320 AFY and would be 15,260 AFY in single and multiple dry years from 2025 through 2045. Based on the demand in AFY presented in Table 4.14-4, the City is anticipated to have a surplus of water supplies in all water year types to accommodate buildout of the City's General Plan planning area and present and future probable projects, including the Proposed Project or BRPA.

In addition, new water infrastructure required as part of cumulative development within the City would be required to be designed and constructed in compliance with the applicable standards set forth in the City of Davis Public Works Design Standards. Compliance with the foregoing standards would ensure new water lines installed as part of buildout of the City of Davis are constructed in conformance with proper materials and sizing.

Based on the above, adequate water supply would be available to serve cumulative development within the City, in conjunction with the Proposed Project and BRPA, and a less-than-significant impact would occur.

Wastewater Treatment

With respect to wastewater, according to the WWTP Capacity Memorandum, cumulative development would result in increased demand for wastewater treatment services, with the ADWF flows under cumulative buildout conditions projected to be 4.9 mgd. The WWTP Capacity Memorandum also concluded that based on a 2022 capacity analysis prepared by West Yost, the City's WWTP facilities have available capacity at or above a 5.3 mgd influent ADWF design target, with the exception of the facility's anaerobic digesters, which have a firm capacity at a slightly lower ADWF of 5.1 mgd. The WWTP Capacity Memorandum concluded that the City's WWTP facilities would have sufficient capacity to support flows and loads associated with cumulative buildout of the City.

In addition, based on the results of the Wastewater Collection Memorandum for cumulative buildout conditions, the City identified four gravity sewer main segments where flows would exceed the applicable d/D ratio (see Table 4.14-8). However, the Wastewater Collection Memorandum concluded that the impacts to the gravity mains under the cumulative development scenario would be very slight and improvements to the City's wastewater conveyance system are not currently recommended, as sewer flows could be accommodated by the existing conveyance system.

Based on the above, adequate wastewater treatment services would be available to serve cumulative development within the City of Davis, in conjunction with the Proposed Project or BRPA, and a less-than-significant impact would occur.

Electricity and Telecommunications Facilities

Environmental effects associated with the construction of new or expanded electricity and telecommunications facilities would primarily be project-specific, rather than cumulative. As noted under Impact 4.14-1, while development of the Proposed Project or BRPA would include new connections to existing infrastructure located in the project site/BRPA site vicinity, substantial extension of existing off-site electrical or telecommunications infrastructure would not be required. Therefore, the Proposed Project and BRPA would result in a less-than-significant cumulative impact related to construction of new or expanded electricity and telecommunications facilities.

Solid Waste

As previously discussed, according to CalRecycle, the Yolo County Central Landfill is anticipated to cease operations by 2124. Construction waste generated by development facilitated by buildout of the General Plan planning area would be

required to comply with the applicable provisions of the CALGreen Code, which requires at least 65 percent diversion of construction waste for projects permitted after January 1, 2017. In addition, the Yolo County Central Landfill has a remaining capacity of 33,140,373 CY, or 68 percent of the total capacity. Considering the remaining capacity at the landfill to serve future development, adequate capacity would be available to serve cumulative development within the City, in conjunction with the Proposed Project or BRPA, and a less-than-significant cumulative impact would occur.

Conclusion

Based on the above, adequate water supply, wastewater capacity, electricity, telecommunication facilities, and landfill capacity would be available to serve cumulative development in conjunction with development of the Proposed Project or BRPA. Therefore, a ***less-than-significant*** cumulative impact would occur.

Mitigation Measure(s)

None required.

4.15. WILDFIRE

4.15 WILDFIRE

4.15.1 INTRODUCTION

The Wildfire chapter of the EIR summarizes the existing wildfire setting information and identifies wildfire potential within the project area. The chapter describes the fire types that occur in the project region, wildland fire hazards associated with the project site/Biological Resources Preservation Alternative (BRPA) site, the fire history of the project region, the fuel treatment projects, such as mechanical thinning and prescribed fire, within the region, and consideration of site-specific factors that may affect the wildfire potential at the project site/BRPA site. The information contained in the analysis is primarily based on publicly available information provided by the California Department of Forestry and Fire Protection (CAL FIRE), the California Public Utilities Commission (CPUC), the Davis Fire Department, the City of Davis General Plan,[1] the City's General Plan EIR,[2] and the Yolo County 2030 Countywide General Plan.[3]

4.15.2 EXISTING ENVIRONMENTAL SETTING

The following section describes the existing wildfire setting in the project region, including the existing fire types, wildland fire hazards, public safety power shutoffs, fire protection agencies and resources in the project region, and emergency vehicle access.

Fire Types

The following sections describe the three fire types to which various areas of Yolo County are at risk of experiencing.

Wildfires

Wildfires occur on mountains, hillsides, and grasslands. Vegetation, wind, temperature, humidity, and slope are all factors that affect how wildfires spread. Yolo County is considered a rural/suburban County. Wildland fire danger varies throughout the County, as the County is characterized by relatively level valley floor landscapes in the southern and eastern portions of the County, where the City of Davis is located. Such lack of topography and complex fuels leads to very little severe fire behavior. However, the climate of the Yolo County region, which often includes seasonal drought conditions, can keep vegetation dry, which can make the region's vegetation more readily combustible during fire season. In the City of Davis, to which the project site/BRPA site is currently adjacent, the wildland fire hazard season lasts from early spring through late fall. Agricultural land surrounding the City provides limited fuel when crops are present that could allow wildfires to spread across large tracts of land; although, irrigation practices and fallow agricultural land limit the potential of wildfire spread. In the increasingly hilly landscapes that rise in the northern and western portions of the County, the rugged topography creates a landscape where fires can spread rapidly upslope and access for suppression equipment is limited.

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1 City of Davis. *City of Davis General Plan*. Adopted May 2001, Amended January 2007.
2 City of Davis. *Final Program EIR for the City of Davis General Plan Update and Final Project EIR for Establishment of a New Junior High School*. Certified May 2001.
3 Yolo County. *2030 Countywide General Plan*. Adopted November 2009.

Wildland-Urban Interface Fires

The wildland-urban interface (WUI) zone is an area where buildings and infrastructure (e.g., cell towers, schools, water supply facilities) mix with areas of wildland vegetation susceptible to ignition due to several factors, including topographical features, vegetation fuel types, local weather conditions, and prevailing winds. The interface is sometimes divided into the defense zone (areas near communities, usually about 0.25-mile wide) and threat zones (an approximately 1.25-mile buffer around the defense zone). In the WUI zone, efforts to prevent ignitions and limit wildfire losses hinge on hardening structures and creating defensible space through a multi-faceted approach, including engineering, enforcement, education, emergency response, and economic incentive. Different strategies in the defense and threat zones of the WUI help to limit the spread of fire and reduce risks to people and property.

The Yolo County Community Wildfire Protection Plan (CWPP)[4] defines the WUI zone as any populated area that falls within a high-severity fire hazard area, as mapped by the 2021 Yolo County Quantitative Wildfire Risk Assessment (QWRA).[5] The results of the County's QWRA show that many of the threats from wildfire, including those within the WUI zone, occur in the western portion of the County, which borders Napa and Solano counties along the Blue Ridge Mountain ridges and slopes. Pockets of moderate-to-high threat in the County's interior include areas east of Capay Valley, west of and surrounding the City of Winters, and along the Dunnigan Hills west of Interstate 5 (I-5). As shown in Figure 4.15-1, the City of Davis is not located in a high-severity fire hazard area, as mapped by CAL FIRE, and is, thus, not within the WUI zone.

Structural Fires

Urban fires occur in developed environments, destroying buildings and other human-made structures. Structural fires are often caused by faulty wiring, mechanical equipment, or combustible construction materials and can proliferate due to the absence of fire alarms and sprinkler systems. Structural fires have been due largely to human accidents, although deliberate fires (arson) may be a cause of some events. Older buildings that lack modern fire safety features may face greater risk of damage from fires. To minimize fire damage and loss, the City's Fire Code (Davis Municipal Code Chapter 13) incorporates the California Fire Code (CFC) and sets standards for building and construction. The City's Fire Code requires the provision of adequate water supply for firefighting, automatic fire sprinkler systems, fire-retardant construction, and minimum street widths, among other things.

Wildland Fire Hazards

The following sections include discussions on wildfire classifications; the effects of topography, vegetation, and prevailing winds on wildfire, and the large fire history of Yolo County.

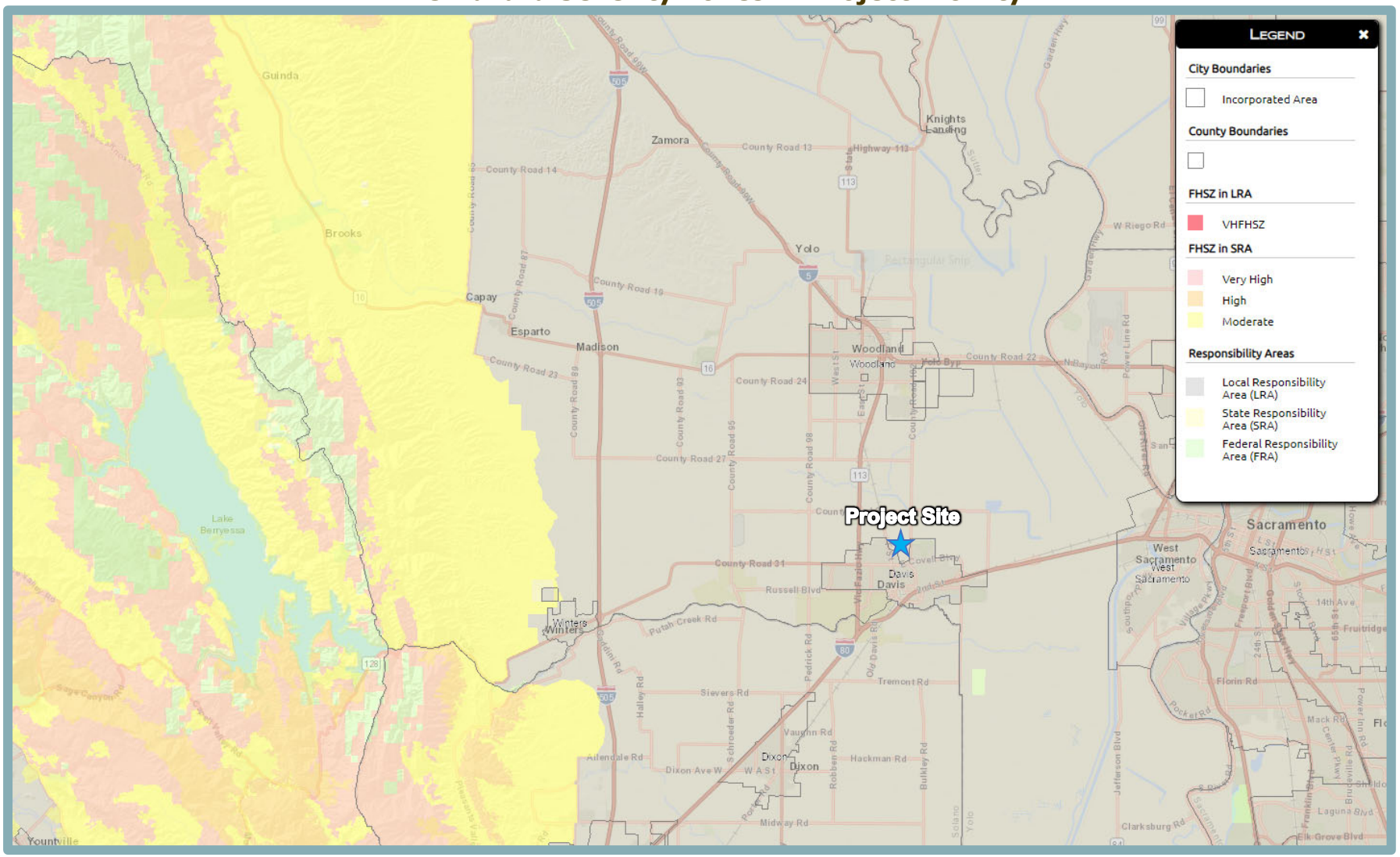
Wildland Fire Classifications

With respect to wildland fires, previous significant WUI fires within the State have precipitated the passage of statutes necessitating the classification of wildland fire hazard areas, according to a location's potential for causing ignitions to buildings. Such classifications are referred to as Fire Hazard Severity Zones (FHSZs) and provide the basis for application of various mitigation strategies to reduce risks to buildings associated with wildland fires.

[4] It should be noted that the Yolo County CWPP is not a regulatory document. Rather, the Yolo County CWPP provides wildfire hazard and risk assessments, community descriptions, and options for addressing issues of vulnerability to wildfire, all while outlining a priority list of projects that can efficiently reduce risk of property damage, environmental harm, and loss of life.

[5] Yolo County Resource Conservation District. *Yolo County Community Wildfire Protection Plan*. March 2023.

Figure 4.15-1
Fire Hazard Severity Zones in Project Vicinity



Source: CAL FIRE, Fire Hazard Severity Zone Viewer, 2024.

The zones also relate to the requirements for building codes designed to reduce the ignition potential of buildings in the WUI zones.

Pursuant to Government Code Section 51178, Very High FHSZs are determined by the Director of Forestry and Fire Protection, based on consistent statewide criteria and the severity of fire hazard that is expected to prevail in such areas. Very High FHSZs are based on fuel loading, slope, fire weather, and other relevant factors, including areas where Santa Ana, Mono, and Diablo winds have been identified by CAL FIRE as a major cause of wildfire spread. Public Resources Code (PRC) Sections 4201 through 4204 direct CAL FIRE to map fire hazards within State Responsibility Areas (SRAs), based on relevant factors such as fuels, terrain, and weather. SRAs are recognized by the Board of Forestry and Fire Protection as areas where CAL FIRE is the primary emergency response agency responsible for fire suppression and prevention.

The project site is not located within an SRA but, rather, is located within a Local Responsibility Area (LRA). As shown in Figure 4.15-1, the project site is identified by CAL FIRE as being within a Non-Very High FHSZ area. Additionally, as previously discussed, the project site is not located within a WUI zone, as defined by the Yolo County CWPP.

Topography and Vegetation

Topography, which includes slope and aspect, can play a significant role in wildfire risk. Fires burn faster uphill than downhill, due to fuels above a fire being brought into closer contact with upward moving flames. In addition, the process of heat transfer is influenced by topography, because heat rises (convection) and heat transfer through convection tends to move upward. Furthermore, during wildfires, burning materials on the forest floor also create convection currents that preheat the leaves and branches of shrubs and trees above the fire. Heat transfer, therefore, occurs more rapidly through fuels up a slope, resulting in fire traveling more quickly upslope than downslope.

Vertical air currents can also lift burning materials, as floating embers, known as firebrands, can settle in unburned areas ahead of a fire, starting smaller fires. The phenomenon is called spotting and can result in rapid advancement of a fire.

With respect to the project region's topography and vegetation, as previously discussed, the County is characterized by relatively level valley floor landscapes in the southern and eastern portions of the County, where the City of Davis is located and, thus, does not contain steep or significant slopes, such as those in steep-walled canyons or mountainous valleys. The absence of steep and significant slopes limits wildfire risks related to topography in the project region. With respect to vegetation, much of the area surrounding Davis is used for agriculture, as agriculture is the most significant industry in the region. Irrigation of agricultural land limits dry conditions associated with the region's seasonal droughts and concurrently limits the potential of wildfire spread.

With respect to the topography of the project site/BRPA site, the site consists of generally flat, agricultural land, which substantially limits the existing potential for on-site fire spread. With respect to vegetation, other than the on-site seasonally planted crops, the other primary source of vegetation is the existing trees within the project site/BRPA site, which include planted trees located along East Covell Boulevard and along the southern-most west boundary of the site, as well as trees located along both sides of Channel A and those that occur in association with the on-site agricultural structures. The on-site trees provide limited fuel for wildfire.

With respect to the topography and vegetation of areas within the surrounding project vicinity, the project site/BRPA site is bounded by Pole Line Road to the east; East Covell Boulevard to the south; the Union Pacific Railroad (UPRR) mainline, F Street, and Cannery development to the west; and Davis Paintball, Blue Max Kart Club, and agricultural land to the north. Other surrounding uses include single- and multi-family residences, the Nugget Fields sports center, Wildhorse Golf Club, and commercial offices to the east, across Pole Line Road; and commercial uses, single- and multi-family residences, and commercial offices to the south, across East Covell Boulevard. The foregoing uses and areas in the immediate project vicinity limit the existing potential for fire to spread to the project site.

Prevailing Winds

The predominant average hourly wind direction in the City of Davis varies throughout the year. Northerly winds, which could blow from the agricultural land from the north towards the project site, are most dominant from mid-October to late-February. In addition, winds also occur from the west for a portion of the year, especially during the summer months.[6]

Large Fire History

According to CAL FIRE, relatively few larger wildfires, defined as 10 acres or greater, have occurred within the greater region of the project site/BRPA site over the past three years.[7] The fires listed below occurred primarily to the north and to the west of the City of Davis. According to CAL FIRE, larger fires did not occur in Yolo County in 2023 and to date in 2024.

- In May 2022, the Quail Fire burned 135 acres in Solano County, along Quail Canyon Road and Pleasants Valley Road, southwest of the City of Winters, approximately 18 miles to the southwest of the project site/BRPA site. Injuries or fatalities were not reported, and structures were not reported as damaged or destroyed.
- In June 2022, the Timm Fire burned 26 acres in Solano County, along Buena Vista Lane and Timm Road, north of the City of Vacaville, approximately 16.2 miles southwest of the project site/BRPA site. Injuries or fatalities were not reported, and structures were not reported as damaged or destroyed.
- In May 2022, the Dunnigan Fire burned 120 acres in Yolo County, along County Road (CR) 11 and CR 86, southwest of Dunnigan, approximately 24.7 miles northwest of the project site/BRPA site. Injuries or fatalities were not reported, and structures were not reported as damaged or destroyed.
- In June 2021, the Creek Fire burned 34 acres in Yolo County, along State Route (SR) 16, north of Rumsey, approximately 34.8 miles to the northwest of the project site/BRPA site. Injuries or fatalities were not reported, and structures were not reported as damaged or destroyed.

CAL FIRE strives to extinguish 95 percent of all wildland fires at 10 acres or less. Additional fires, beyond those listed above, have occurred within the region surrounding the project site over the past three years. The fires, for the most part, were extinguished within the above stated goal of under 10 acres.

[6] Weather Spark. *Climate and Average Weather Year Round in Davis*. Available at: https://weatherspark.com/y/1120/Average-Weather-in-Davis-California-United-States-Year-Round. Accessed March 2024.

[7] California Department of Forestry and Fire Protection. *Incidents Overview*. Available at: https://www.fire.ca.gov/incidents/. Accessed October 2024.

Additionally, according to the Yolo County CWPP, the LNU Lighting Complex fires occurred from August 17, 2020 to October 2, 2020 and included a large complex of fires that burned in Lake, Napa, Sonoma, Solano, and Yolo counties.[8] Mandatory evacuation orders were issued in Yolo County for the Capay Valley and Golden Bear Estates near the City of Winters. The complex was composed of numerous lightning-sparked fires, most of which were small. While the fires ignited separately from each other, the Hennessey Fire eventually grew to merge with the Gamble, Green, Markley, Spanish, and Morgan fires for a total burn area of 363,220 acres. The fires, which burned in the hills surrounding the cities of Fairfield, Napa, and Vacaville, destroyed 1,491 structures and damaged a further 232 structures. Six people were killed and another five were injured. The LNU Lighting Complex is the sixth-largest wildfire in the recorded history of California.

Public Safety Power Shutoffs

In an effort to prevent fires, the electrical service provider for Yolo County, Pacific Gas & Electric Company (PG&E), initiated public safety power shutoffs (PSPS) in 2019, which may continue in subsequent years until fire risks associated with power lines are decreased. PSPS events involve PG&E turning off electrical service during times when the weather is predicted to have a heightened fire risk from gusty winds and dry conditions. Depending on the fire risks, the power outage events may occur in specific areas or for all PG&E customers across the County.

The CPUC adopted the High Fire-Threat District Map in 2018,[9] which serves to assist in the public's protection from potential fire hazards associated with overhead powerline facilities and nearby aerial communication facilities by delineating fire-threat areas in the State. Fire-threat areas are designated as Tier 1, 2, or 3, with Tier 1 defined as a High Hazard Zone, Tier 2 as an Elevated Hazard Zone, and Tier 3 as an Extreme Hazard Zone. The project site is not located within an area designated as Tier 1, 2, or 3 (see Figure 4.15-2). As such, the project site would not be regularly subject to PSPS events.

Throughout PSPS events, emergency services in Yolo County remain functional with back-up power supplies, but many businesses and agencies are not operational, which can result in inadequate access to medical services and exposure to excessive heat or cold.

Fire Agencies and Resources

Several fire agencies provide fire protection services in the project region, including wildland fire and structural fire response. The project site/BRPA site is currently located in the Springlake Fire Protection District's service area. Upon annexation of the project site/BRPA site into the City of Davis, the site would be provided fire protection services by the Davis Fire Department (DFD). Because the project site/BRPA site is located within an LRA, the DFD would also be responsible for providing wildland fire suppression services to the site. According to the City, the DFD serves a 133-square mile area containing a population of over 68,000 people, on a total annual budget of nearly $18 million.[10] The DFD provides pre-hospital emergency medical services; minimizes loss from fires, hazardous materials incidents, natural disasters and other emergency services; and ensures that the community's emergency service resources are effectively and efficiently managed.

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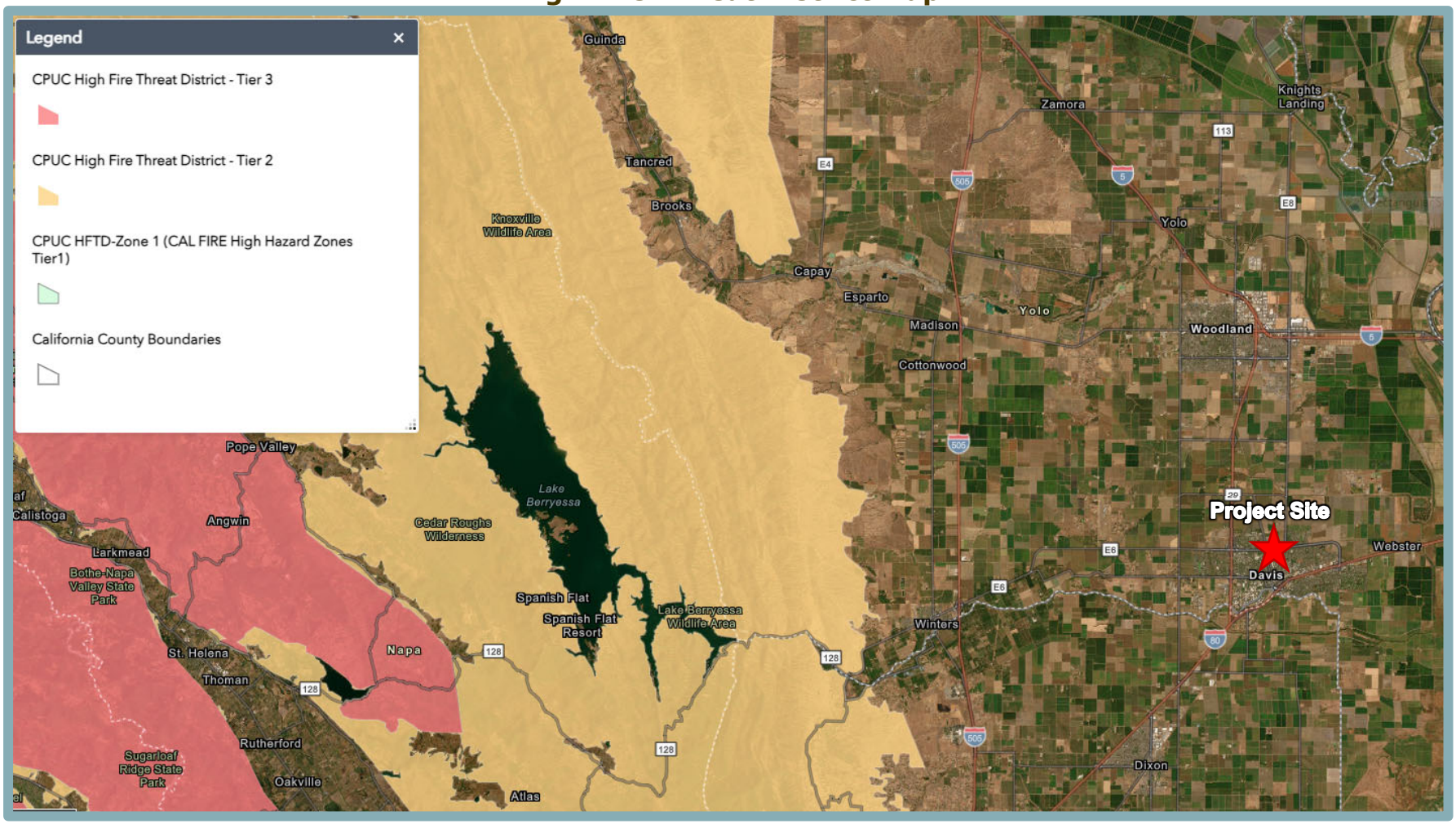
8 Yolo County Resource Conservation District. *Yolo County Community Wildfire Protection Plan*. March 2023.

9 California Public Utilities Commission. *Fire-Threat Maps and Fire-Safety Regulations Proceedings*. Available at: https://www.cpuc.ca.gov/industries-and-topics/wildfires/fire-threat-maps-and-fire-safety-rulemaking. Accessed March 2024.

10 City of Davis. *Budget In Brief FY 2024-2025 Adopted Budget.* Available at: https://www.cityofdavis.org/city-hall/finance/city-budget. Accessed December 2024.

Figure 4.15-2
High Fire-Threat District Map



Source: California Public Utilities Commission, CPUC High Fire Threat District (HFTD) Map, 2024.

The DFD maintains a staff of 42 shift personnel (12 captains and 30 firefighters), one fire chief, two administrative staff, three battalion chiefs, and one fire marshal, for a total of 49 employees. The DFD equipment consists of three engines, one ladder truck, one squad unit, two grass/wildland units, one water tender, three reserve engines, two command vehicles, and two fire prevention staff vehicles, as well as two antique fire apparatus units.

Currently, the required response time goal for the DFD is six minutes for more than 90 percent of all incidents, consistent with the National Fire Protection Association (NFPA) 1710 response time standard.[11] NFPA 1710 Section 4.1.2.1 establishes the following performance objectives: 240 seconds (four minutes) or less travel time for the arrival of the first engine company at a fire suppression incident; and 360 seconds (six minutes) or less travel time for the arrival of the second company with a minimum staffing of four personnel at a fire suppression incident.[12,13] The six-minute response time accounts for a one-minute dispatch processing time, a one-minute turnout time, and a four-minute driving response time. While portions of the project site/BRPA site are located within the four-minute drive time zone, the majority of the project site/BRPA site is currently located outside of the four-minute drive time zone (see Figure 4.12-1 in Chapter 4.12, Public Services and Recreation, of this EIR).

The City's three fire stations are located in Central, West, and South Davis. Shift personnel are divided into three 24-hour-per-day shifts, making for a 56-hour work week. The DFD has contractual agreements with the East Davis County Fire Protection District, the Springlake Fire Protection District, and the No Man's Land Fire Protection District to provide emergency response to the areas of the foregoing providers. The land covered by the City of Davis and the three foregoing fire protection districts is divided into seven emergency first-response areas. The first-response areas provide clearly defined territories for dispatching the nearest fire and emergency medical service (EMS) personnel and equipment to an emergency. In addition, the DFD has an automatic aid agreement with UC Davis and the cities of Woodland, West Sacramento, and Dixon and a mutual aid agreement with all other fire protection agencies in Yolo County and throughout California.

In the event of a wildfire, Yolo County residents can also be contacted through the Alert Yolo system, a component of a partnership between public safety agencies in Yolo, Sacramento, and Placer counties to alert residents about emergency events and other important public safety information through a community notification system. The system enables the Yolo County Office of Emergency Services (OES) to provide the public with critical information quickly in a variety of situations, such as severe weather, unexpected road closures, and evacuations of buildings or neighborhoods. All members of the public can sign up for Alert Yolo through OES' website and elect to receive notifications of emergency situations through various means, including text messages and email.

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11 Sandholdt, Patrick, Fire Marshal, Davis Fire Department. Personal communication [email] with Nick Pappani, Vice President, Raney Planning and Management, Inc. April 10, 2024.

12 Sandholdt, Patrick, Fire Marshal, City of Davis Fire Department. Personal Communication [email] with Nick Pappani, Vice President, Raney Planning and Management, Inc. March 12, 2024.

13 Sandholdt, Patrick, Fire Marshal, Davis Fire Department. Personal communication [email] with Nick Pappani, Vice President, Raney Planning and Management, Inc. April 10, 2024.

Emergency Vehicle Access

Fire access can be described as the means by which firefighters can enter an area to quickly mitigate a wildfire incident prior to spread to adjacent properties and critical infrastructure at risk. The project site/BRPA site does not currently provide for designated emergency vehicle access (EVA) roads. Existing roads adjacent to the project site that currently serve as the primary evacuation routes during a wildfire event include East Covell Boulevard and Pole Line Road, as well as SR 113 and Interstate 80 (I-80) in the surrounding area.

4.15.3 REGULATORY CONTEXT

Applicable federal laws or regulations pertaining to wildfire that would directly apply to the Proposed Project or BRPA do not exist. The following provides a general overview of the existing State and local regulations that are relevant to the Proposed Project or BRPA.

State Regulations

The following are the State environmental laws and policies relevant to wildfire.

State Responsibility Area

Pursuant to PRC Sections 4125 through 4128, the Board of Forestry and Fire Protection classifies all lands in the State for the purposes of determining areas in which the financial responsibility of preventing and suppressing wildfire is primarily the responsibility of the State. The classified lands are termed SRAs.

Fire Hazard Severity Zones

FHSZs are geographical areas designated pursuant to PRC Sections 4201 through 4204 and classified as Very High, High, or Moderate in SRAs or as Very High FHSZs in LRAs pursuant to Government Code Sections 51175 through 51189.

The California Code of Regulations (CCR), Title 14, Section 1280 entitles the maps of the geographical areas as “Maps of the Fire Hazard Severity Zones in the State Responsibility Area of California.”

Local Regulations

The following local goals and policies related to wildfire are applicable to the Proposed Project and BRPA.

Yolo County Office of Emergency Services

The Yolo County OES provides emergency management services in cooperation with local cities and special districts, including fire agencies, within the County. During an active incident, such as fire or flood, the OES helps initiate first responses. The functions of OES include emergency planning, response, recovery, and mitigation, including preparation of a Multi-Jurisdictional Hazard Mitigation Plan (HMP), as discussed below.

The OES has created pre-planned evacuation zones throughout Yolo County as part of its “Zonehaven Aware” evacuation management program in order to help the evacuation process in the event of an emergency. The project site/BRPA site is located within Zone YCU-177. The primary planned evacuation route for YCU-177 is West Covell Boulevard, East Covell Boulevard/Mace Boulevard, and Pole Line Road.

The 2023 Yolo County Operational Area Multi-Jurisdictional HMP defines measures to reduce risks from natural disasters in the Yolo County planning area, including unincorporated areas, incorporated cities, and special purpose districts. The HMP was prepared in accordance with the requirements of the Disaster Mitigation Act of 2000 to ensure Yolo County is eligible for the Federal Emergency Management Agency's (FEMA) Pre-Disaster Mitigation and Hazard Mitigation Grant Programs. The purpose of the HMP is to reduce the risk to life and property in Yolo County by decreasing the long-term vulnerability from hazards, including wildfires, through coordinated planning, partnerships, capacity building, and effective risk reduction measures.

City of Davis General Plan

The following goals and policies from the City of Davis General Plan are applicable to the Proposed Project and BRPA.

Police and Fire Chapter

Goal POLFIRE 1 Provide high quality police and fire protection services to all areas of the City.

Policy POLFIRE 1.2 Develop and maintain the capacity to reach all areas of the City with emergency police and fire service within a five-minute emergency response time, 90% of the time. Response time includes alarm processing, turnout time and travel time.

Goal POLFIRE 3 Increase fire safety through provision of adequate fire protection infrastructure, public education and outreach programs.

Policy POLFIRE 3.1 Provide adequate infrastructure to fight fires in Davis.

Policy POLFIRE 3.2 Ensure that all new development includes adequate provisions for fire safety.

Policy POLFIRE 3.3 Make fire protection services visible and accessible to Davis residents.

City of Davis Municipal Code

The following applicable regulations related to wildfire are from the Davis Municipal Code.

Davis Municipal Code Chapter 8: Buildings

Davis Municipal Code Section 8.01.010 adopts by reference the California Building Standards Code (CBSC, Title 24 of the CCR). Section 8.01.040 of the Municipal Code delegates the City's Chief Building Official with the authority to enforce applicable building standards related to fire and panic safety, as well as other regulations of the State Fire Marshal. Both State and local requirements would significantly assist in reducing the threat of a wildfire spreading from undeveloped land to a nearby building.

Davis Municipal Code Chapter 13: Fire Code

Davis Municipal Code Article 13.01 adopts the CFC (Title 24 CCR, Part 9) through Municipal Code Sections 13.01.010 and 13.01.040. The CFC addresses emergency access, access gates,

sprinkler systems, fire alarms within buildings, and construction of access roads to accommodate fire apparatus. The CFC requires that an automatic fire sprinkler and/or fire extinguishing system be installed throughout all new residential buildings.

4.15.4 IMPACTS AND MITIGATION MEASURES

The following section describes the standards of significance and methodology used to analyze and determine the potential impacts of the Proposed Project and BRPA related to wildfire. In addition, a discussion of the project's impacts, as well as mitigation measures where necessary, is also presented.

Standards of Significance

Consistent with Appendix G of the CEQA Guidelines, Section XX, Wildfire, determination of significant impacts related to wildfire is based on whether a project would result in the following, if located in or near SRAs or lands classified as Very High FHSZs:

- Substantially impair an adopted emergency response plan or emergency evacuation plan;
- Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire;
- Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment; or
- Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes (see Chapter 5, Effects Not Found to be Significant).

Issues related to whether the Proposed Project or BRPA would result in the following impact are discussed in Chapter 5, Effects Not Found to be Significant, of this EIR:

- Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

Pursuant to CEQA Guidelines Appendix G, the standards of significance listed above are only relevant when a project's location is within a SRA or Very High FHSZ. The project site/BRPA site is not located within land designated as either. Rather, the site is located within a LRA and is identified by CAL FIRE as being within a Non-Very High FHSZ area. Nevertheless, to provide a conservative analysis, this chapter evaluates the potential impacts of the Proposed Project and BRPA based on the standards listed above.

Method of Analysis

The impact analysis contained in this chapter is based on a review of available CAL FIRE wildfire hazard mapping and recent wildfire history near the City of Davis and Yolo County. In addition, State and local fire hazard regulations were evaluated to identify applicable design requirements for the Proposed Project and BRPA to minimize wildfire risk.

Project-Specific Impacts and Mitigation Measures

The following discussion of impacts is based on the implementation of the Proposed Project and BRPA in comparison with the standards of significance identified above.

4.15-1 Substantially impair an adopted emergency response plan or emergency evacuation plan. Based on the analysis below, the impact is *less than significant*.

The following discussion includes an analysis of the potential for development of the Proposed Project and the BRPA to substantially impair an adopted emergency response plan or emergency evacuation plan. Because the Proposed Project and BRPA would be developed within the same overall site boundaries and would have similar potential to affect such plans, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

Emergency events, like wildland fires, are unpredictable. The location of the fire, the time of day an event occurs, the direction of travel, and the rate of spread are unknown. Due to such uncertainty, the use of traditional capacity analysis, such as AM and PM peak hour operations at study intersections, is limited for the analysis of emergency events. Furthermore, the City of Davis, into which the project site/BRPA site would be annexed as part of project approval, does not have an adopted emergency evacuation plan. However, the County's OES has an adopted HMP and the project site/BRPA site is included in the County's Zonehaven Aware evacuation management program. Both the HMP and Zonehaven Aware program outline emergency-response steps local residents can take in response to local hazards, such as wildfires. In the event of an emergency, emergency responders also have measures that can be deployed to aid in the movement of the public from danger. For instance, during evacuation events, State and/or local emergency responders provide active traffic control at intersections, close roads, provide detours for through traffic, and actively manage available travel lanes to facilitate evacuation away from the emergency. Such measures would be initiated in the event that an evacuation is deemed necessary.

Both the Proposed Project and the BRPA would include new vehicular access points along East Covell Boulevard and Pole Line Road. From East Covell Boulevard, L Street would be extended into the site in a north-to-south direction. In addition, from Pole Line Road, Moore Boulevard, Donner Avenue, and Picasso Avenue would be extended into the site in an east-to-west direction. An additional entrance from Pole Line Road would be constructed in the northeast portion of the site, providing access to a new street that would extend westward through the proposed East Village. In the event of an emergency, multiple evacuation routes would be available. For example, West Covell Boulevard, East Covell Boulevard/Mace Boulevard, and Pole Line Road would serve as the primary evacuation routes to SR 113 and I-80, both of which are located within two miles from the project site boundary and would also serve to further assist in evacuating residents from the greater project region.

Furthermore, both the Proposed Project and BRPA would include 2.5 acres to allow for development of a new on-site fire station. The new fire station would be located in the southern portion of the project site, adjacent to East Covell Boulevard and would improve the emergency response time for underserved homes throughout North Davis that are currently outside of the DFD's recommended response time standard. In addition, the fire station would provide a small amount of space to support police personnel, who would assist in active traffic control in the event of a fire. The fire station

could also potentially include training facilities and a City Emergency Operations Center.

In the event of a wildfire, future residents of the Proposed Project and BRPA could also be contacted through the Alert Yolo system, a component of a partnership between public safety agencies in Yolo, Sacramento, and Placer counties to alert residents about emergency events and other important public safety information through a community notification system. All members of the public can sign up for Alert Yolo through OES' website and elect to receive notifications of emergency situations through various means, including text messages and email.

During project construction, temporary street closures could be required; however, as required by Mitigation Measure 4.13-1 in the Transportation chapter of this EIR, any temporary lane closures would be coordinated with the City Department of Public Works and local emergency services providers. Furthermore, complete closure of roadways is not anticipated.

Based on the above, the Proposed Project or BRPA would not substantially impair an adopted emergency response plan or emergency evacuation plan, and a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

4.15-2 Due to factors such as on-site fuel sources, slope, and prevailing winds, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Based on the analysis below, the impact is *less than significant*.

The following discussion includes an analysis of the potential for development of the Proposed Project and the BRPA to exacerbate wildfire risks and expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Because the Proposed Project and BRPA would be developed within the same overall site boundaries and would have similar potential to exacerbate wildfire risks, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

The following discussions evaluate the potential impacts associated with the Proposed Project and BRPA related to the exacerbation of wildfire risks due to factors such as on-site fuel sources, slope, and prevailing winds.

Wildfire Risks Due to On-Site Fuel Sources

CEQA Guidelines Appendix G indicates that the extent and nature of on-site vegetation, which would serve as fuel for a wildfire, should be evaluated to determine the potential for a project to exacerbate wildfire risk. With respect to vegetation associated with the project site/BRPA site, the site consists primarily of seasonally planted crops and existing trees, the latter of which include planted trees located along

East Covell Boulevard and along the southern-most west boundary of the site, as well as trees located along both sides of Channel A and those that occur in association with the on-site agricultural structure. Development of the Proposed Project and BRPA would include site-clearing activities, which would remove on-site vegetation, including permanent conversion of approximately 367.3 acres of Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) land cover types with flammable vegetation under the Proposed Project, approximately 324.5 acres of Yolo HCP/NCCP land cover types with flammable vegetation under the BRPA, and 952 trees under both development scenarios. As such, development of the site with the proposed uses would reduce the risk of wildland fire to surrounding areas, because site improvements, such as the proposed structures, internal streets, and irrigated on-site landscaping, would reduce readily combustible vegetation and act as a fuel break. Additionally, wildfire risks would not be anticipated to be exacerbated during project operation, as residential, Neighborhood Mixed-Use, and public, semi-public, and educational uses typically do not involve operational components that would increase the risk of wildfire.

The Proposed Project and the BRPA would be required to comply with all applicable State and local standards and regulations associated with prevention of wildfire hazards, including Davis Municipal Code Sections 8.01.010 and 13.01.010, which serve to adopt and amend, as applicable, the CBSC and CFC. The CFC requires that an automatic fire-sprinkler and/or fire-extinguishing system be installed throughout new one- and two-family dwellings and commercial buildings 3,600 sf and larger. In addition, the project would be subject to the applicable provisions set forth in Davis Municipal Code Chapters 36 and 39, which contains requirements for subdivisions related to water supply for the purposes of fire flow, including provisions related to hydrants, delivery rate, and maintenance of the water system. Furthermore, the DFD enforces standards set forth in the CBSC associated with the installation of residential fire-sprinkler systems and the installation of appropriate roofing materials within all residential units. Both State and local requirements would significantly assist in reducing the threat of a wildfire spreading from agricultural land to the proposed structures, as well as the potential of fire spreading from the site to surrounding areas.

The Proposed Project and BRPA would include preservation of agricultural land as part of the 118.4-acre Urban Agricultural Transition Area (UATA) in the northern portion of the site, as well as various parks (Heritage Oak Park and Village Trails Park) and greenbelts that would occur along portions of all the project site's boundaries and the proposed residential villages. In addition, the BRPA would preserve an approximately 47.1-acre Natural Habitat Area around the alkali playa located south of Channel A. Thus, both the Proposed Project and BRPA would include vegetated areas as part of project operation. However, the agricultural land within the UATA and on-site parks and greenbelts would be regularly irrigated, which would ensure the vegetation is sufficiently watered so as not to result in excessively dry fuel sources. In addition, the existing conditions of the UATA under the Proposed Project and BRPA would remain unchanged, as would the existing conditions of the Natural Habitat Area under the BRPA. Thus, the Proposed Project and BRPA would not exacerbate wildfire risks associated with the UATA, nor would the BRPA as part of preservation of the Natural Habitat Area.

Overall, through removal of on-site vegetation, compliance with State and local regulations, and routine irrigation of the UATA, parks, and greenbelts, the Proposed Project and BRPA would not exacerbate wildfire risks due to on-site vegetation, and a less-than-significant impact would occur.

Wildfire Risks Due to Slope

The project site/BRPA site and the City of Davis do not contain steep or significant slopes, which limits wildfire risks related to topography in the project region. Based on the existing topography of the site, slope would not affect on-site fire behavior, as compared to the increasingly hilly landscapes that rise in the northern and western portions of the County. Therefore, the Proposed Project and BRPA would not exacerbate wildfire risks due to slope, and a less-than-significant impact would occur.

Wildfire Risks Due to Prevailing Winds

With respect to prevailing winds at the project site/BRPA site, as previously discussed, winds from the north are most dominant from mid-October to late-February, which is outside of the season that wildfires in the project region commonly occur. While winds also occur from the west for a portion of the year, especially during the summer months, land west of the site is developed with residential uses, which reduces the potential of wildfire spreading to the project site due to prevailing winds from the west.

As discussed above, the majority of on-site fuel sources would be removed as part of development of the Proposed Project and BRPA. Thus, development of the project site/BRPA site would not exacerbate wildfire risks due to prevailing winds, and a less-than-significant impact would occur.

Conclusion

Based on the above, the Proposed Project and BRPA would not exacerbate wildfire risks due to factors such as site fuel sources, slope, and prevailing winds, and, thereby, would not expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Therefore, a ***less-than-significant*** impact could occur.

Mitigation Measure(s)

None required.

4.15-3 Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. Based on the analysis below, the impact is *less than significant*.

The following discussion includes an analysis of the potential for development of the Proposed Project and the BRPA to require the installation or maintenance of associated infrastructure that may exacerbate fire risk or result in temporary or ongoing impacts. Because the Proposed Project and BRPA would be developed within the

same overall site boundaries and would require largely similar infrastructure improvements, the following evaluation applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

Development of the Proposed Project and BRPA would include construction of various infrastructure components, including on-site and off-site roadway improvements; connections to existing water, sewer, and power lines; installation of new storm drain lines and a new detention basin; the realignment of a portion of Channel A; potentially a new pedestrian/bicycle undercrossing near the Pole Line Road/Moore Boulevard intersection; and other improvements. All potential physical environmental impacts that could result from development of the Proposed Project or BRPA, including the proposed infrastructure improvements, have been evaluated throughout the technical chapters of this EIR.

The proposed roadway improvements would not exacerbate fire risks, as operation of the roadways does not involve sources of ignition and, thus, would not involve components that could potentially ignite fuel sources. Additionally, new electrical infrastructure installed as part of the Proposed Project and BRPA would be undergrounded, which would reduce fire risks during operations. As previously discussed, the Proposed Project and BRPA would also be subject to the applicable provisions set forth in Davis Municipal Code Chapters 36 and 39, which contains requirements for subdivisions related to water supply for the purposes of fire flow, including provisions related to hydrants, delivery rate, and maintenance of the water system. The fire hydrants within the project site would meet all applicable DFD requirements. Long-term maintenance and operation of the emergency water supply infrastructure would not involve any activities that would result in an increase in wildfire risk.

While the long-term maintenance of the proposed roadways, emergency water supply connections, power lines, and other utilities would not exacerbate fire risks, the activities associated with the initial construction and placement of the utilities and infrastructure could cause a temporary increase in fire risks due to the use of heavy equipment, which would contain combustible materials such as fuels and oils and ignition sources. However, the project contractor would be required to comply with all California Health and Safety Codes and local County ordinances regulating the handling, storage, and transportation of hazardous materials, which would minimize the potential for accidental conditions, including fire.

Based upon the above, the Proposed Project and BRPA would not require the installation or maintenance of associated infrastructure that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. Therefore, a ***less-than-significant*** impact would occur.

Mitigation Measure(s)

None required.

Cumulative Impacts and Mitigation Measures

As defined in Section 15355 of the CEQA Guidelines, “cumulative impacts” refers to two or more individual effects which, when considered together, are considerable, compound, or increase

other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.

The geographic scope for the cumulative wildfire analysis generally includes buildout of the Proposed Project or BRPA in conjunction with buildout of the Davis General Plan planning area, as well as a list of present and probable future projects. For more details regarding the cumulative setting, refer to Chapter 6, Statutorily Required Sections, of this EIR.

4.15-4 Increase in wildfire risk attributable to the Proposed Project or the BRPA, in combination with cumulative development. Based on the analysis below, the cumulative impact is *less than significant*.

Because the Proposed Project and BRPA would include similar development components within the same overall site boundaries, both development scenarios would have similar potential for resulting in increases in wildfire risks, in combination with cumulative development. As such, the following analysis applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

The cumulative setting for this EIR encompasses the City of Davis' General Plan planning area and present and probable future projects, a portion of which occur adjacent to the City limits. In addition to the Proposed Project/BRPA, Shriners Property, a 234-acre residential subdivision project located north of the East Covell Boulevard/Alhambra Drive intersection, is currently under review by the City. Just west of Shriners Property, north of the East Covell Boulevard/Monarch Lane intersection, is the Palomino Place Project, which is proposed on a 25-acre site and would include single- and multi-family housing, as well as health and training facilities open to the public. Other development projects undergoing planning review are located in the southern portion of the City, including two new multi-family residential apartment buildings, a new commercial hotel building, and a 700-unit residential neighborhood located on the 46.9-acre site formerly known as the Nishi Housing Site. The Bretton Woods University Retirement Community project, located northwest of the West Covell Boulevard/Risling Place intersection, is currently under review by the City of Davis. Finally, though rejected by voters, the City of Davis previously approved the Davis Innovation and Sustainability Campus (DiSC) 2022 Project, which was proposed for a 102-acre site (plus the 16.5-acre Mace Triangle property) located immediately to the east of Mace Boulevard and to the north of CR 32A, northeast of the City limits. Future development within the City of Davis would result in changes to the existing land use environment through conversion of vacant land to developed uses that would result in a reduction of existing vegetation, which would concurrently reduce wildfire sources and the risk of fire spread.

Additionally, the City of Davis and adjacent areas are not located within an SRA. As shown in Figure 4.15-1, the entirety of the City is located within an LRA Non-Very High FHSZ. Additionally, all development facilitated by buildout of the City of Davis General Plan planning area would be subject to existing regulations and guidelines designed

to prevent wildlife hazards. Similar to the Proposed Project/BRPA, development of other areas within or proposed for annexation into the City would be required to comply with Davis Municipal Code Sections 8.01.010 and 13.01.010, which serve to adopt and amend, as applicable, the CBSC and CFC. The DFD enforces standards set forth in the CBSC associated with the installation of residential fire-sprinkler systems and the installation of appropriate roofing materials within all residential units. As such, all buildings would meet all fire code requirements, as set forth by the CBSC and CFC, which could include fire sprinklers and fire alarms, as determined by the City's Fire Chief at building permit stage, depending upon building and occupancy type. Finally, similar to the project site/BRPA site, other sites within the City could currently include fuel sources such as undeveloped vegetated areas. However, development of said parcels, which would be subject to State and local regulations, would remove existing fuel sources, thereby reducing the cumulative risk of wildfire hazards.

Based on the above, the Proposed Project and BRPA, in combination with reasonably foreseeable future development, would have a ***less-than-significant*** cumulative impact related to exacerbating wildfire risk.

Mitigation Measure(s)

None required.

5. Effects Not Found to be Significant

5. EFFECTS NOT FOUND TO BE SIGNIFICANT

5.1 INTRODUCTION

Section 15128 of the CEQA Guidelines requires that an EIR briefly describe why various environmental effects were determined not to be significant and therefore were not discussed in detail in the EIR. The Effects Not Found to be Significant chapter of this EIR summarizes environmental issues that were determined not to be significant with implementation of the proposed project. The reasons for the conclusion of non-significance are provided for each issue area, as applicable, below.

5.2 FORESTRY RESOURCES

Consistent with Appendix G of the CEQA Guidelines, the Proposed Project and Biological Resources Preservation Alternative (BRPA) were determined to have no impact with regard to the following issue areas:

- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code [PRC] Section 12220[g]), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104[g]);
- Result in the loss of forest land or conversion of forest land to non-forest use; and
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of forest land to non-forest use.

The project site/BRPA site is not considered forest land (as defined in PRC Section 12220[g]), timberland (as defined by PRC Section 4526), and is not zoned Timberland Production (as defined by Government Code Section 51104[g]). In addition, installation of the proposed off-site improvements under each development scenario would occur either in existing roadway ROWs or in other previously disturbed areas. As such, the proposed project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland, or result in the loss of forest land or conversion of forest land to non-forest use. Therefore, the project would result in no impact.

5.3 GEOLOGY AND SOILS

Consistent with Appendix G of the CEQA Guidelines, the Proposed Project and BRPA were determined to have no impact with regard to the following issue area:

- 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.

Sewer collection to the project site/BRPA site would be provided by new connections to the City's existing sewer system. The construction or operation of septic tanks or other alternative wastewater disposal systems is not included as part of the Proposed Project or BRPA. Therefore,

no impact regarding the capability of soil to adequately support the use of septic tanks or alternative wastewater disposal systems would occur.

5.4 HAZARDS AND HAZARDOUS MATERIALS

Consistent with Appendix G of the CEQA Guidelines, the Proposed Project and BRPA were determined to have no impact with regard to the following issue areas:

- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area.

The project site/BRPA site is not located within an airport land use plan. Furthermore, the nearest public airport is the University Airport, which is owned by the University of California (UC) Davis, operated by Transportation Services of UC Davis, and located approximately 3.35 miles southwest. As such, the project site/BRPA site is not located within two miles of any public airports or private airstrips. Therefore, neither the Proposed Project nor BRPA would result in a safety hazard for people residing or working in the project area associated with an airport or airstrip.

- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment. Based on the analysis below, the impact is less than significant.

Because the Proposed Project and the BRPA would be developed within the same overall site boundaries, both development scenarios would have similar potential to be included on a list of hazardous materials sites. Therefore, the below discussion applies to both development scenarios.

Proposed Project, Biological Resources Preservation Alternative

The California Environmental Protection Agency (CalEPA) has compiled a list of data resources that provide information regarding the facilities or sites identified as meeting the "Cortese List" requirements, pursuant to Government Code 65962.5. The components of the Cortese List include the Department of Toxic Substances Control (DTSC) Hazardous Waste and Substances Site List,[1] the list of leaking underground storage tank (UST) sites from the State Water Resources Control Board's (SWRCB) GeoTracker database,[2] the list of solid waste disposal sites identified by the SWRCB, [3] and the list of active Cease and Desist Orders (CDO) and Cleanup and Abatement Orders (CAO) from the SWRCB.[4] The Urban Development Area Phase II Environmental Site Assessment (ESA) (see Appendix H of this EIR) reviewed the components of the Cortese List as part of the records review process. The results of the records review related to the Cortese List are discussed further below.

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1 Department of Toxic Substances Control. *Hazardous Waste and Substances Site List (Cortese).* Available at: https://www.envirostor.dtsc.ca.gov/public/. Accessed March 2024.

2 State Water Resources Control Board. *GeoTracker*. Available at: https://geotracker.waterboards.ca.gov/map/?myaddress=California&from=header&cqid=5340390861. Accessed March 2024.

3 Cal-EPA. *Cortese List Data Resources*. Available at: https://calepa.ca.gov/sitecleanup/corteselist/. Accessed March 2024.

4 *Ibid.*

Hunt-Wesson Facility

Approximately 630 feet west of the project site/BRPA site at 1111 Covell Boulevard, the SWRCB GeoTracker online data management system lists a leaking UST (LUST) known as the Hunt-Wesson Facility. The facility is a former tomato processing facility, which could have associated groundwater impacts due to the industrial nature of the facility. However, the Urban Development Area Phase II ESA notes that GeoTracker lists the case as closed. The release of any hazardous materials associated with the Hunt-Wesson Facility was to soil only, and a No Further Action Required letter was prepared for the facility on January 1, 1989. Based on the regulatory status of this former tomato processing facility and lack of confirmed groundwater impacts, the Urban Development Area Phase II ESA concluded that the Hunt-Wesson Facility presents a low risk of impacting the project site/BRPA site.

Old Davis Landfill

According to the Phase I ESA prepared for the Proposed Project, the Regional Water Quality Control Board (RWQCB) issued a Notice of Cleanup Program Site Case and Request for Additional Groundwater Monitoring dated July 26, 2023, related to the Old Davis Landfill. The letter identifies groundwater impacts and requires that the City perform additional groundwater monitoring. The letter further responds to concerns expressed by a City of Davis resident related to the "potential risks the landfill may pose to properties south of the landfill that are proposed for residential development." The letter states that, if future on-site development would be connected to the existing City municipal water system and use the City water system as the sole means of water, then the RWQCB would not have reason to identify risks to residential and commercial properties.

Conclusion

Based on the above, the Proposed Project and the BRPA would not create a significant hazard to the public or the environment related to being located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, and no impact would occur.

5.5 LAND USE AND PLANNING

Consistent with Appendix G of the CEQA Guidelines, the Proposed Project and BRPA were determined to have no impact with regard to the following issue area:

- Physically divide an established community.

PRC Section 21061.3 defines an "infill site" as a site in an urbanized area that has not been previously developed for urban uses and is both located immediately adjacent to parcels that are developed with urban uses, or at least 75 percent of the perimeter of the site adjoins parcels that are developed with qualified urban uses, and the remaining 25 percent of the site adjoins parcels that have been previously developed with urban uses, and is a site within which parcels have not been created within the past 10 years. Based on the foregoing definition, because the project site/BRPA site is surrounded to the west, south, and east with urban uses, and is bordered to the north by the Davis Paintball and Blue Max Kart Club/former wastewater treatment plant (WWTP) site and former Old Davis Landfill, the site is considered an infill site. Because development of the Proposed Project and BRPA would be considered infill development, no impact would occur related to physical division of an established community.

5.6 MINERAL RESOURCES

Consistent with Appendix G of the CEQA Guidelines, the Proposed Project and BRPA were determined to have no impact with regard to the following issue areas:

- Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state; and
- 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.

According to the City of Davis General Plan EIR, the most important mineral resources in the region are sand and gravel. A survey of aggregate resources by the State Division of Mines and Geology conducted in the General Plan EIR did not identify significant aggregate resources in the City's planning area. The only mineral resource known to exist in the planning area is natural gas, but resource areas are not identified in the General Plan Planning area. Therefore, development of the Proposed Project or BRPA would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State or in the loss of availability of a locally important mineral resource recovery site.

5.7 NOISE

Consistent with Appendix G of the CEQA Guidelines, the Proposed Project and BRPA were determined to have no impact with regard to the following issue area:

- 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.

As previously discussed, the project site/BRPA site is not located within an airport land use plan. The nearest public airport is the University Airport, which is owned by UC Davis, operated by Transportation Services of UC Davis, and located approximately 3.35 miles to the southwest of the project site/BRPA site. As such, the project site/BRPA site is not located within the vicinity of a private airstrip or an airport land use plan or within two miles of a public airport or public use airport. Therefore, impacts related to exposing people residing or working in the area to excessive noise levels would not occur.

5.8 POPULATION AND HOUSING

Consistent with Appendix G of the CEQA Guidelines, the Proposed Project and BRPA were determined to have no impact with regard to the following issue area:

- Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

The project site/BRPA site is currently not developed. In addition, installation of the off-site improvements included under each development scenario would occur either in existing roadway rights of way (ROWs) or in other previously disturbed areas. Thus, neither the Proposed Project nor the BRPA would result in the displacement of existing people or housing, necessitating the construction of replacement housing elsewhere, and no impact would occur.

5.9 WILDFIRE

Consistent with Appendix G of the CEQA Guidelines, the Proposed Project and BRPA were determined to have no impact with regard to the following issue area:

- Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

The project site/BRPA site does not feature steep or significant slopes and is generally flat. As such, neither the Proposed Project nor the BRPA would exacerbate fire risks or expose people or structures to risks due to a slope. Finally, the project site is surrounded by existing and planned development which would serve as a fire break to decrease fire risks. As such, impacts related to exposing people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes, would not occur.

6. Statutorily Required Sections

6. STATUTORILY REQUIRED SECTIONS

6.1 INTRODUCTION

The Statutorily Required Sections chapter of the Draft EIR includes discussions regarding those topics that are required to be included in an EIR, pursuant to CEQA Guidelines, Section 15126.2. The chapter includes a discussion of the Proposed Project's, as well as the Biological Resource Preservation Alternative's (BRPA), potential to result in growth-inducing impacts; the cumulative setting analyzed in this EIR; significant irreversible environmental changes; and significant and unavoidable impacts caused by the Proposed Project/BRPA.

6.2 GROWTH-INDUCING IMPACTS

State CEQA Guidelines Section 15126.2(d) requires an EIR to evaluate the potential growth-inducing impacts of a proposed project. Specifically, an EIR must discuss the ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Growth can be induced in a number of ways, including the elimination of obstacles to growth, or by encouraging and/or facilitating other activities that could induce growth. Examples of projects likely to have growth-inducing impacts include extensions or expansions of infrastructure systems beyond what is needed to serve project-specific demand, and development of new residential subdivisions or office complexes in areas that are currently only sparsely developed or are undeveloped.

The CEQA Guidelines are clear that while an analysis of growth-inducing effects is required, it should not be assumed that induced growth is necessarily significant or adverse. This analysis examines the following potential growth-inducing impacts related to implementation of the proposed project and assesses whether these effects are significant and adverse (see CEQA Guidelines, Section 15126.2[d]):

1. Foster population and economic growth and construction of housing.
2. Eliminate obstacles to population growth.
3. Affect service levels, facility capacity, or infrastructure demand.
4. Encourage or facilitate other activities that could significantly affect the environment.

Foster Population and Economic Growth and Construction of Housing

As discussed in Chapter 4.9, Land Use and Planning, and Chapter 4.11, Population and Housing, of this EIR, the proposed 1,800 residential units would increase the available housing within the City of Davis, which would be expected to increase population in the area. Using the 2.57 persons/household average household size for the City of Davis, the proposed 1,800 residential units would be anticipated to house an estimated 4,626 residents. Because the Project site/BRPA site is currently located in Yolo County, a General Plan Amendment to redesignate the Proposed Project/BRPA with a City of Davis land use designation will be required. In addition to the General Plan Amendment, a Sphere of Influence (SOI) Amendment, Annexation, Pre-zoning, and Development Agreement would be required by the City of Davis for project approval. As such, the Proposed Project/BRPA has not been included as part of the City's growth projections. Development of the Proposed Project and BRPA would increase the total current population of

the City of Davis from 67,048 to approximately 71,724, or a 6.8 percent increase. While such an increase in population would still be within the range of growth projections assumed by the City of Davis, the population growth associated with the Proposed Project/BRPA has not been included as part of the City's growth projections and would result in an increase beyond what is currently anticipated for the site.

Future residents of the Proposed Project would likely patronize local business and services in the area, fostering economic growth. While construction of the Proposed Project/BRPA could result in increased employment opportunities in the construction field, potentially resulting in increases in population and housing demand, the nature of this change in demand would be temporary, lasting only as long as construction of the Proposed Project/BRPA. Short-term employment opportunities associated with construction activities would become available, which would likely be filled by the local employee base. Employment opportunities created by the Proposed Project/BRPA could include household and landscape maintenance jobs, and jobs associated with the development of the Neighborhood Mixed-Use component, fire station, Pre-Kindergarten (Pre-K) Early Learning Center, and Educational Farm. New jobs generated by such uses would not be substantial in number and would also likely be filled by the local employee base. Therefore, the Proposed Project/BRPA and any associated population growth, would not result in significant long-term employment growth in the area.

Appendix G of CEQA Guidelines has been recently amended to clarify that unplanned population growth would be considered a potentially significant impact. However, growth that is planned, and the environmental effects of which have been analyzed in connection with a land use plan or a regional plan, should not by itself be considered an impact. As discussed in further detail under Impact 4.11-1 within the Population and Housing chapter of this EIR, the Proposed Project/BRPA would result in population growth within the City of Davis. While new infrastructure improvements would be sized to accommodate only the Proposed Project/BRPA, improvements would include development that would result in direct on-site unplanned population growth. Population growth resulting from the Proposed Project/BRPA would not be within the SACOG or City of Davis growth estimates for the project area. Thus, the Proposed Project/BRPA would induce substantial unplanned population growth, and a significant impact related to population and economic growth would occur.

Eliminate Obstacles to Population Growth

The elimination of either physical or regulatory obstacles to growth is considered to be a growth-inducing effect. A physical obstacle to growth typically involves the lack of public service infrastructure. The extension of public service infrastructure, including roadways, water mains, and sewer lines, into areas that are not currently provided with these services, would be expected to support new development. Similarly, the elimination or change to a regulatory obstacle, including existing growth and development policies, could result in new growth.

As discussed in Chapter 4.14, Utilities and Service Systems, of this EIR, the existing City of Davis water system would be utilized to connect new water lines to the Proposed Project/BRPA. In the immediate project vicinity, existing water lines would connect to new water lines that extend into the project site/BRPA site within the new on-site internal streets. From the new water lines, water service would be provided to each structure through new water laterals. Similarly, sanitary sewer service would be provided by the City of Davis through new connections to the existing sewer system in the site vicinity.

The improved on-site water system would be sized to serve only the Proposed Project/BRPA, and would be financed by the project applicant. Consequently, the construction of on-site utilities infrastructure would not be anticipated to result in elimination of obstacles to population growth in the area.

The Proposed Project/BRPA would require approval from the Yolo Local Agency Formation Commission (LAFCo) of a combined Municipal Service Review, City of Davis SOI Amendment to incorporate the Urban Agricultural Transition Area (UATA) into the City's SOI, and annexation of the project site/BRPA site into the City of Davis service area to operate the on-site water and wastewater treatment systems. The site is bounded by the City of Davis boundary to the west, south, and east. Therefore, City of Davis would not need to extend existing water and sewer infrastructure through intervening unincorporated County lands where services are not currently provided. Upon annexation of the project site into the City limits, water service would be provided to the Proposed Project/BRPA by the City of Davis as described above. Doing so would have a negligible effect on growth, as new utility infrastructure would not be installed in any unincorporated lands surrounding the site or the City of Davis.

Because implementation of the aforementioned improvements would be developed to serve only the Proposed Project/BRPA, such improvements would not be considered to eliminate obstacles to growth in a manner that would encourage previously unplanned growth.

Affect Service Levels, Facility Capacity, or Infrastructure Demand

Increases in population that would occur as a result of a Proposed Project/BRPA may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental impacts. As discussed in Chapter 4.12, Public Services and Recreation, of this EIR, increased demands for public services, including fire and police protection services, attributable to the Proposed Project/BRPA would necessitate the construction of new or expanded facilities that could cause significant environmental impacts, including the dedication of a new fire station. However, both the Proposed Project and the BRPA include construction of a new fire station along the East Covell Boulevard. In addition, as discussed in Chapter 4.14, Utilities and Service Systems, of this EIR, although the Proposed Project/BRPA would include connection to the existing wastewater treatment and water supply facilities provided by the City of Davis, through compliance with all applicable federal, State, and City regulations, significant environmental impacts would not occur.

The landfill that would serve the Proposed Project/BRPA has adequate capacity to manage the solid waste generated as a result of the project, as described in Chapter 4.14, Utilities and Service Systems, of this EIR. Furthermore, mitigation measures set forth in Chapter 4.8, Hydrology and Water Quality, of this EIR would ensure that the Proposed Project/BRPA would not create or contribute runoff water that would exceed the capacity of the City's stormwater drainage systems. Therefore, the Proposed Project/BRPA would not increase population such that service levels, facility capacity, or infrastructure demand would require construction of new facilities that could cause significant environmental impacts.

Encourage or Facilitate other Activities That Could Significantly Affect the Environment

This EIR provides a comprehensive assessment of the potential for environmental impact associated with implementation of the Proposed Project/BRPA. Please refer to Chapters 4.1

through 4.15 of this EIR, which comprehensively address the potential for impacts from urban development on the project site.

6.3 CUMULATIVE IMPACTS

CEQA Guidelines, Section 15130 requires that an EIR discuss the cumulative and long-term effects of the Proposed Project/BRPA that would adversely affect the environment. "Cumulative impacts" are defined as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (CEQA Guidelines, Section 15355). "[I]ndividual effects may be changes resulting from a single project or a number of separate projects" (CEQA Guidelines, Section 15355, subd. [a]). "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 a period of time" (CEQA Guidelines, Section 15355, subd. [b]).

The need for cumulative impact assessment reflects the fact that, although a project may cause an "individually limited" or "individually minor" incremental impact that, by itself, is not significant, the increment may be "cumulatively considerable," and, thus, significant, when viewed together with environmental changes anticipated from past, present, and probable future projects (CEQA Guidelines, Section 15064, subd. [h(1)], Section 15065, subd. [c], and Section 15355, subd. [b]). Accordingly, particular impacts may be less than significant on a project-specific basis but significant on a cumulative basis if their small incremental contribution, viewed against the larger backdrop, is cumulatively considerable. However, it should be noted that CEQA Guidelines, Section 15064, subdivision (h)(5) states, "[…] the mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable." Therefore, even where cumulative impacts are significant, any level of incremental contribution is not necessarily deemed cumulatively considerable.

Section 15130(b) of CEQA Guidelines indicates that the level of detail of the cumulative analysis need not be as great as for the project impact analyses, but that analysis should reflect the severity of the impacts and their likelihood of occurrence, and that the analysis should be focused, practical, and reasonable. To be adequate, a discussion of cumulative effects must include the following elements:

(1) Either (a) a list of past, present and probable future projects, including, if necessary, those outside the agency's control, or (b) a summary of projections contained in an adopted general plan or related planning document, or in a prior certified EIR, which described or evaluated regional or area-wide conditions contributing to the cumulative impact, provide that such documents are reference and made available for public inspection at a specified location;

(2) A summary of the individual projects' environmental effects, with specific reference to additional information and stating where such information is available; and

(3) A reasonable analysis of all of the relevant projects' cumulative impacts, with an examination of reasonable, feasible options for mitigating or avoiding the project's contribution to such effects (Section 15130[b]).

For some projects, the only feasible mitigation measures will involve the adoption of ordinances or regulations, rather than the imposition of conditions on a project-by-project basis (Section 15130[c]). Section 15130(a)(3) states that an EIR may determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable, and thus not significant, if a project is required to implement or fund the project's fair share of a mitigation measure or measures designed to alleviate the cumulative impact.

A discussion of cumulative impacts is provided within each of the technical chapters of this EIR pursuant to CEQA Guidelines Section 15130.

Cumulative Setting

The lead agency should define the relevant geographic area of inquiry for each impact category (id., Section 15130, subd. [b][3]), and should then identify the universe of "past, present, and probable future projects producing related or cumulative impacts" relevant to the various categories, either through the preparation of a "list" of such projects or through the use of "a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact" (id., subd. [b][1]).

The majority of the cumulative analysis in this EIR is based upon a summary of projections contained in the City of Davis General Plan, as well as other reasonably foreseeable projects within the project region. Present and future probable local projects within the City of Davis include, but are not limited to, the following projects: Palomino Place; Shriners Property; Davis Innovation Sustainability Campus (DiSC) 2022; the Cannery Remainder Commercial Parcels; Sutter Davis Expansion (including adjacent Communicare Expansion); various Bretton Woods developments; the Promenade/Nishi; and Olive Drive Mixed Use.

Limited situations exist where geographic setting differs between project chapter analysis within a particular region. Examples include air quality, for which the cumulative geographic setting is the Sacramento Valley Air Basin (SVAB). Global climate change is, by nature, a cumulative impact. Greenhouse gas (GHG) emissions contribute, on a cumulative basis, to the significant adverse environmental impacts of global climate change (e.g., sea level rise, impacts to water supply and water quality, public health impacts, impacts to ecosystems, impacts to agriculture, and other environmental impacts). A single project could not generate enough GHG emissions to contribute noticeably to a change in the global average temperature. However, the combination of GHG emissions from a project in combination with other past, present, and future projects could contribute substantially to the world-wide phenomenon of global climate change and the associated environmental impacts. Although the geographical context for global climate change is the Earth, for analysis purposes under CEQA, and due to the regulatory context pertaining to GHG emissions and global climate change applicable to the Proposed Project/BRPA, the geographical context for global climate change in this EIR is limited to the State of California.

For hydrology and water quality, the cumulative analysis appropriately focuses on the 17-square mile Covell Drain watershed, within which the project site is located.

6.4 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

As established in CEQA Guidelines Section 15126.2(c), this EIR is required to include consideration of significant irreversible environmental changes that would be caused by the

Proposed Project/BRPA, should the project be implemented. An impact would be determined to be a significant and irreversible change in the environment if:

- Buildout of the project area could involve a large commitment of nonrenewable resources;
- The primary and secondary impacts of development could generally commit future generations to similar uses (e.g., a highway provides access to a previously remote area);
- Development of the proposed project could involve uses in which irreversible damage could result from any potential environmental accidents associated with the project; or
- The phasing and eventual development of the project could result in an unjustified consumption of resources (e.g., the wasteful use of energy).

The Proposed Project/BRPA would likely result in, or contribute to, the following significant irreversible environmental changes:

- Conversion of predominantly vacant land to a fully built-out community with residential and public service uses, thus precluding alternative land uses in the future; and
- Irreversible consumption of goods and services, such as fire, police, and school services, associated with the future population; and
- Irreversible consumption of energy and natural resources, such as water and electricity, associated with the future residential and public service uses.

6.5 SIGNIFICANT AND UNAVOIDABLE IMPACTS

According to CEQA Guidelines, an EIR must include a description of those impacts identified as significant and unavoidable should the proposed action be implemented (CEQA Guidelines Section 15126.2[b]). Such impacts would be considered unavoidable when the determination is made that either mitigation is not feasible or only partial mitigation is feasible such that the impact is not reduced to a level that is less-than-significant. This section identifies significant impacts that could not be eliminated or reduced to a less-than-significant level by mitigations imposed by the City. The final determination of the significance of impacts and the feasibility of mitigation measures would be made by the City as part of the City's certification action. The significant and unavoidable impacts of the Proposed Project/BRPA are summarized below.

Have a substantial adverse effect on a scenic vista. (Impact 4.1-1)

The City's General Plan EIR addresses potential impacts related to changes in views that would result from buildout of the General Plan, and specifically addresses the project site, previously known as the Covell Center site. In discussing the Covell Center site, the General Plan EIR acknowledges the panoramic setting of the site area and the availability of open space/agricultural views. In addition, the City has identified the project site/BRPA site as a priority acquisition area for the protection of land providing views of the distant Sutter Buttes and the Sierra Nevada Mountains available from the site. The panoramic open space/agricultural views available on the project site/BRPA site, while not officially designated by the City as a scenic vista, can nevertheless be considered as such for purposes of CEQA analysis and in recognition of the General Plan EIR's treatment of the issue. Similar to the site conditions when the General Plan EIR was prepared, the site consists almost entirely of uninterrupted active agricultural land. Views of the existing scenic vista of the site, as well as the surrounding agricultural area to the northwest, would be substantially affected by the Proposed Project/BRPA. While incorporation of an UATA north of the site would preserve a portion of the currently available on-site scenic agricultural vista, the majority of the current scenic vista would be permanently altered by buildout of the Proposed Project/BRPA, resulting in permanent conversion of a currently open expanse of farmland which

feasible mitigation does not exist to reduce. Therefore, a significant and unavoidable impact would occur.

Have a substantial adverse effect on a scenic vista associated with development of the Proposed Project or Biological Resources Preservation Alternative in combination with future buildout of the City of Davis. (Impact 4.1-5)

Due to the location of the project site/BRPA site, the geographic setting for analysis of long-term cumulative effects on scenic vistas is cumulative buildout of the project site/BRPA site in conjunction with future buildout of the City's General Plan and reasonably foreseeable development along the Mace Boulevard/East Covell Boulevard corridor. Other planned development projects in the cumulative setting for the Proposed Project and the BRPA include the Shriners Property Project, the DiSC 2022 Project, and the Palomino Place Project. The sites of the DiSC 2022 and Shriners Property projects are both located on existing agricultural land outside of the City limits along Mace Boulevard/East Covell Boulevard to the east of the project site, whereas the Palomino Place project site is also east of the project site, but within the City limits.

As discussed in Chapter 4.1 Aesthetics, of this EIR, similar to the Proposed Project and BRPA, development of the Shriners Property and DiSC 2022 projects would convert existing farmland to urban uses, which would cumulatively contribute to the elimination of open expanses of farmland in the area. According to the General Plan EIR, impacts that could occur to the existing visual character of the planning area through development facilitated by project buildout, in particular development of the project site/BRPA, would alter the open space views of surrounding visible areas and contrast with the surrounding open space/agricultural environment. Significant views exist to the north of the Proposed Project/BRPA site, and development within the viewshed would be considered a significant and unavoidable impact. Thus, development of the Proposed Project or BRPA, in conjunction with future development in the cumulative setting, would result in an incremental contribution to the cumulative significant impact related to having a substantial adverse effect on a scenic vista.

Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use or agricultural land as defined in the CKH Act (Government Code Section 56064). (Impact 4.2-1)

The project site/BRPA is located within an agricultural zoning area. In addition, pursuant to the California Department of conservation (DOC) Important Farmland Finder, the Project/BRPA site contains approximately 323 acres of Prime Farmland, approximately 121 acres of Unique Farmland, and approximately nine acres of Farmland of Statewide Importance. The site also meets the City's definition of "agricultural land" and Yolo County's definition of "prime agricultural land."

Because the entire project/BRPA site is currently agricultural, as defined by the Davis Municipal Code, agricultural mitigation would be required for the full site acreage, with the exception of the proposed UATA. The City's agricultural mitigation requirement would satisfy Yolo County's agricultural land mitigation ratio requirement, and Yolo LAFCo's agricultural land mitigation ratio

requirement, as discussed in Chapter 4.2, Agricultural Resources, of this EIR. While the mitigation measures would preserve Farmland acreage elsewhere, such preservation would not create new Farmland. As such, the Proposed Project and BRPA would lead to an overall loss of Farmland. Therefore, the impact would remain significant and unavoidable.

Involve changes in the existing environment which, due to their location or nature, could cumulatively result in loss of Farmland to non-agricultural use. (Impact 4.2-4)

The following present and probable future projects are located in the project vicinity: Palomino Place; Shriner's Property; and DiSC 2022. Shriner's Property and DiSC 2022 would result in the conversion of Farmland, as defined by CEQA, to non-agricultural uses. In addition, the Bretton Woods development would result in conversion of Farmland of Local Importance to non-agricultural uses. The present and probable future projects within the City of Davis would also be subject to the agricultural land mitigation measures for the loss of Farmland established by the appropriate jurisdiction. Nonetheless, the foregoing projects would further contribute to the cumulative loss of existing Farmland in and adjacent to the City of Davis.

Based on the above, development facilitated by buildout of the City's General Plan, as well as other present and/or probable future projects, would result in a significant impact related to the conversion of Farmland to non-agricultural uses. Thus, the contribution of the Proposed Project/BRPA to the significant cumulative impact would be cumulatively considerable and significant and unavoidable due to the permanent loss of agricultural land attributable to the Proposed Project/BRPA.

Conflict with or obstruct implementation of the applicable air quality plan during project operation. (Impact 4.3-2)

As discussed in Chapter 4.3, Air Quality, Greenhouse Gas emissions, and Energy, of this EIR, the Proposed Project/BRPA air quality discussion is based on information and guidance within the Yolo-Solano Air Quality Management District (YSAQMD) Handbook for Assessing and Mitigating Air Quality Impacts, as well as the City of Davis General Plan. As discussed therein, if a project's operational emissions exceed the YSAQMD's mass emissions thresholds for operational emissions of reactive organic gasses (ROG), nitrogen oxides (NO_X), or particulate matter (PM_{10}), a project would be considered to conflict with or obstruct implementation of the YSAQMD's air quality planning efforts. Emissions of ROG, NO_X, and PM_{10} would be generated during operations of the Proposed Project/BRPA from both mobile and stationary sources.

While the Proposed Project and BRPA's maximum unmitigated operational emissions of NO_X would be below the applicable YSAQMD threshold of significance, maximum unmitigated operational emissions of ROG and PM_{10} would exceed the applicable YSAQMD thresholds of significance. Accordingly, the Proposed Project and BRPA could violate an air quality standard or contribute substantially to an existing or projected air quality violation.

The majority of the operational ROG emissions are associated with area sources which are largely from consumer products. Implementation of Mitigation Measure 4.3-2 would reduce the operational area source emissions associated with the Proposed Project and BRPA. However, operational ROG and PM_{10} emissions associated with the Proposed Project and the BRPA would continue to exceed the applicable thresholds of significance. Possible additional mitigation measures for further reducing consumer product emissions could include limitations on consumer products at the site, but such mitigation cannot be feasibly enforced or verified.

With regard to mobile source emissions, feasible mitigation measures to reduce area source PM_{10} emissions are not available, as PM_{10} emissions associated with the Proposed Project/BRPA are almost entirely from mobile sources. Implementation of Mitigation Measure 4.13-4 as set forth in the Transportation chapter of this EIR, which requires implementation of Transportation Demand Management (TDM) strategies to reduce the number of vehicle trips that would be generated by the residential component of the Proposed Project/BRPA, would further reduce operational mobile source ROG and PM_{10} emissions. However, the effectiveness of the TDM strategies can vary based on a variety of factors, are site-specific in nature, and rely on implementation and/or adoption by private entities and other agencies. Thus, the effectiveness of the TDM strategies cannot be quantified and subsequent vehicle trip reduction effects cannot be guaranteed. Furthermore, the Proposed Project/BRPA's inherent site and/or design features that would reduce vehicle trips and vehicle miles traveled (VMT), thereby reducing mobile source emissions of criteria pollutants, including ROG and PM_{10}, have already been accounted for in the project-specific modeling. Additional measures for the reduction of mobile source emissions sufficient to reduce emissions of ROG and PM_{10} to below the applicable thresholds of significance, are not available, nor feasible for the Proposed Project/BRPA at this time. Because additional feasible mitigation for the reduction of the Proposed Project/BRPA sites' operational ROG and PM_{10} emissions to below the applicable thresholds of significance is not currently available, even with implementation of mitigation, the impact would remain significant and unavoidable.

Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors). (Impact 4.3-6)

Buildout of the Proposed Project/BRPA would lead to the release of emissions that would contribute to the cumulative regional air quality setting. Construction of the Proposed Project/BRPA would occur over a relatively short time period as compared to the operational lifetime of the Proposed Project/BRPA and therefore, construction emissions would not be not considered to be cumulative in nature. However, by nature, air pollution is largely a cumulative impact, and in combination with other proposed and pending projects in the region, the Proposed Project/BRPA would significantly contribute to air quality effects within the SVAB, resulting in an overall significant cumulative impact.

As discussed under Impact 4.3-2 in Chapter 4.3, Air Quality, Greenhouse Gas Emissions, and Energy, of this EIR, operation of the Proposed Project/BRPA would result in emissions that exceed the YSAQMD's thresholds of significance as shown in Tables 4.3-11 and 4.3-12. Consequently, implementation of the Proposed Project/BRPA could violate an air quality standard, contribute substantially to an existing or projected air quality violation, conflict with the YSAQMD's adopted attainment plans, or inhibit attainment of regional ambient air quality standards (AAQS). Implementation of the Proposed Project and BRPA could violate air quality standards and thereby contribute towards regional health effects associated with the existing nonattainment status of ozone and PM standards.

Because operational ROG and PM_{10} emissions associated with the Proposed Project/BRPA would not be reduced to below the applicable thresholds of significance, even with mitigations, and additional feasible mitigation sufficient to reduce the Proposed Project/BRPA's operational ROG and PM_{10} emissions to below the YSAQMD's thresholds of significance is not currently

available, the Proposed Project/BRPA's incremental contribution to the significant cumulative effect would remain cumulatively considerable and significant and unavoidable.

Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs during operation. (Impact 4.3-8)

The City of Davis has recently adopted a Climate Action Adaption Plan (CAAP), as well as emissions reductions targets and emissions allowances for projects within the City. In recognition of the City Council's actions and emissions reductions efforts and policies enacted by the City's CAAP, for the purposes of this EIR, the Proposed Project/BRPA would be considered to have a significant impact if emissions from Proposed Project/BRPA operations would result in net positive operational emissions in the year 2040. Should the Proposed Project/BRPA be shown to reach net neutrality by the year 2040 compared to existing emissions levels associated with the site, the Proposed Project/BRPA would be considered to provide a proportional share of emissions reductions and would not inhibit attainment of citywide net carbon neutrality by the year 2040, nor would the Proposed Project/BRPA conflict with the City's CAAP. Project-specific features sufficient to reduce the anticipated emissions to net carbon neutrality by the year 2040 are not currently included in the Proposed Project/BRPA. Because project emissions could exceed net carbon neutrality in the year 2040, implementation of the Proposed Project/BRPA would conflict with the City's recently adopted goal of carbon neutrality by the year 2040.

Implementation of Mitigation Measure 4.3-8 would achieve a downward trajectory of operational GHG emissions, assuring that implementation of the Proposed Project/BRPA would not result in long-term operational impacts related to GHG emissions or the creation of conflicts with an applicable regulation. Flexibility would increase the feasibility of achieving the emissions reductions by allowing the project applicant to reduce emissions in advance of future years as off-set projects and funding becomes available. However, due to uncertainties related to the potential efficacy and feasibility of the GHG reductions measures, as well as the availability of off-site carbon credit programs, the full GHG reductions associated with the Proposed Project/BRPA cannot be guaranteed at this time.

Based on the above, implementation of the Proposed Project/BRPA could generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG, and the Proposed Project/BRPA's incremental contribution to this significant cumulative impact would be cumulatively considerable and significant and unavoidable.

Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. (Impact 4.4-15)

Based on the Aquatic Resources Delineation (ARD) conducted as part of the Biological Resources Assessment (BRA), approximately 23.565 total acres of aquatic resources occur within the study area. As discussed in Chapter 4.4, Biological Resources, of this EIR, approximately 20.349 acres of aquatic resources would be permanently impacted, approximately 1.029 acres would be temporarily impacted, and 0.248-acre within the Western Program Study Area could be potentially impacted by the Proposed Project. Additionally, approximately 0.648-

acre of aquatic resources would be permanently impacted, approximately 0.988-acre would be temporarily impacted, and 0.248-acre within the Western Program Study Area could be potentially impacted by the BRPA.

Implementation of Mitigation Measures 4.4-15(a), 4.4-15(b), 4.4-15(c), and 4.4-15(d) would reduce the potential impacts related to the BRPA to a less than significant level. However, with respect to the Proposed Project, the on-site alkali wetlands would be removed. Through protocol-level wet- and dry-season surveys for special-status branchiopods, these alkali wetlands were found to support vernal pool tadpole shrimp. Given the limited extent of this habitat within the region and the habitat value for the federally endangered vernal pool tadpole shrimp, the loss of approximately 19.6 acres of alkali playa/alkali wetland complex, would be considered significant. Further, while Mitigation Measure 4.4-15(c) requires no-net loss replacement or rehabilitation of federally jurisdictional waters, creation of new habitat would not occur. As a result, the Proposed Project's impact to wetlands would be significant and unavoidable.

Cumulative loss of habitat for special-status species. (Impact 4.4-19)

In addition to the Proposed Project/BRPA, other developments anticipated in the City of Davis General Plan planning area include the Shriners Property, the Palomino Place Project, the Nishi Housing Site, the Bretton Woods University Retirement Community project, and the Davis Innovation and Sustainability Campus (DiSC) 2022 Project. Buildout of the Proposed Project or BRPA, in combination with the foregoing development projects and other development within the City of Davis, would result in a significant cumulative impact related to the loss of special-status species wetland habitat.

Implementation of Mitigation Measure 4.4-19, which refers to the implementation of Mitigation Measures 4.4-15(a), 4.4-15(b), 4.4-15(c), and 4.4-15(d), would reduce the potential impacts related to the BRPA to a less than significant level. However, with respect to the Proposed Project, removal of the alkali wetlands would be considered significant and the Proposed Project's incremental contribution to the significant cumulative effect would remain cumulatively considerable and significant and unavoidable.

Generation of a substantial temporary 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. (Impact 4.10-1)

As shown Table 4.10-10 of Chapter 4.10, Noise, of this EIR, construction of the Proposed Project/BRPA is predicted to generate noise-level increases over ambient conditions greater than 5.0 dBA. Mitigation Measure 4.10-1 would employ sound-control devices on equipment, muffled exhausts on equipment, and installation of acoustic barriers around stationary equipment that block line-of-sight to the equipment. The temporary barriers would reduce construction noise levels associated with three construction areas to below the applicable significant increase criteria of 5.0 dBA. However, construction noise associated with the majority of construction areas would remain over the 5.0 dBA increase criteria. Based on the above, noise levels associated with construction activities would result in a significant temporary noise level increase at the nearest sensitive receptors. Therefore, although implementation of mitigation would reduce the above significant impact, the impact would remain significant and unavoidable.

Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure). (Impact 4.11-1)

The 1,800-unit affordable and market-rate single- and multi-family residential uses associated with the Proposed Project/BRPA would increase the available housing within the City of Davis, which would increase population in the area. Using the 2.57 persons/household average household size for the City of Davis, the proposed 1,800 residential units would house an estimated 4,626 residents. Residential development is not allowed under the existing Yolo County General Plan land use and zoning designations for the project site, with the exception of farmworker housing. Thus, the Proposed Project/BRPA would result in an increase of approximately 1,800 units, or 4,626 residents, beyond what is currently anticipated for the site.

Annexation of the project site into the City and development of 1,800 residential units, with the associated addition of approximately 4,626 residents, would increase the total current population of the City of Davis from 67,048 to approximately 71,724, or a 6.8 percent increase. The Sacramento Area Council of Governments (SACOG) has projected that the City's population could grow to as much as 76,665 residents by 2035. However, because the project site/BRPA site is currently not located within the City of Davis and does not have a City General Plan land use designation, the Proposed Project/BRPA has not been included as part of the City's growth projections. Therefore, the increase in population resulting from the Proposed Project/BRPA would not be within the range of growth projections assumed for the City of Davis. As discussed in the Chapter 4.14, Utilities and Service Systems, of this EIR, the proposed utility improvements related to water, sanitary sewer, and storm drainage services would be sized to accommodate only the Proposed Project/BRPA and would connect to existing infrastructure in the project vicinity.

Nonetheless, the Proposed Project/BRPA would include development that would result in direct unplanned population growth that would not be within the SACOG or City of Davis growth estimates for the project area. Feasible mitigation does not exist to reduce the potential impact, and as a result, substantial unplanned population growth would result in a significant and unavoidable impact.

Cumulative unplanned population growth. (Impact 4.11-2)

As discussed above, the population growth related to implementation of the Proposed Project/BRPA has not been anticipated for the region. However, population growth itself does not constitute a significant physical environmental effect. Rather, the determination of significance is based on whether population growth associated with a project could result in indirect physical environmental impacts.

Buildout of the City of Davis was anticipated to result in population growth within the plan area through the buildout of urban and rural developments. Since approval of the General Plan, the Cannery Subdivision with 610 residential units, located adjacent to the project site, the Bretton Woods Subdivision with 560 residential units, and the DiSC 2022 project with 460 units have been approved, which have increased the amount of land designated for residential development within the City. In addition, several new residential subdivisions are currently proposed, including Palomino Place with 175 residential units and Shriners Property with 1,200 residential units, located approximately 0.8-mile to the east of the project site. It should be noted that the Shriners Property Project is located outside the City limits, and, therefore, the proposed 1,200 residential

units are unplanned. In total, the aforementioned residential developments, in combination with the Proposed Project/BRPA, would result in a total of 4,345 new residential units within the City of Davis. The General Plan Housing Element projected that a total of 1,737 housing units would be developed in the City between 2020 and 2036; thus, development of the Proposed Project/BRPA with 1,800 residential units, in combination with other cumulative development in the City of Davis, would result in a cumulative significant impact.

Feasible mitigation does not exist to reduce the above potential impact to a less-than-significant level. Therefore, the impact would remain cumulatively considerable and significant and unavoidable.

Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit facilities and services. (Impact 4.13-3)

As discussed in Chapter 4.13, Transportation, of this EIR, transit service in the City of Davis is provided by Unitrans (local bus), Yolobus (intercity bus), Amtrak (intercity rail), and Davis Community Transit (local paratransit). The Transportation chapter of the EIR discusses the existing transportation facilities within the vicinity of the project site as well as applicable policies and guidelines used to evaluate operation of such facilities.

On-time performance is defined by Unitrans as a bus arriving at the terminal before the scheduled time or within five minutes of the scheduled time. Arriving more than five minutes late is defined as “late.” Unitrans has a systemwide on-time performance target of 90 percent. Systemwide, Unitrans on-time performance was 87 percent during the 2022-23 fiscal year, and, thus, failed to meet their on-time performance target. The Unitrans General Manager’s Report for Fiscal Year 2022-23 notes that the P and Q lines, both of which would serve the Proposed Project/BRPA, experience the lowest on-time performance systemwide.

According to the Transportation Impact Study (TIS), the Proposed Project/BRPA would increase vehicle travel demand and cause increases to peak hour delay on roadways within the project site vicinity, including East Covell Boulevard, Pole Line Road, Mace Boulevard, F Street, J Street, and L Street. Unitrans routes that operate in mixed-flow traffic on these roadways would similarly experience increased delays due to increased vehicle demand generated by project buildout. The P and Q lines, which currently experience on-time performance of 75 percent and 71 percent, respectively, would be impacted due to existing peak hour delays on segments of their alignments including Mace Boulevard, East Covell Boulevard, F Street, and Fourteenth Street. Thus, the project would exacerbate currently deficient Unitrans performance with respect to on-time performance targets.

Implementation of the Mitigation Measure 4.13-3(a), which refers to the TDM mitigation measure (Mitigation Measure 4.13-4) to address the VMT impact associated with the Proposed Project/BRPA, would reduce the significance of the above potential impact. However, because the effectiveness of the TDM strategies identified in Mitigation Measure 4.13-3(a) are not known, subsequent vehicle trip reduction effects and, in turn, reductions to delays to transit, cannot be guaranteed. Additionally, the improvements that are necessary to improve transit service and facilities identified in Mitigation Measure 4.13-3(b) would require additional actions and implementation by Unitrans and Yolobus, and the specific improvements identified in the transit service and facilities plan and their efficacy are not known at this time. Therefore, due to the uncertainties regarding the ability for the aforementioned mitigation measure to reduce the impact

to a less-than-significant level, impacts related to transit facilities and services would be considered significant and unavoidable.

Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b). (Impact 4.13-4)

According to the TIS, the residential component of the Proposed Project would generate residential VMT per capita 4.5 percent and 45.4 percent above baseline local and regional residential VMT per capita averages, respectively, which are the applicable thresholds of significance. Similarly, the BRPA would generate residential VMT per capita 8.9 percent and 51.2 percent above baseline local and regional residential VMT per capita averages. As such, the residential component of the Proposed Project/BRPA would generate residential VMT per capita exceeding 15 percent below baseline local and regional residential VMT per capita averages. Compliance with Mitigation Measure 4.13-4 would reduce project-generated VMT per resident by implementing TDM strategies to reduce external vehicle trips generated by project residents. However, the effectiveness of the TDM strategies cannot be quantified at this time and subsequent vehicle trip reduction effects cannot be guaranteed. Moreover, many TDM strategies are site-specific and rely on implementation and/or adoption by private entities and other agencies. Even with TDM strategy implementation, it is uncertain if TDM strategies would be able to sufficiently reduce VMT generated by the project to levels below the thresholds of significance. Therefore, due to uncertainties regarding the ability for the mitigation measure to reduce VMT to a less-than-significant level, VMT impacts would be considered significant and unavoidable.

Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit facilities and services, associated with cumulative development of the Proposed Project or the BRPA in combination with future buildout of the City of Davis. (Impact 4.13-8)

Under cumulative conditions, substantial increases in background vehicle travel activity would occur on study area roadways due to reasonably foreseeable land use development elsewhere in and around the City of Davis. Together with the increase in vehicle travel activity caused by the Proposed Project/BRPA, increases in vehicle travel activity would cause adverse effects to transit operations by increasing transit service delay and running times in a manner inconsistent with Unitrans performance standards. Growth in background vehicle travel activity would not change adverse effects to transit services attributable to the Proposed Project/BRPA and the transit service and facility impact analysis discussed above under Impact 4.13-3 would similarly apply to cumulative conditions. Therefore, the Proposed Project and the BRPA, in combination with future buildout of the City of Davis, could conflict with a program, plan, ordinance, or policy addressing transit facilities and services resulting in cumulatively considerable and significant impacts.

Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) associated with cumulative development of the Proposed Project or the BRPA in combination with future buildout of the City of Davis. (Impact 4.13-9)

As discussed above, the Proposed Project/BRPA would cause a significant impact to VMT by virtue of resulting in residential VMT per capita measuring above the applicable significance thresholds relative to existing local and regional residential VMT per capita averages. Because the VMT impact analysis for Existing Plus Project conditions provide VMT significance thresholds based on existing development levels from an efficiency-based project-specific VMT analysis, an

identical impact finding for a cumulative VMT analysis can be implied. Therefore, both the Proposed Project and the BRPA, in combination with future buildout of the City of Davis, would conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b) and a cumulatively considerable and significant impact would occur.

Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) associated with cumulative development of the Proposed Project or the BRPA in combination with future buildout of the City of Davis. (Impact 4.13-11)

With more people traveling to and from the site due to new travel demand generated by the Proposed Project/BRPA in combination with reasonably foreseeable development in the surrounding area, the volume of traffic across modes of transportation, e.g. walking, bicycle, vehicle, could reduce travel speeds and mixing between transportation modes in the area could increase, which could increase conflicts between bicyclists, pedestrians and vehicles at locations such as the I-80/Mace Boulevard interchange. To the extent possible, Caltrans strives to prevent off-ramp queues from extending to the freeway mainline in order to minimize the potential for associated adverse operational and safety effects, and the abovementioned effects to I-80 and the surrounding roadways could conflict with Caltrans performance expectations as shown in Table 4.13-11 in Chapter 4.13 Transportation, of this EIR.

Implementation of Mitigation Measure 4.13-11 would reduce the Proposed Project/BRPA's contribution to cumulative impacts by reducing the potential for conflicts involving pedestrians and bicyclists at the Mace Boulevard/I-80 interchange area and off-ramp queues from spilling back onto the SR 113 and I-80 mainlines. However, elements of Mitigation Measure 4.13-11 would be subject to final approval and actions by Caltrans due to conflicts with Caltrans rights-of way. Moreover, because the remaining fair share contributions needed for the construction of the improvements have not been identified by the relevant lead agency, fair share payment by the project applicant would not ensure construction. Because Mitigation Measure 4.13-11 cannot be guaranteed, the impact would remain significant and unavoidable.

7. Alternatives Analysis

7. ALTERNATIVES ANALYSIS

7.1 INTRODUCTION

The Alternatives Analysis chapter of the EIR includes consideration and discussion of a range of reasonable alternatives to the proposed project, as required pursuant to CEQA Guidelines Section 15126.6. Generally, the chapter includes discussions of the following: the purpose of an alternatives analysis; alternatives considered but dismissed; a reasonable range of project alternatives and their associated impacts in comparison to the proposed project's impacts; and the environmentally superior alternative.

7.2 PURPOSE OF ALTERNATIVES

The primary intent of the alternatives evaluation in an EIR, as stated in Section 15126.6(a) of the CEQA Guidelines, is to "[…] 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." In the context of CEQA Guidelines Section 21061.1, "feasible" is defined as:

> [...]capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors.

Section 15126.6(f) of CEQA Guidelines states, "The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice." Section 15126.6(f) of CEQA Guidelines further states:

> The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determined could feasibly attain most of the basic objectives of the project.

In addition, an EIR is not required to analyze alternatives when the effects of the alternative "cannot be reasonably ascertained and whose implementation is remote and speculative."

The CEQA Guidelines provide the following guidance for discussing alternatives to a proposed project:

- An 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 (CEQA Guidelines Section 15126.6[a]).
- Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code [PRC] Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if

these alternatives would impede to some degree the attainment of the project objectives, or would be more costly (CEQA Guidelines Section 15126.6[b]).

- The EIR should briefly describe the rationale for selecting the alternatives to be discussed. The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination […] Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts (CEQA Guidelines Section 15126.6[c]).
- The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison (CEQA Guidelines Section 15126.6[d]).
- If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed (CEQA Guidelines Section 15126.6[d]).
- The specific alternative of "no project" shall also be evaluated along with its impact. The purpose of describing and analyzing a no project alternative is to allow decision-makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The no project alternative analysis is not the baseline for determining whether the proposed project's environmental impacts may be significant, unless it is identical to the existing environmental setting analysis which does establish that baseline (CEQA Guidelines Section 15126.6[e][1]).
- If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives (CEQA Guidelines Section 15126.6[e][2]).

Project Objectives

Based on the above, reasonable alternatives to the project must be capable of feasibly attaining most of the basic objectives of the project. The Proposed Project is being pursued with the following objectives:

1. Facilitate development of varied housing options, including affordable housing, and in sufficient quantities to meaningfully help to meet the City's Regional Housing Needs Allocation (RHNA) expectations for multiple income levels.
2. Guide urban growth in undeveloped areas closest to the central city to facilitate compact growth and to reduce potential vehicle miles traveled (VMT) and excessive sprawl.
3. Provide educational and other public service facilities to serve the needs of any population growth resulting from facilitated development.
4. Facilitate development that promotes non-vehicular travel and supports active modes of transportation.
5. Plan development to reduce greenhouse gas (GHG) emissions by aligning with the City's 2040 Climate Action and Adaptation Plan.
6. Establish and preserve agricultural buffer areas where proposed development would border existing agricultural areas.
7. Increase City property tax revenue.

Impacts Identified in the EIR

In addition to attaining the majority of project objectives, reasonable alternatives to the Proposed Project must be capable of reducing the magnitude of, or avoiding, identified significant environmental impacts of the Proposed Project. The significant but mitigable and significant and unavoidable impacts identified in the EIR are presented in Table 7-1; the significant and unavoidable impacts identified in the EIR are also presented below.

- ***Aesthetics.*** The EIR determined that the Proposed Project would result in significant and unavoidable impacts related to having a substantial adverse effect on a scenic vista. The panoramic open space/agricultural views available on the project site, while not officially designated by the City as a scenic vista, can nevertheless be considered as such for purposes of CEQA analysis and in recognition of the General Plan EIR's treatment of the issue. Views of the existing scenic vista of the site, as well as the surrounding agricultural area to the northwest, would be substantially affected by the Proposed Project. In addition, the EIR determined that the Proposed Project would result in a cumulatively considerable and significant and unavoidable impact related to having a substantial adverse effect on a scenic vista associated with development of the Proposed Project in combination with future buildout of the City of Davis.

- ***Agricultural Resources.*** The EIR determined that the Proposed Project would result in significant and unavoidable impacts related to the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use or agricultural land as defined in the Cortese-Knox-Hertzberg Act (Government Code Section 56064), even with implementation of mitigation measures. In addition, even with implementation of mitigation, the EIR determined that the Proposed Project would result in a cumulatively considerable and significant and unavoidable impact related to involving changes in the existing environment which, due to their location or nature, could cumulatively result in loss of Farmland to non-agricultural use.

- ***Air Quality, GHG Emissions, and Energy.*** The EIR determined that the Proposed Project would result in significant and unavoidable impacts related to conflicting with or obstructing implementation of the applicable air quality plan during operation of the Proposed Project because the reactive organic gases (ROG) and respirable particulate matter (PM_{10}) emissions would be above the applicable Yolo-Solano Air Quality Management District (YSAQMD) thresholds of significance. Additionally, the EIR determined that, even with implementation of mitigation, the amount of ROG and PM_{10} emissions generated by the Proposed Project would result in a cumulatively considerable and significant and unavoidable net increase of a criteria pollutant for which the project region is in non-attainment under an applicable federal or State ambient air quality standard (AAQS). The EIR also determined that the Proposed Project would result in a cumulatively considerable and significant and unavoidable impact related to the generation of GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs during operation.

- ***Biological Resources.*** The EIR determined that, even with implementation of Mitigation Measures 4.4-15(a) through 4.4-15(c), the Proposed Project would result in a significant

and unavoidable impact related to having a substantial adverse effect on State- or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. In addition, the EIR concluded that a cumulatively considerable and significant and unavoidable impact would occur related to the cumulative loss of habitat for special-status species associated with the Proposed Project.

- ***Noise.*** The EIR determined that, even with the implementation of Mitigation Measure 4.10-1, the Proposed Project would result in a significant and unavoidable impact related to the generation of a substantial temporary increase in ambient noise levels during construction 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.

- ***Population and Housing.*** The EIR determined that the Proposed Project would result in a significant and unavoidable impact related to inducing substantial unplanned population growth in an area, either directly or indirectly, because the increase in population resulting from the Proposed Project would not be within the range of growth projections assumed for the City of Davis. The EIR also concluded that impacts related to cumulative unplanned population growth would be cumulatively considerable and significant and unavoidable.

- ***Transportation.*** The EIR determined that the Proposed Project would result in a significant and unavoidable impact related to conflicting with a program, plan, ordinance, or policy addressing the circulation system, including transit facilities and services, even with the implementation of mitigation, because improvements that are necessary to improve transit service and facilities would require additional actions and implementation by Unitrans and Yolobus, and the specific improvements identified in the transit service and facilities plan and their efficacy are not known at this time. In addition, the EIR determined that the Proposed Project would result in a significant and unavoidable impact related to conflicting or being inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), which is related to VMT. The EIR also determined that the foregoing impacts would also be cumulatively considerable and significant and unavoidable. Finally, the EIR determined that the Proposed Project would result in a cumulatively considerable and significant and unavoidable impact related to substantially increasing hazards due to geometric design features or incompatible uses (i.e., SR 113 and I-80 freeway off-ramp queueing).

7.3 SELECTION OF ALTERNATIVES

The requirement that an EIR evaluate alternatives to the proposed project or alternatives to the location of the proposed project is a broad one; the primary intent of the alternatives analysis is to disclose other ways that the objectives of the project could be attained, while reducing the magnitude of, or avoiding, one or more of the significant environmental impacts of the proposed project. Alternatives that are included and evaluated in the EIR must be feasible alternatives. However, the CEQA Guidelines require the EIR to “set forth only those alternatives necessary to permit a reasoned choice.” As stated in Section 15126.6(a), an EIR need not consider every conceivable alternative to a project. Rather, it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. The CEQA Guidelines provide a definition for “a range of reasonable alternatives” and thus limit the number and type of alternatives that may need to be evaluated in a given EIR. According to the CEQA Guidelines Section 15126.6(f):

> The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determined could feasibly attain most of the basic objectives of the project.

First and foremost, alternatives in an EIR must be feasible. In the context of CEQA Guidelines Section 21061.1, "feasible" is defined as:

> [...] capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors.

Finally, an EIR is not required to analyze alternatives when the effects of the alternative "cannot be reasonably ascertained and whose implementation is remote and speculative."

Alternatives Considered But Dismissed From Further Analysis

Consistent with CEQA, primary consideration was given to alternatives that could reduce significant project impacts, while still meeting most of the basic project objectives.

As stated in Guidelines Section 15126.6(c), among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are:

(i) failure to meet most of the basic project objectives,
(ii) infeasibility, or
(iii) inability to avoid significant environmental impacts.

Regarding item (ii), infeasibility, among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). The aforementioned factors do not establish a fixed limit on the scope of reasonable alternatives.

A Buildout Within City Limits Alternative was considered but dismissed from detailed analysis in this EIR. The reasons for dismissal, within the context of the three above-outlined permissible reasons, are provided below.

Buildout Within City Limits Alternative

The Buildout Within City Limits Alternative would consist of development of the same project components as the Proposed Project within the City of Davis city limits. Because the City does not contain one contiguous plot of land that is currently undeveloped and would be large enough to accommodate all components of the Proposed Project, the Buildout Within City Limits Alternative would include development over multiple vacant and underutilized off-site parcels that are located within the City of Davis.

As the project would not be located all on one site, the Buildout Within City Limits Alternative would not be capable of meeting all of the project objectives, and the opportunity for the project to include a variety of benefits would not occur. For example, the Buildout Within City Limits Alternative would not fully meet Project Objective #3 in that it would not include construction of a

fourth fire station within the north Davis area. This fire station is not only needed to serve the Proposed Project, but also existing communities within north Davis that are outside of the City's emergency response time goals.

Most importantly, and the primary reason for rejection, is the City's lack of available vacant and underutilized sites to accommodate the Proposed Project. For example, Table 62, Vacant and Underutilized Sites, City of Davis, September 2023, of the Davis Housing Element, identifies a total residential unit capacity of 242 units for the vacant and underutilized sites within the City.[1] However, as noted, Table 62 does not include the capacity in the Downtown area that was created with the Downtown Davis Specific Plan. Appendix E of the Housing Element identifies a potential build-out capacity for the Downtown Davis Specific Plan area of 780 units. While this would close the gap between the Proposed Project's 1,800 units and 242 residential unit capacity in Table 62 of the Housing Element, only approximately 50 percent of the total Project units could be accommodated.

Overall, the Buildout Within City Limits Alternative would not be considered a feasible alternative to the Proposed Project and has been dismissed from further evaluation.

Alternatives Considered in this EIR

The following alternatives are considered and evaluated in this section:

- Biological Resources Preservation Alternative (BRPA);
- No Project (No Build) Alternative;
- Lower Number of Units – Same Footprint Alternative;
- Agricultural Resource Preservation Alternative;
- Higher Number of Units – Same Footprint Alternative; and
- Off-Site Project Alternative.

Each of the project alternatives is described in detail below, with a corresponding analysis of each alternative's impacts in comparison to the Proposed Project. As discussed above, reasonable alternatives to the project must be capable of avoiding or substantially lessening one or more of the significant effects of the Proposed Project. Therefore, this chapter focuses on the resource areas and specific impacts listed above that have been identified in this EIR for the Proposed Project as requiring mitigation to reduce significant impacts to less than significant, or have been found to remain significant and unavoidable. While an effort has been made to include quantitative data for certain analytical topics, where possible, qualitative comparisons of the various alternatives to the project are primarily provided. Such an approach to the analysis is appropriate as evidenced by CEQA Guidelines Section 15126.6(d), which states that the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed.

The analysis evaluates impacts that would occur with the alternatives relative to the significant impacts identified for the Proposed Project. When comparing the potential impacts resulting from implementation of the foregoing alternatives, the following terminology is used:

- "Fewer" = Less than Proposed Project;
- "Similar" = Similar to Proposed Project;

[1] City of Davis. *2021-2029 Housing Element, City of Davis*. Adopted December 5, 2023.

- "Greater" = Greater than Proposed Project; and
- "None" = No impact.

When the term "fewer" is used, the reader should not necessarily equate this to elimination of significant impacts identified for the Proposed Project. For example, in many cases, an alternative would reduce the relative intensity of a significant impact identified for the Proposed Project, but the impact would still be expected to remain significant under the alternative, thereby requiring mitigation. In other cases, the use of the term "fewer" may mean the actual elimination of an impact identified for the Proposed Project altogether. Similarly, use of the term "greater" does not necessarily imply that an alternative would require additional mitigation beyond what has been required for the Proposed Project. To the extent possible, this analysis will distinguish between the two implications of the comparative words "fewer" and "greater."

See Table 7-1 at the end of this chapter for a comparison of the environmental impacts resulting from the considered alternatives and the Proposed Project.

Biological Resources Preservation Alternative

As discussed in Chapter 3, Project Description, of this EIR, the Biological Resources Preservation Alternative (BRPA) would include a preserved Natural Habitat Area, comprised of 47.1 acres of Alkali Prairie Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) land cover that occurs around an alkali playa south of Channel A. The areas within the BRPA site outside of the preserved Natural Habitat Area would consist of a mixed-use development community that includes a total of 1,800 dwelling units, comprised of both affordable and market-rate single- and multi-family residences across various residential neighborhoods. In addition, the BRPA would include the development of neighborhood services; public, semi-public, and educational uses; associated on-site roadway improvements; utility improvements; parks, open space, and greenbelts; and off-site improvements. Similar to the Proposed Project, the BRPA would require City approval of a Sphere of Influence (SOI) Amendment, Annexation, General Plan Amendment, Pre-zoning, and Development Agreement. An equal-weight analysis of the BRPA is provided throughout this EIR and, thus, the potential impacts of the BRPA as compared to the Proposed Project are adequately analyzed, and are not addressed further in this chapter. Nonetheless, Table 7-1 at the end of this chapter includes a comparison of the environmental impacts of the BRPA to the Proposed Project and the other alternatives considered in this chapter.

No Project (No Build) Alternative

CEQA requires the evaluation of the comparative impacts of the "No Project" alternative (CEQA Guidelines Section 15126.6[e]). Analysis of the no project alternative shall:

> "[…] discuss […] existing conditions […] as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services." (*Id.*, subd. [e][2]) "If the project is other than a land use or regulatory plan, for example a development project on identifiable property, the 'no project' alternative is the circumstance under which the project does not proceed. Here the discussion would compare the environmental effects of the property remaining in the property's existing state versus environmental effects that would occur if the project were approved. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this 'no project' consequence should be discussed. In certain instances, the no project alternative means 'no build,' wherein the existing environmental setting is maintained.

> However, where failure to proceed with the project would not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project's non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment." (*Id.*, subd. [e][3][B]).

The Lead Agency has decided to evaluate a No Project (No Build) Alternative, which assumes that the current conditions of the project site would remain, and the site would not be developed. As described in this EIR, the project site consists of generally flat, agricultural land, with an alkali playa located south of Channel A. The 497.6-acre project site is currently located in an unincorporated portion of Yolo County; while the majority of the project site is located within the City of Davis SOI, the 118.4-acre Urban Agricultural Transition Area (UATA) is located outside of the City's SOI. The southern portion of the site is developed with one agricultural structure and the site is bisected by a private access road and a City of Davis drainage course. In addition, a Pacific Gas and Electric Co. (PG&E) easement occurs along the western and northern site boundaries. Under the No Project (No Build) Alternative, the existing on-site agricultural operations would be anticipated to continue. As such, under the Alternative, the entire project site is conservatively assumed to be subject to continuous disturbance related to discing, planting, and harvesting. The No Project (No Build) Alternative would not meet any of the project objectives.

Aesthetics

The No Project (No Build) Alternative would consist of the continuation of the existing conditions of the project site. The panoramic open space/agricultural views available on the project site, while not officially designated by the City as a scenic vista, can nevertheless be considered as such for purposes of CEQA analysis and in recognition of the General Plan EIR's treatment of the issue. Because the No Project (No Build) Alternative would not introduce any new structures or buildings on the site, the Alternative would not have a substantial adverse effect on a scenic vista. In addition, the creation of new sources of light or glare would not occur, and Mitigation Measures 4.1-4 and 4.1-6 would not be required. Thus, impacts related to Aesthetics would not occur under the No Project (No Build) Alternative. The significant and unavoidable (project-level and cumulative) impact related to Aesthetics would not occur under the No Project (No Build) Alternative.

Agricultural Resources

The No Project (No Build) Alternative would consist of the continuation of the existing conditions of the project site. Pursuant to the California Department of Conservation (DOC) Important Farmland Finder, approximately 323 acres of the project site are mapped as Prime Farmland. In addition, the entire project site meets the City of Davis's definition of "agricultural land" and the Yolo LAFCo's definition of Prime Farmland. The No Project (No Build) Alternative would not result in farmland conversion, and thus, agricultural activities would be able to continue to occur. Therefore, the significant and unavoidable impacts related to the conversion of farmland to non-agricultural uses, as well as impacts associated with involving changes in the existing environment which, due to their location or nature, could cumulatively result in loss of Farmland to non-agricultural use, would be eliminated under the Alternative.

Overall, impacts related to Agricultural Resources would not occur under the No Project (No Build) Alternative.

Air Quality, GHG Emissions, and Energy

Because the No Project (No Build) Alternative would not involve development of the project site, operational activities anticipated for the Proposed Project would not occur under the Alternative.

Therefore, the Alternative would not result in operational emissions associated with the Proposed Project that would generate emissions of ROG or PM_{10} in exceedance of the YSAQMD's significance thresholds, nor result in a cumulatively considerable and significant and unavoidable net increase of a criteria pollutant for which the project region is in non-attainment under an applicable federal or State AAQS, and Mitigation Measures 4.3-2 and 4.3-6 would not be required. However, the current agricultural operations involve activities that generate dust and result in emissions of criteria air pollutants. For example, emissions from limited agricultural vehicle trips, discing, and harvesting would result in emissions of criteria air pollutants. Due to the low intensity of current operations, such emissions would be much less intensive under the No Project (No Build) Alternative than what could occur under the Proposed Project. Therefore, while the No Project (No Build) Alternative would result in emissions of air pollutants, any potential impacts associated with such would be substantially less than what is expected for the Proposed Project.

The existing on-site agricultural operations involve limited activities that result in GHG emissions. However, due to the increase in daily vehicle trips associated with the Proposed Project, GHG emissions associated with continued operation of the existing on-site agricultural activities would generate substantially less GHG emissions than the Proposed Project. As such, the potential construction impact related to the generation of GHG emissions that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, would be reduced as compared to the Proposed Project. Similarly, the cumulatively considerable and significant and unavoidable operational impact identified for the Proposed Project related to the generation of GHG emissions that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, would be reduced as compared to the Proposed Project. Thus, the impacts identified for the Proposed Project related to air quality and GHG emissions would be reduced under the No Project (No Build) Alternative, and Mitigation Measures 4.3-7(a), and 4.3-8 would not be required. Overall, the No Project (No Build) Alternative would result in fewer impacts related to Air Quality, GHG Emissions, and Energy as compared to the Proposed Project.

Biological Resources

Under the No Project (No Build) Alternative, construction of the proposed urban uses would not occur on the project site. However, agricultural operations could continue to occur on-site and impact suitable habitat for special-status species, such as the on-site alkali playa. It is reasonably anticipated that the agricultural operations could impact protected species, including but not necessarily limited to, special-status plants, Crotch's bumble bee, special-status branchiopods, monarch butterfly, valley elderberry longhorn beetle (VELB), western spadefoot, northwestern pond turtle, and burrowing owl. Nevertheless, the extent of agricultural operations may vary over time, and it is reasonable to conclude that the urban development proposed by the Proposed Project would have greater impacts to biological resources.

The No Project (No Build) Alternative would not include removal of trees and, thus, would not conflict with the City's Tree Ordinance, and Mitigation Measure 4.4-17 would not be required. In addition, it is not anticipated that this Alternative would impact Channel A, and thus, riparian habitat would not be adversely affected, eliminating the need for Mitigation Measure 4.4-14. Further, because development of the site would not occur, and agricultural operations are currently allowed on-site, the No Project (No Build) Alternative would not have the potential to conflict with the provisions of the Yolo County HCP/NCCP. However, because the existing on-site agricultural operations would have the potential to result in the disturbance of on-site

wetlands, the Alternative would have the potential to result in substantial adverse effects on federal or State protected aquatic resources.

Overall, the Proposed Project would result in the potential to impact a broader range of protected species; thus, the No Project (No Build) Alternative would result in fewer impacts to Biological Resources as compared to the Proposed Project.

Cultural and Tribal Cultural Resources

The No Project (No Build) Alternative would consist of the continuation of agricultural operations on the project site, which would involve disturbance of soils through planting, discing, etc. Disturbance of soils through agricultural operations is, in some ways, similar to the construction activities that would occur as part of the Proposed Project. However, unlike the existing on-site agricultural operations, construction of the Proposed Project would involve excavation work associated with installation of utility infrastructure, including water and sewer lines. Such excavation work would require a greater depth of disturbance than the agricultural operations. The additional depth of disturbance would increase the likelihood of encountering previously unknown cultural and tribal cultural resources. Nonetheless, the existing on-site agricultural operations would have the potential to cause a substantial adverse change in the significance of an unique archaeological or tribal cultural resource, or disturb human remains. Because the off-site improvements included as part of the Proposed Project would not occur under the No Project (No Build) Alternative, impacts to a segment of the California Pacific Railroad (P-57-000977) would not occur, and, thus, the Alternative would not have the potential to cause a substantial adverse change in the significance of a historical resource, and Mitigation Measure 4.5-1 would not be required.

Overall, the No Project (No Build) Alternative would result in fewer impacts related to Cultural and Tribal Resources as compared to the Proposed Project.

Geology and Soils

Because the No Project (No Build) Alternative would not include grading or other ground-disturbing activities associated with development, impacts related to being located on a geological 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, or be located on expansive soil, would not occur. In addition, the Alternative would not have the potential to destroy a unique paleontological resource or site or unique geologic feature. Because development would not occur, Mitigation Measure 4.6-3, requiring preparation and implementation of a final geotechnical engineering report, would not be necessary. Nor would Mitigation Measure 4.6-4 be required, because ground-disturbing activities associated with construction would not occur and any subsurface paleontological resources would not be encountered. Overall, no impacts identified for the Proposed Project related to Geology and Soils would occur under the No Project (No Build) Alternative.

It is noted that, because the existing on-site agricultural operations would continue under the No Project (No Build) Alternative, such agricultural operations could result in soil erosion and/or the loss of topsoil.

Hazards and Hazardous Materials

The No Project (No Build) Alternative would not include any development; thus, the Alternative would not create a significant hazard to the public or the environment through reasonably

foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment related to organochloride pesticides (OCPs), asbestos-containing materials (ACMs), lead-based paints (LBPs) and lead-affected soil, and potential underground storage tanks (USTs) associated with the existing on-site agricultural structure, as well as on-site water wells and monitoring wells, and a buried natural gas pipeline. As such, Mitigation Measures 4.7-2(a) through 4.7-2(f) would not be required. It should be noted that any such hazardous materials located on-site would remain on-site under the No Project (No Build) Alternative. As such, the project site would not undergo any remediation efforts, potentially reducing the project site's suitability for any future development.

Overall, no impacts related to Hazards and Hazardous Materials would occur under the No Project (No Build) Alternative.

Hydrology and Water Quality

The No Project (No Build) Alternative would not alter existing site conditions and, thus, would not have the potential to result in construction or operational impacts related to water quality. Thus, Mitigation Measures 4.8-1 and 4.8-2 would not be required. In addition, because the project site would be undeveloped, the Alternative would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in flooding on- or off-site; 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; redirect flood flows, or in flood hazard, tsunami, or seiche zone, risk release of pollutants due to project inundation. As such, Mitigation Measures 4.8-4 and 4.8-5 would not be required. As discussed in Chapter 4.8, Hydrology and Water Quality, of this EIR, the on-site drainage system associated with the Proposed Project is anticipated to reduce flood flows that currently overtop Pole Line Road. Under the No Project (No Build) Alternative, baseline conditions would not change, and, therefore, the flood flow reduction benefit associated with the Proposed Project would not occur under the Alternative.

Overall, no impacts related to Hydrology and Water Quality would occur under the No Project (No Build) Alternative.

Noise

Because the No Project (No Build) Alternative would not include any construction activities on-site, the Alternative would not have the potential to result in the generation of a substantial temporary 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. As such, Mitigation Measure 4.10-1 would not be required, and the significant and unavoidable impact identified for the Proposed Project would not occur. However, for this Alternative, periodic noise would be generated on-site due to ongoing agricultural activities. These limited operational noises are anticipated to be fewer than the operational noise generated by the Proposed Project. Overall, fewer impacts related to Noise would occur under the No Project (No Build) Alternative.

Population and Housing

Because the No Project (No Build) Alternative would not include any development on-site, the Alternative would not induce substantial unplanned population growth either directly or indirectly, and would not result in cumulative unplanned population growth. Therefore, the significant and

unavoidable and cumulatively considerable and significant and unavoidable impacts identified for the Proposed Project would not occur under the Alternative. Overall, no impacts related to Population and Housing would occur under the No Project (No Build) Alternative.

Transportation

The No Project (No Build) Alternative would not generate construction or operational traffic on local roadways and, thus, would not conflict with a program, plan, ordinance, or policy addressing the circulation system during construction activities, or related to pedestrian and bicycle facilities. As such, Mitigation Measures 4.13-1, 4.13-2(a) through 4.13-2(f), and 4.13-7 would not be required. In addition, because development of the project site would not occur, the significant and unavoidable and/or cumulatively considerable and significant and unavoidable impacts identified for the Proposed Project related to conflicting with a program, plan, ordinance, or policy addressing the circulation system, including transit facilities and services, conflicting with CEQA Guidelines Section 15064.3, subdivision (b), and substantially increasing hazards due to a geometric design feature or incompatible uses, would not occur. As such, Mitigation Measures 4.13-3(a), 4.13-3(b), 4.13-4, 4.13-8, 4.13-9, and 4.13-11 would not be required. Overall, impacts related to Transportation would not occur under the No Project (No Build) Alternative.

Nonetheless, it is noteworthy that the bicycle and pedestrian improvements included in the Proposed Project would not be constructed under this Alternative.

Lower Number of Units – Same Footprint Alternative

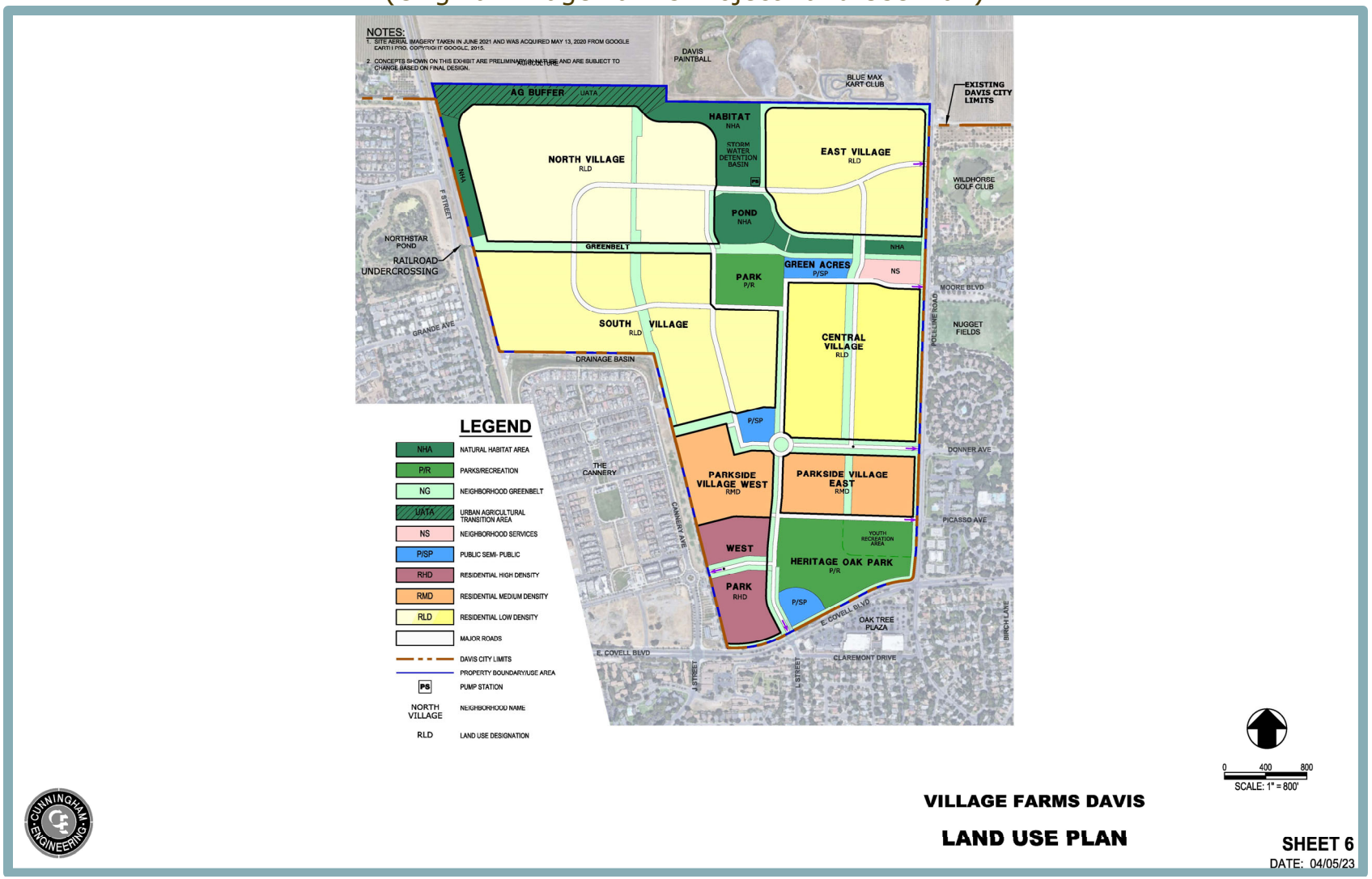
The Lower Number of Units – Same Footprint Alternative would consist of the development of 1,395 dwelling units, including 210 affordable housing units, on the same development footprint as the Proposed Project. This Alternative is consistent with the applicant's original application for the Proposed Project (see Figure 7-1). In response to early feedback from the Davis City Council, the number of units was increased by 405 units to a total of 1,800, which now represents the Proposed Project evaluated throughout the Draft EIR. Similar to the Proposed Project, the Lower Number of Units – Same Footprint Alternative would include the development of neighborhood services; public, semi-public, and educational uses; associated on-site roadway improvements; utility improvements; parks, open space, and greenbelts; and off-site improvements.

Because the Lower Number of Units – Same Footprint Alternative would include development of the project site with the same types of uses, all of the project objectives would be met. However, because the Alternative would include the development of 405 fewer residential units as compared to the Proposed Project, including 300 fewer affordable housing units, VMT per capita would be increased (see Transportation discussion below for more detail), and a reduced amount of property tax revenue would be generated. As such, Project Objectives 1, 2, and 7 would be met to a lesser degree than under the Proposed Project.

Aesthetics

The Lower Number of Units – Same Footprint Alternative would consist of the development of the project site with similar uses to the Proposed Project, with the exception of 405 fewer residential units. As such, similar to the Proposed Project, the Alternative would introduce new structures and buildings on the site that would disrupt the existing panoramic open space/agricultural views available on the project site. Therefore, the Lower Number of Units – Same Footprint Alternative would have a similar potential as the Proposed Project to have a substantial adverse effect on a scenic vista, and feasible mitigation still would not exist to reduce the impact to a less-than-significant level.

Figure 7-1
Lower Number of Units – Same Footprint Alternative
(Original Village Farms Project Land Use Plan)



Thus, the project-specific and cumulative significant and unavoidable impacts related to scenic vistas would still occur under the Alternative. In addition, the creation of new sources of substantial light or glare would occur under the Alternative, and Mitigation Measures 4.1-4 and 4.1-6 would be required.

Overall, impacts related to Aesthetics would be similar under the Lower Number of Units – Same Footprint Alternative as compared to the Proposed Project, including the identified significant and unavoidable impacts.

Agricultural Resources

The Lower Number of Units – Same Footprint Alternative would include development of the project site with similar uses as the Proposed Project, and would include the same development footprint. Therefore, the Alternative would result in similar significant and unavoidable impacts related to the conversion of farmland to non-agricultural uses, as well as impacts associated with involving changes in the existing environment which, due to their location or nature, could cumulatively result in loss of Farmland to non-agricultural use.

Overall, impacts related to Agricultural Resources would be similar under the Lower Number of Units – Same Footprint Alternative as compared to the Proposed Project, and Mitigation Measures 4.2-1 and 4.2-4 would still be required.

Air Quality, GHG Emissions, and Energy

The Lower Number of Units – Same Footprint Alternative would include development of the project site with similar uses as the Proposed Project. Although the Alternative would include the development of 405 fewer units than currently proposed, because the development footprint of the Alternative would be the same as the Proposed Project, potential impacts related to generating GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflicting with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs during construction, would be similar to the Proposed Project, and Mitigation Measure 4.3-7(a) would still be required.

Because the Lower Number of Units – Same Footprint Alternative would include the development of 405 fewer units than the Proposed Project, emissions of ROG and PM_{10}, as well as emissions of GHGs associated with operation of the Alternative, would be reduced as compared to the Proposed Project. However, even with the reduction in residential units, operational emissions associated with the Alternative would not significantly decrease. As such, the foregoing impacts would remain significant and unavoidable and/or cumulatively considerable, and implementation of Mitigation Measures 4.3-2, 4.3-6, and 4.3-8 would still be required.

Overall, impacts related to air quality, GHG emissions, and energy would be similar under the Lower Number of Units – Same Footprint Alternative as compared to the Proposed Project.

Biological Resources

As shown in Figure 7-1, although the Lower Number of Units – Same Footprint Alternative would include the development of 405 fewer units than the Proposed Project, the development footprint would be similar. Although fewer units are proposed, the Alternative would include a greater number of single-family units developed at a lower residential density than the development under the Proposed Project. As such, the residential lots would be larger under the Alternative than the Proposed Project and would be more spread out, and the entirety of the site currently proposed

for development, including the intervening spaces between residential units, would be subject to disturbance. Therefore, similar to the Proposed Project, the Lower Number of Units – Same Footprint Alternative would result in a similar disturbance of on-site habitat and would have the potential to impact special-status plants, Crotch's bumble bee, special-status branchiopods, monarch butterfly, VELB, western spadefoot, northwestern pond turtle, tricolored blackbird, burrowing owl, Swainson's hawk, white-tailed kite, and other birds protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFGC), special-status roosting bats, and American badger. In addition, because the Lower Number of Units – Same Footprint Alternative would result in the same development footprint as the Proposed Project, the impact identified for the Proposed Project related to having a substantial adverse effect on State- or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means, would still occur under the Alternative and, even with implementation of Mitigation Measures 4.4-15(a) through 4.4-15(c), the impact would remain significant and unavoidable. As a result, the impact identified for the Proposed Project related to the cumulative loss of wetland habitat for special-status species would remain cumulatively considerable and significant and unavoidable under the Alternative. Furthermore, because the Lower Number of Units – Same Footprint Alternative would include the removal of on-site trees and disturbance of riparian habitat, the Alternative would have similar potential to conflict with the City's Tree Ordinance, result in substantial adverse effects on riparian habitat and/or other sensitive natural communities, and conflict with the provisions of the Yolo HCP/NCCP. As such, Mitigation Measures 4.4-1(a) through 4.4-1(c), 4.4-2 through 4.4-14, 4.4-17, and 4.4-18(a) through 4.4-18(f) would still be required. Therefore, overall impacts to Biological Resources would be similar under the under the Lower Number of Units – Same Footprint Alternative as compared to the Proposed Project.[2]

Cultural and Tribal Cultural Resources

The Lower Number of Units – Same Footprint Alternative would result in the development of the same uses as the Proposed Project, and would include the same development footprint. Similar to the Proposed Project, the Lower Number of Units – Same Footprint Alternative would result in on- and off-site disturbance to accommodate new development. Therefore, Mitigation Measures 4.5-1, 4.5-2, 4.5-3, and 4.5-4(a) through 4.5-4(c) would still apply to the Alternative to mitigate the potentially significant impact associated with the potential to cause a substantial adverse change in the significance of a historical, unique archaeological, or tribal cultural resource, or disturb human remains during construction. Overall, potential impacts related to Cultural and Tribal Cultural Resources would be similar under the Lower Number of Units – Same Footprint Alternative as compared to the Proposed Project.

Geology and Soils

As noted above, the Lower Number of Units – Same Footprint Alternative would result in the development of the same uses as the Proposed Project, and would include the same development footprint. However, the Alternative would result in the development of 405 fewer

[2] Because the BRPA would result in the preservation of the 47.1-acre Natural Habitat Area, the BRPA would include a reduced development footprint as compared to the Lower Number of Units – Same Footprint Alternative. Therefore, the BRPA could result in a reduced impact to multiple special-status species, including, but not limited to, burrowing owl, monarch butterfly, Crotch's bumble bee, Swainson's hawk, and white-tailed kite. The BRPA would result in the preservation of a greater amount of wetlands. Other potential impacts related to biological resources, such as the potential to conflict with the City's Tree Ordinance and to conflict with the provisions of the Yolo HCP/NCCP, would be similar under the BRPA as compared to the Lower Number of Units – Same Footprint Alternative. Overall, the BRPA would result in fewer impacts related to Biological Resources as compared to the Lower Number of Units – Same Footprint Alternative.

residential units than the Proposed Project and, thus, would expose a reduced number of individuals to potential geological hazards. Consequently, the potential for the Alternative to result in impacts related to being located on a geological 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, or be located on expansive soil, would be reduced as compared to the Proposed Project. The Alternative's potential to destroy a unique paleontological resource or site or unique geologic feature would be similar to the Proposed Project. As such, Mitigation Measures 4.6-3 and 4.6-4 would still be required. Overall, the Lower Number of Units – Same Footprint Alternative would result in fewer impacts related to Geology and Soils as compared to the Proposed Project.

Hazards and Hazardous Materials

Because the development footprint for the Lower Number of Units – Same Footprint Alternative would be the same as compared to the Proposed Project, all recognized environmental conditions (RECs) identified on the project site would still occur under the Alternative. Thus, similar to the Proposed Project, the Lower Number of Units – Same Footprint Alternative could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment related to soils associated with OCPs, ACMs, LBPs and lead-affected soil, potential USTs, on-site water wells and monitoring wells, and a buried natural gas pipeline. As such, Mitigation Measures 4.7-2(a) through 4.7-2(f) would still be required. Overall, impacts related to Hazards and Hazardous Materials under the Lower Number of Units – Same Footprint Alternative would be similar to the Proposed Project.

Hydrology and Water Quality

Given that the Lower Number of Units – Same Footprint Alternative would include the same development footprint as the Proposed Project, the potential for the Alternative to result in impacts related to water quality during construction and/or operation would also be the same. Therefore, Mitigation Measures 4.8-1 and 4.8-2 would still be required. In addition, impacts related to substantially altering the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in flooding on- or off-site; 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; redirect flood flows, or in flood hazard, tsunami, or seiche zone, risk release of pollutants due to project inundation, would be similar to the Proposed Project, and Mitigation Measures 4.8-4 and 4.8-5 would still be required. Overall, impacts related to Hydrology and Water Quality under the Lower Number of Units – Same Footprint Alternative would be similar to the Proposed Project.

Noise

Similar to the Proposed Project, the Lower Number of Units – Same Footprint Alternative would include the construction of a mixed-use development within the project site, where similar to the Proposed Project, construction would occur in close proximity to existing residential receptors. As such, the Alternative would have the potential to result in a significant and unavoidable impact related to the generation of a substantial temporary 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, and Mitigation Measure 4.10-1 would still be required. Despite the fact that the Lower Number of Units – Same Footprint Alternative would include the development of 405 fewer units than the Proposed Project, because the development footprint

would be the same, construction activities associated with the Alternative would be of similar duration and intensity as compared to the Proposed Project, and the impact would remain significant and unavoidable. Therefore, overall impacts related to Noise under the Lower Number of Units – Same Footprint Alternative would be similar to the Proposed Project.

Population and Housing

Similar to the Proposed Project, the Lower Number of Units – Same Footprint Alternative would require annexation of the project site into the City of Davis. Because the project site is currently not located within the City of Davis and does not have a City General Plan land use designation, the Lower Number of Units – Same Footprint Alternative has not been included as part of the City's growth projections. As such, the increase in population resulting from the Lower Number of Units – Same Footprint Alternative would not be within the range of growth projections assumed for the City of Davis. Therefore, similar to the Proposed Project, the Alternative would be considered to induce substantial unplanned population growth, and a significant and unavoidable and cumulatively considerable and significant and unavoidable impact would occur. However, as stated above, the Lower Number of Units – Same Footprint Alternative include the development of 405 fewer dwelling units as compared to the Proposed Project; using the 2.57 persons/household average household size for the City of Davis, the Alternative would house approximately 1,041 fewer residents than the Proposed Project. Therefore, while the significant and unavoidable impacts related to Population and Housing would not be avoided under the Lower Number of Units – Same Footprint Alternative, the severity of such impacts would be reduced. Overall, the Lower Number of Units – Same Footprint Alternative would result in fewer impacts related to Population and Housing as compared to the Proposed Project.

Transportation

As previously discussed, the Lower Number of Units – Same Footprint Alternative would entail development of the project site with the same uses as the Proposed Project, with the exception that the Alternative would include 405 fewer dwelling units. Therefore, similar to the Proposed Project, the Lower Number of Units – Same Footprint Alternative would generate construction traffic on local roadways and, thus, would have the potential to conflict with a program, plan, ordinance, or policy addressing the circulation system during construction activities, and Mitigation Measure 4.13-1 would still be required.

As discussed above, the Lower Number of Units – Same Footprint Alternative would include the development of 405 fewer dwelling units as compared to the Proposed Project, and would have the potential to house 1,041 fewer residents than the Proposed Project. Therefore, although the Alternative would increase the use of pedestrian, bicycle, and transit facilities in the site vicinity, which could result in conflicts between vehicles and pedestrians/bicyclists, impacts related to such would not be as severe as what is anticipated to occur under the Proposed Project. Nonetheless, because the Lower Number of Units – Same Footprint Alternative would have the potential to conflict with a program, plan, ordinance, or policy addressing the circulation system, including pedestrian and bicycle facilities, Mitigation Measures 4.13-1, 4.13-2(a) through 4.13-2(f), and 4.13-7 would still be required. In addition, because development of the project site would be similar to the Proposed Project under the Alternative, use of existing transit facilities would be increased as a result of buildout of the Alternative, and the significant and unavoidable and/or cumulatively considerable and significant and unavoidable impacts identified for the Proposed Project related to conflicting with a program, plan, ordinance, or policy addressing the circulation system, including transit facilities and services, would still occur, and Mitigation Measures 4.13-3(a), 4.13-3(b), and 4.13-8 would still be required. Based on the above, although the Lower

Number of Units – Same Footprint Alternative would still have the potential to conflict with a program, plan, ordinance, or policy addressing the circulation system, including pedestrian, bicycle, and transit facilities and services, the severity of such impacts would be decreased as compared to the Proposed Project.

According to the Governor's Office of Planning and Research (OPR) Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory), one method of reducing residential VMT is to increase residential density. The Lower Number of Units – Same Footprint Alternative would include fewer residential units than the Proposed Project and, thus, would be built out at a lower residential density as compared to the Proposed Project. The reduced density under this Alternative would result in increased VMT per capita as compared to the Proposed Project, as follows: 42.0 VMT per capita (Alternative) vs. 31.5 VMT per capita (Proposed Project). Therefore, even with implementation of Mitigation Measures 4.13-4 and 4.13-9, the Alternative would result in a greater impact related to VMT (i.e., conflicting with CEQA Guidelines Section 15064.3, subdivision (b)), and the impact would remain significant and unavoidable. Overall, potential impacts related to Transportation would be similar under the Lower Number of Units – Same Footprint Alternative as compared to the Proposed Project.

Agricultural Resource Preservation Alternative

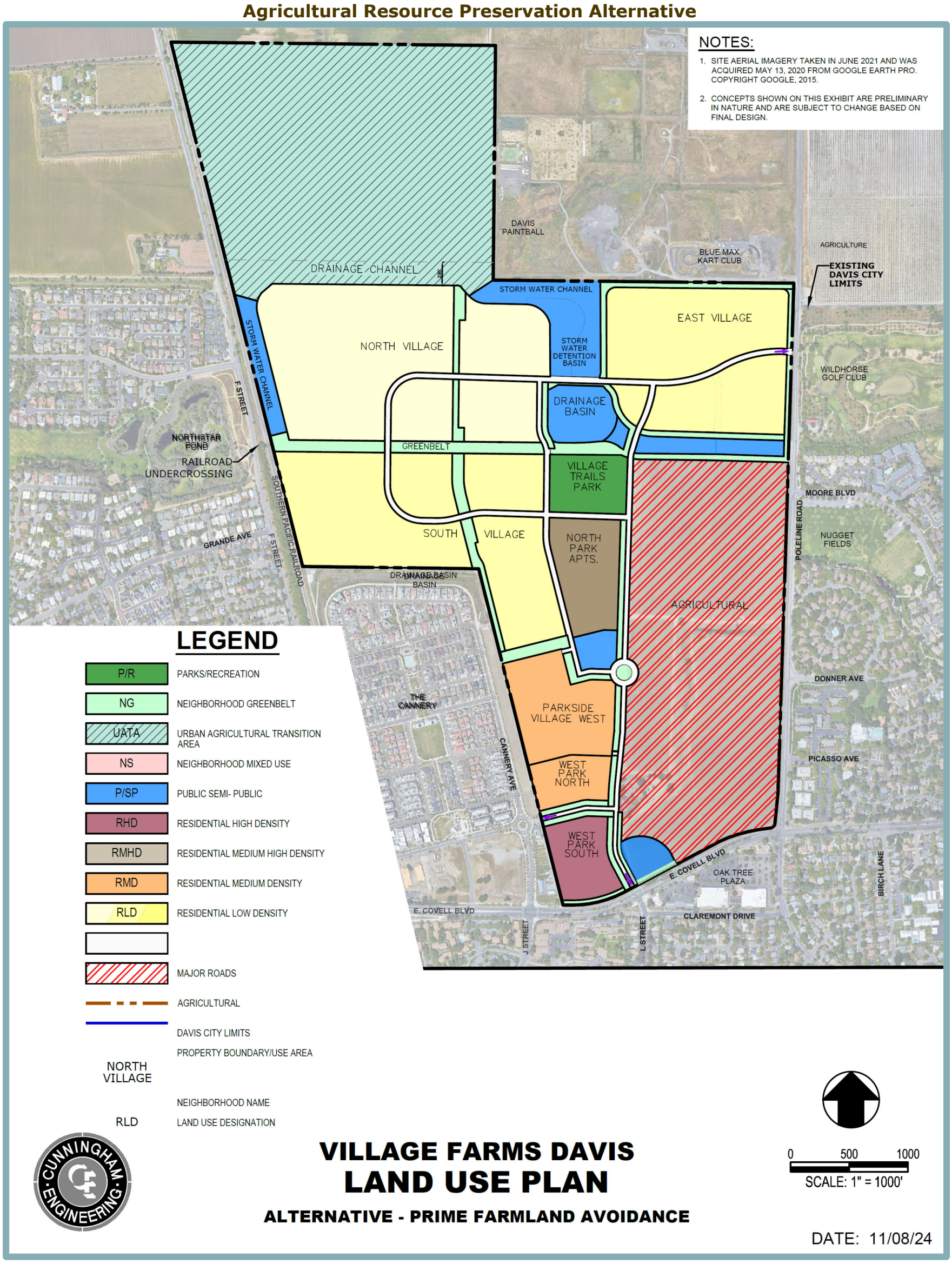
The Agricultural Resource Preservation Alternative would consist of buildout of the same land uses included with the Proposed Project on a reduced development footprint in order to avoid, to the extent feasible, conversion of on-site high-quality agricultural land with non-agricultural uses. Unlike the Proposed Project, the Agricultural Resource Preservation Alternative would not include buildout of the approximately 20.3-acre Heritage Oak Park and Educational Farm, and would not include the development of the 470 Residential Medium Density (RMD) units within the Central Village and Parkside Village East. As such, the Agricultural Resource Preservation Alternative would include the development of a total of 1,330 residential units, 470 fewer than the Proposed Project, for a residential density of approximately 8.53 dwelling units per acre (du/ac) (net).

For environmental review purposes under CEQA, the categories of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland constitute "agricultural land." Pursuant to the California Important Farmland Finder, the project site contains approximately 323 acres of Prime Farmland, 9.2 acres of Farmland of Statewide Importance, and 121 acres of Unique Farmland. As discussed in Chapter 4.2, Agricultural Resources, of this EIR, the Proposed Project would result in the conversion of approximately 267 acres of Prime Farmland to non-agricultural use. As shown in Figure 7-2, the site plan has been revised to avoid approximately 102 acres of on-site agricultural land designated Prime Farmland. Because the Agricultural Resource Preservation Alternative would include development of the project site with the proposed uses for the majority of the site, the project objectives would be met; the Alternative would satisfy Objective #6, which is to establish and preserve agricultural buffer areas where proposed development would border existing agricultural areas, to a greater extent than the Proposed Project. However, because the Agricultural Resource Preservation Alternative would include the development of fewer residential units than the Proposed Project, the Alternative would not satisfy Objectives 1, 3, and 7 to the same extent as the Proposed Project.

Aesthetics

The Agricultural Resource Preservation Alternative would result in the development of similar uses to the Proposed Project, with the exception of 470 fewer residential units. In addition, approximately 102 acres of on-site Prime Farmland would not be developed.

Figure 7-2
Agricultural Resource Preservation Alternative



As such, although the Alternative would introduce new structures and buildings on the site that would disrupt the existing panoramic open space/agricultural views available on the project site, a reduced amount of agricultural land would be converted to urban uses under the Agricultural Resource Preservation Alternative. Furthermore, the 102-acre farmland avoidance area is visible from Pole Line Road and East Covell Boulevard; thus, public views of the southeast corner of the project site would remain an open agricultural setting, though it would now have as its backdrop, on-site urban development. Therefore, although the project-specific and cumulative significant and unavoidable impacts related to scenic vistas would still occur under the Alternative, the severity of such impacts would be reduced. In addition, the creation of new sources of substantial light or glare would occur under the Alternative, and Mitigation Measures 4.1-4 and 4.1-6 would be required. Overall, impacts related to Aesthetics would be fewer under the Agricultural Resource Preservation Alternative as compared to the Proposed Project.

Agricultural Resources

As discussed above, although the Agricultural Resource Preservation Alternative would involve the development of similar uses as the Proposed Project, the Alternative would be designed to avoid the development of approximately 102 acres of Prime Farmland (see Figure 7-3). In comparison, the Proposed Project would convert approximately 267 acres of Prime Farmland, which equates to approximately 60 percent more Prime Farmland conversion than the Alternative. Therefore, although the Agricultural Resource Preservation Alternative would result in significant and unavoidable impacts related to the conversion of farmland to non-agricultural uses, as well as impacts associated with involving changes in the existing environment which, due to their location or nature, could cumulatively result in loss of Farmland to non-agricultural use, because a greater amount of Prime Farmland would be preserved under the Alternative than under the Proposed Project, the severity of the aforementioned significant and unavoidable impacts would be reduced under the Agricultural Resource Preservation Alternative.

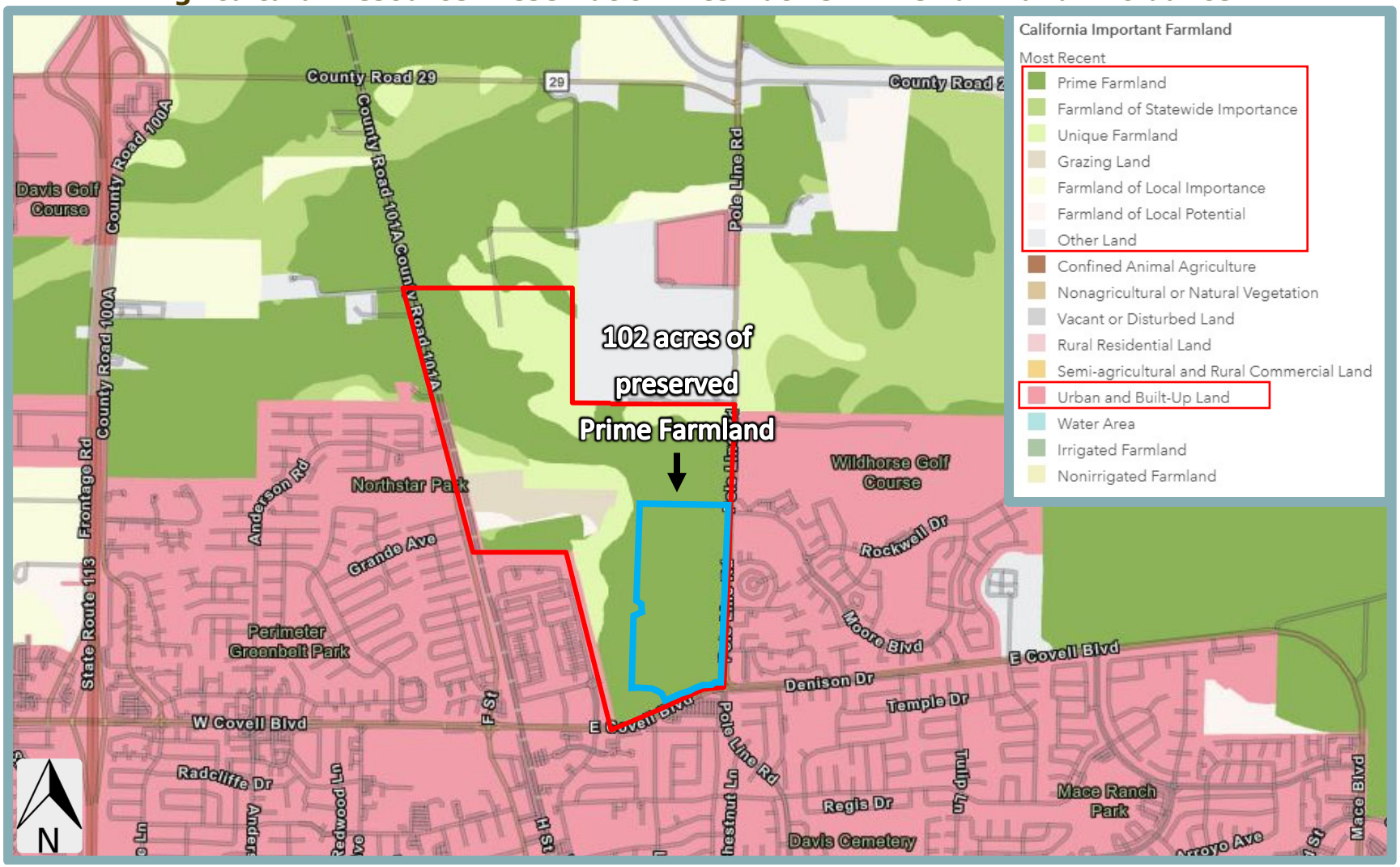
Notwithstanding the above, it is important to note that productive farming of the 102-acre agricultural avoidance area may prove difficult given that the area would be surrounded by existing (off-site) and new (on-site) residential receptors. Agricultural operations can generate noise and dust from equipment operations, and should residents file nuisance complaints with the City, the ability to successfully farm the agricultural avoidance area on an ongoing basis may be comprised and ultimately rendered infeasible. It would be expected that this agricultural avoidance area would need to comply with the City's agricultural buffer requirements, such that a 150-foot-wide minimum buffer would need to be provided along the western and northern boundaries of the avoidance area. Additional buffering could be required depending upon the ultimate widths of East Covell Boulevard and Pole Line Road.

Overall, Agricultural Resource Preservation Alternative would result in fewer impacts related to Agricultural Resources as compared to the Proposed Project, and Mitigation Measures 4.2-1 and 4.2-4 would still be required.

Air Quality, GHG Emissions, and Energy

The Agricultural Resource Preservation Alternative would include development of similar uses to the Proposed Project. However, the Alternative would include the development of 470 fewer units than currently proposed, and would include a smaller development footprint than the Proposed Project.

Figure 7-3
Agricultural Resource Preservation Alternative Prime Farmland Avoidance



Note: Site boundaries are approximate.
Source: California Department of Conservation, Farmland Mapping and Monitoring Program, 2024.

Therefore, although Mitigation Measure 4.3-7(a) would still be required, potential impacts related to generating GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflicting with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs during construction, would be reduced under the Alternative as compared to the Proposed Project.

Similar to the Lower Number of Units – Same Footprint Alternative, because the Agricultural Resource Preservation Alternative would include the development of 470 fewer units than the Proposed Project, emissions of ROG and PM_{10}, as well as emissions of GHGs associated with operation of the Alternative would be reduced as compared to the Proposed Project. However, even with the reduction in residential units, operational emissions associated with the Alternative would not significantly decrease. As such, the impacts related to conflicting with or obstructing implementation of the applicable air quality plan during operation, resulting in a net increase of a criteria pollutant for which the project region is in non-attainment under an applicable federal or State AAQS, and the generation of GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs during operation, would remain significant and unavoidable and/or cumulatively considerable and significant and unavoidable, and implementation of Mitigation Measures 4.3-2, 4.3-6, and 4.3-8would still be required.

Overall, the Agricultural Resource Preservation Alternative would result in fewer impacts related to Air Quality, GHG Emissions, and Energy as compared to the Proposed Project.

Biological Resources

Similar to the Proposed Project, the Agricultural Resource Preservation Alternative would include ground-disturbing activities on the project site and, thus, would have the potential to impact special-status plants, Crotch's bumble bee, special-status branchiopods, monarch butterfly, VELB, western spadefoot, northwestern pond turtle, tricolored blackbird, burrowing owl, Swainson's hawk, white-tailed kite, and other birds protected under the MBTA and CFGC, special-status roosting bats, and American badger, and would have a similar potential to conflict with the provisions of the Yolo HCP/NCCP. As such, Mitigation Measures 4.4-1(a) and (b), 4.4-3(a), 4.4-4(a) and (b), 4.4-5(a) and (b), 4.4-6(a), 4.4-8(a), 4.4-9(a) and (b), 4.4-10(a) through (c), 4.4-11(a) through (f), 4.4-12, 4.4-13(a) through (c), and 4.4-18(a) through (g) would still be required.

Because the Agricultural Resource Preservation Alternative would preserve a 102-acre portion of the existing on-site agricultural land, the Alternative would have a reduced impact to some of the foregoing special-status species. For example, the agricultural avoidance area would remain as suitable habitat for species including, but not limited to, burrowing owl, Crotch's bumble bee, and American badger. In addition, the preserved agricultural land would serve as suitable foraging habitat for Swainson's hawk. Finally, the preserved trees within the agricultural avoidance area that would otherwise be removed as part of the Proposed Project would represent suitable nesting habitat for special-status roosting bats, Swainson's hawk, white-tailed kite, and other birds protected under the MBTA and CFGC.

Although the Agricultural Resource Preservation Alternative would result in a reduced development footprint as compared to the Proposed Project, the Alternative would not avoid any of the riparian habitat located along Channel A within the project site. Thus, impacts to riparian resources would be similar under the Agricultural Resource Preservation Alternative as compared to the Proposed Project, and Mitigation Measure 4.4-14 would still be required. The Agricultural Resource Preservation Alternative would not avoid the majority of on-site wetlands, with the

exception of approximately 0.365-acre of Farmed Wetland. As such, the Alternative would not substantially reduce the significant and unavoidable impact to protected wetlands identified for the Proposed Project, and Mitigation Measures 4.4-15(a) through (c) would still be required. Similarly, impacts related to the cumulative loss of wetland habitat for special-status species would remain cumulatively considerable and significant and unavoidable under the Agricultural Resource Preservation Alternative. Although the on-site trees located within the agricultural avoidance area would be preserved under the Agricultural Resource Preservation Alternative, the majority of on-site trees would be removed. Therefore, the Alternative would have a similar potential to conflict with the City's Tree Ordinance as the Proposed Project, and Mitigation Measure 4.4-17 would still be required.

Overall, the Agricultural Resource Preservation Alternative would result in fewer impacts related to Biological Resources as compared to the Proposed Project.[3]

Cultural and Tribal Cultural Resources

The Agricultural Resource Preservation Alternative would include development of the project site with similar uses to the Proposed Project. Although the Alternative would result in a decreased overall disturbance area relative to the Proposed Project, because the Alternative would include similar consideration for off-site grade-separated improvements, the same potential exists for the Alternative to result in an impact to a segment California Pacific Railroad, and, thus, could cause similar impacts related to a substantial adverse change in the significance of a historical resource. As such, Mitigation Measure 4.5-1 would still be required. However, because the development footprint would be reduced, the potential for development of the Agricultural Resource Preservation Alternative to encounter previously unrecorded archaeological or tribal cultural resources would be reduced as compared to the Proposed Project. In addition, according to the Cultural Resources Study prepared for the Proposed Project, the agricultural avoidance area overlaps with the majority of the area anticipated to have the highest potential to contain previously unrecorded cultural and tribal cultural resources. Therefore, by avoiding the high-potential areas, the Alternative would have a reduced potential than the Proposed Project to cause a substantial adverse change in the significance of a unique archaeological or tribal cultural resource, or disturb human remains during construction. Nonetheless, Mitigation Measures 4.5-2, 4.5-3, and 4.5-4(a) through 4.5-4(c) would still be required. Overall, the Agricultural Resource Preservation Alternative would result in fewer impacts related to Cultural and Tribal Cultural Resources as compared to the Proposed Project.

Geology and Soils

As noted above, the Agricultural Resource Preservation Alternative would include a smaller overall area of disturbance compared to the Proposed Project and a reduction in 470 residential units. As such, a reduced number of residential units and associated occupants would be subject

[3] Because the Agricultural Resource Preservation Alternative would result in less on-site disturbance as compared to the BRPA, impacts to the majority of special status species could be reduced under the Agricultural Preservation Alternative. The Agricultural Resource Preservation Alternative would result in the disturbance of a similar amount of riparian habitat and the removal of a similar number of on-site trees as compared to the BRPA, and, thus, impacts related to such would be similar under both Alternatives. However, the BRPA would result in less disturbance of on-site aquatic resources and wetlands, in particular, the alkali wetlands, than the Agricultral Resource Preservation Alternative, and the significant and unavoidable impact related to such would be eliminated under the BRPA as compared to the Agricultural Resource Preservation Alternative. The BRPA and the Agricultural Resource Preservation Alternative would have a similar potential to conflict with the provisions of the Yolo HCP/NCCP. Overall, the BRPA would result in fewer impacts related to Biological Resources as compared to the Agricultural Resource Preservation Alternative.

to potential impacts related to being located on a geological 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, or be located on expansive soil, and impacts related to such would be reduced as compared to the Proposed Project. In addition, similar to the discussion related to cultural and tribal cultural resources above, due to the reduced development footprint of the Agricultural Resource Preservation Alternative, the Alternative's potential to destroy a unique paleontological resource or site or unique geologic feature would be reduced as compared to the Proposed Project. Nonetheless, Mitigation Measures 4.6-3 and 4.6-4 would still be required. Overall, the Agricultural Resource Preservation Alternative would result in fewer impacts related to Geology and Soils as compared to the Proposed Project.

Hazards and Hazardous Materials

Because the overall disturbance area for the Agricultural Resource Preservation Alternative would be decreased as compared to the Proposed Project, the Alternative would avoid the majority of the RECs identified on the project site, including the OCPs, ACMs, LBPs and lead-affected soil, and potential USTs associated with the existing on-site agricultural structure, as well as one agricultural well. As such, Mitigation Measures 4.7-2(a) and 4.7-2(b) would not be required. However, similar to the Proposed Project, the Agricultural Resource Preservation Alternative could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment related to soils associated with on-site water wells and monitoring wells, and a buried natural gas pipeline. As such, Mitigation Measures 4.7-2(d) through 4.7-2(f) would still be required. Overall, the Agricultural Resource Preservation Alternative would result in fewer impacts related to Hazards and Hazardous Materials as compared to the Proposed Project.

Hydrology and Water Quality

Given that the Agricultural Resource Preservation Alternative would include a smaller overall area of disturbance compared to the Proposed Project, the potential for the Alternative to result in construction or operational impacts related to water quality would be decreased. Nonetheless, Mitigation Measures 4.8-1 and 4.8-2 would still be required to ensure that impacts to water quality during project construction and operation would not occur. Similarly, although Mitigation Measures 4.8-4 and 4.8-5 would still be required, due to the smaller development footprint associated with the Agricultural Resource Preservation Alternative, impacts related to substantially altering the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in flooding on- or off-site; 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; redirect flood flows, or in flood hazard, tsunami, or seiche zone, risk release of pollutants due to project inundation, would be reduced as compared to the Proposed Project. Overall, impacts related to Hydrology and Water Quality under the Agricultural Resource Preservation Alternative would be fewer than the Proposed Project.

Noise

As discussed above, the Agricultural Resource Preservation Alternative would not include the development of the 470 RMD units within the Central Village and Parkside Village East; however, the remaining development included in the Proposed Project, such as the residential uses in the western portion of the project site, would still be developed under the Alternative. As discussed in Chapter 4.10, Noise, of this EIR, the significant and unavoidable construction-related noise impact identified for the Proposed Project is primarily related to development of the residential uses in

the western portion of the site. Therefore, even with the eastern portion of the site preserved as undeveloped land, the Agricultural Resource Preservation Alternative would have the potential to result in a significant and unavoidable impact related to the generation of a substantial temporary 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, and Mitigation Measure 4.10-1 would still be required. Overall, impacts related to Noise under the Agricultural Resource Preservation Alternative would be similar to the Proposed Project.

Population and Housing

Similar to the Proposed Project, the Agricultural Resource Preservation Alternative would require annexation of the project site into the City of Davis. Because the project site is currently not located within the City of Davis and does not have a City General Plan land use designation, the Agricultural Resource Preservation Alternative has not been included as part of the City's growth projections. As such, the increase in population resulting from the Alternative would not be within the range of growth projections assumed for the City of Davis. Therefore, similar to the Proposed Project, the Alternative would be considered to induce substantial unplanned population growth, and a significant and unavoidable (project-level and cumulative) impact would occur. However, as stated above, the Agricultural Resource Preservation Alternative includes the development of 470 fewer dwelling units as compared to the Proposed Project; using the 2.57 persons/household average household size for the City of Davis, the Alternative would house approximately 1,208 fewer residents than the Proposed Project. Therefore, while the significant and unavoidable impacts related to Population and Housing would not be avoided under the Agricultural Resource Preservation Alternative, the severity of such impacts would be reduced. Overall, the Agricultural Resource Preservation Alternative would result in fewer impacts related to Population and Housing as compared to the Proposed Project.

Transportation

As previously discussed, the Agricultural Resource Preservation Alternative would entail development of the project site with the same uses as the Proposed Project, with the exception that the Alternative would include 470 fewer dwelling units on a smaller development footprint. Therefore, similar to the Proposed Project, the Agricultural Resource Preservation Alternative would generate construction traffic on local roadways and, thus, would have the potential to conflict with a program, plan, ordinance, or policy addressing the circulation system during construction activities, and Mitigation Measure 4.13-1 would still be required.

As discussed above, the Agricultural Resource Preservation Alternative would include the development of 470 fewer dwelling units as compared to the Proposed Project, and would have the potential to house 1,208 fewer residents than the Proposed Project. Therefore, although the Alternative would increase the use of pedestrian, bicycle, and transit facilities in the site vicinity, which could result in conflicts between vehicles and pedestrians/bicyclists, impacts related to such would not be as severe as what is anticipated to occur under the Proposed Project. Nonetheless, because the Agricultural Resource Preservation Alternative would have the potential to conflict with a program, plan, ordinance, or policy addressing the circulation system, including pedestrian and bicycle facilities, Mitigation Measures 4.13-1, 4.13-2(a) through 4.13-2(f), and 4.13-7 would still be required. In addition, because development of the project site would be similar to the Proposed Project under the Alternative, use of existing transit facilities would be increased as a result of buildout of the Alternative, and the significant and unavoidable and cumulatively considerable and significant and unavoidable impact identified for the Proposed Project related to conflicting with a program, plan, ordinance, or policy addressing the circulation system,

including transit facilities and services, would still occur, and implementation of Mitigation Measures 4.13-3(a), 4.13-3(b), and 4.13-8 would still be required. Based on the above, although the Agricultural Resource Preservation Alternative would still have the potential to conflict with a program, plan, ordinance, or policy addressing the circulation system, including pedestrian, bicycle, and transit facilities and services, the severity of such impacts would be decreased as compared to the Proposed Project.

Similar to the Lower Number of Units – Same Footprint Alternative, the Agricultural Resource Preservation Alternative would include fewer residential units than the Proposed Project. Although the Agricultural Resource Preservation Alternative would also include a smaller development area, the residential density of the Alternative (8.53 du/ac) would still be reduced as compared to the Proposed Project (9.19 du/ac). The reduced density under this Alternative would result in increased VMT per capita as compared to the Proposed Project, as follows: 42.7 VMT per capita (Alternative) vs. 31.5 VMT per capita (Proposed Project). Therefore, even with implementation of Mitigation Measures 4.13-4 and 4.13-9, the Alternative would result in a greater impact related to VMT (i.e., conflicting with CEQA Guidelines Section 15064.3, subdivision (b)), and the impact would remain significant and unavoidable and cumulatively considerable and significant and unavoidable.

Overall, potential impacts related to Transportation would be similar under the Agricultural Resource Preservation Alternative as compared to the Proposed Project.

Higher Number of Units – Same Footprint Alternative

The Higher Number of Units – Same Footprint Alternative would include the development of 900 additional residences, for a total of 2,700 residential units, as well as the same non-residential uses included in the Proposed Project. The 2,700-unit count was selected for the Alternative in order to reduce per capita VMT below both City and regional average VMT thresholds.[4] As such, the residential density under the Alternative would increase to 13.78 du/ac.[5] Because the Higher Number of Units – Same Footprint Alternative would include development of the project site with the same uses included in the Proposed Project, the project objectives would be met. Furthermore, because the Alternative would be developed at a higher density than the Proposed Project, the Higher Number of Units – Same Footprint Alternative would result in a greater reduction in VMT and would generate more property tax revenue for the City; thus, the Higher Number of Units – Same Footprint Alternative would satisfy Project Objectives 1, 2, and 7 to a greater extent than the Proposed Project.

Aesthetics

The Higher Number of Units – Same Footprint Alternative would generally consist of the development of the project site with similar types of uses as the Proposed Project; however, in order to achieve the required density to avoid a significant VMT impact, the mix of residential product types would need to be adjusted. This would presumably result in an increase in the amount of multi-family housing and the number of stories of each multi-family structure. As such,

[4] In general, to quantify the VMT-reduction effects of the Higher Number of Units – Same Footprint Alternative, the Draft EIR uses the California Air Pollution Control Officers Association (CAPCOA) Handbook for Assessing GHG Emission Reductions, Climate Vulnerabilities, and Health and Equity (CAPCOA Handbook). The CAPCOA Handbook is a widely accepted guide for local governments, communities, and project developers to identify and quantify strategies to reduce greenhouse gas (GHG) emissions. The CAPCOA Handbook is grounded in extensive academic and industry research and provides data and methods to help practitioners effectively apply its strategies. CAPCOA Handbook Strategy T-1 (Increase Residential Density)

[5] Based on a net residential acreage of 195.9 acres, similar to the Proposed Project.

the Alternative could disrupt the existing panoramic open space/agricultural views available on the project site to a greater degree than the Proposed Project. Therefore, the Higher Number of Units – Same Footprint Alternative would have a greater potential, as compared to the Proposed Project, to have a substantial adverse effect on a scenic vista, and feasible mitigation still would not exist to reduce the impact to a less-than-significant level. Thus, the project-specific and cumulative significant and unavoidable impacts related to scenic vistas would still occur under the Alternative. In addition, the creation of new sources of light or glare would occur under the Alternative, and Mitigation Measures 4.1-4 and 4.1-6 would be required.

Overall, impacts related to Aesthetics would be greater under the Higher Number of Units – Same Footprint Alternative as compared to the Proposed Project, including the identified significant and unavoidable impacts.

Agricultural Resources

The Higher Number of Units – Same Footprint Alternative would include development of the project site with similar uses to the Proposed Project, and would include the same development footprint. Therefore, the Alternative would result in similar significant and unavoidable impacts related to the conversion of farmland to non-agricultural uses, as well as impacts associated with involving changes in the existing environment which, due to their location or nature, could cumulatively result in loss of Farmland to non-agricultural use. Overall, impacts related to Agricultural Resources would be similar under the Higher Number of Units – Same Footprint Alternative as compared to the Proposed Project, and Mitigation Measures 4.2-1 and 4.2-4 would still be required.

Air Quality, GHG Emissions, and Energy

The Higher Number of Units – Same Footprint Alternative would include development of the project site with similar uses as the Proposed Project. Although the Alternative would include the development of 900 additional residential units than currently proposed, because the development footprint of the Alternative would be the same as the Proposed Project, the Alternative would require the same amount of grading as the Proposed Project, which is the primary source of construction GHG emissions. However, because the amount of building materials required for the Higher Number of Units – Same Footprint Alternative would be greater than the Proposed Project, the Alternative would result in greater construction GHG emissions associated with increased worker and vendor trips. Therefore, potential impacts related to generating GHG construction emissions, either directly or indirectly, that may have a significant impact on the environment, or conflicting with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, would be greater than the Proposed Project, and Mitigation Measure 4.3-7(a) would still be required during construction.

As previously discussed, the EIR determined that the Proposed Project would result in significant and unavoidable impacts related to conflicting with or obstructing implementation of the applicable air quality plan during operation of the Proposed Project because the ROG and PM_{10} emissions would be above the applicable YSAQMD thresholds of significance. Additionally, the EIR determined that, even with implementation of mitigation, the amount of ROG and PM_{10} emissions generated by the Proposed Project would result in a cumulatively considerable and significant and unavoidable net increase of a criteria pollutant for which the project region is in non-attainment under an applicable federal or State AAQS. In their Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health

and Equity,[6] the California Air Pollution Control Officers Association (CAPCOA) sets forth VMT reduction strategies. As stated therein, most CAPCOA VMT reduction strategies also reduce GHG emissions and criteria pollutants, considered co-benefits, by reducing the source metric of VMT (i.e., vehicle ownership, number of vehicle trips, and trip distance). As discussed in further detail under the Transportation discussion, the Higher Number of Units – Same Footprint Alternative would result in a significant reduction in residential VMT per capita as compared to the Proposed Project, and would avoid the significant and unavoidable impacts related to such. According to Fehr & Peers, total project VMT would be reduced by approximately 10.4 percent under the Alternative. The reduction in VMT associated with the Alternative would result in a proportional reduction in criteria pollutants. The approximately 10.4 percent reduction in PM_{10}, as well as implementation of Mitigation Measure 4.3-2, would result in emissions below the 80 pounds per day (lbs/day) threshold (10.4 percent from 88.4 lbs/day is 79.21 lbs/day). However, the reduction in ROG emissions calculated using the CAPCOA formula for Strategy T-1 (Increase Residential Density), would be from 20.5 tons per year (tons/yr) to 11.45 tons/yr, which would still exceed the YSAQMD significance threshold of 10 tons/yr. Despite the fact that implementation of Mitigation Measures 4.3-2 and 4.3-6 would not eliminate the aforementioned significant and unavoidable and cumulatively considerable and significant and unavoidable impacts under the Alternative, the severity of the impact would be reduced as compared to the Proposed Project.

The EIR also determined that the Proposed Project would result in a cumulatively considerable and significant and unavoidable impact related to the generation of GHG emissions during operation, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. As discussed above, most of the CAPCOA VMT reduction strategies also reduce GHG emissions; the Higher Number of Units – Same Footprint Alternative would result in a reduction in GHG emissions by approximately 10.4 percent. As such, unmitigated operational GHG emissions would be reduced by an estimated 10.4 percent from 10,160 metric tons of CO_2 equivalents per year ($MTCO_2e$/yr) to 9,103.36 $MTCO_2e$/yr under the Higher Number of Units – Same Footprint Alternative. However, even with such a reduction, the Alternative could still result in GHG emissions that could exceed net carbon neutrality in the year 2040, and, thus, implementation of the Higher Number of Units – Same Footprint Alternative would conflict with the City's adopted goal of carbon neutrality by the year 2040. Therefore, the foregoing impact would remain significant and unavoidable and cumulatively considerable, even with implementation of Mitigation Measure 4.3-8. Nonetheless, the severity of the foregoing impact would be reduced under the Higher Number of Units – Same Footprint Alternative as compared to the Proposed Project.

Overall, the Higher Number of Units – Same Footprint Alternative would result in fewer impacts related to Air Quality, GHG Emissions, and Energy as compared to the Proposed Project.

Biological Resources

Similar to the Proposed Project, the Higher Number of Units – Same Footprint Alternative would include ground-disturbing activities on the same project site and, thus, would have the potential to impact special-status plants, Crotch's bumble bee, special-status branchiopods, monarch butterfly, VELB, western spadefoot, northwestern pond turtle, tricolored blackbird, burrowing owl, Swainson's hawk, white-tailed kite, and other birds protected under the MBTA and CFGC, special-status roosting bats, and American badger. In addition, because the Higher Number of Units –

[6] California Air Pollution Control Officers Association. *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity*. December 2021.

Same Footprint Alternative would result in the same development footprint as the Proposed Project, the impact identified for the Proposed Project related to having a substantial adverse effect on State- or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means, would still occur under the Alternative and, even with implementation of Mitigation Measures 4.4-15(a) through 4.4-15(c), the impact would remain significant and unavoidable. As a result, the impact identified for the Proposed Project related to the cumulative loss of wetland habitat for special-status species would remain cumulatively considerable and significant and unavoidable under the Alternative. Furthermore, because the Higher Number of Units – Same Footprint Alternative would include the removal of on-site trees and would have similar potential to conflict with the City's Tree Ordinance, result in substantial adverse effects on riparian habitat and/or other sensitive natural communities, and conflict with the provisions of the Yolo HCP/NCCP, Mitigation Measures 4.4-1(a) through 4.4-1(c), 4.4-2 through 4.4-14, 4.4-17, and 4.4-18(a) through 4.4-18(f) would still be required. Therefore, overall impacts to Biological Resources would be similar under the under the Higher Number of Units – Same Footprint Alternative as compared to the Proposed Project.[7]

Cultural and Tribal Cultural Resources

The Higher Number of Units – Same Footprint Alternative would result in the development of similar uses as the Proposed Project, and would include the same development footprint. Similar to the Proposed Project, the Higher Number of Units – Same Footprint Alternative would result in on- and off-site disturbance to accommodate new development. Therefore, Mitigation Measures 4.5-1, 4.5-2, 4.5-3, and 4.5-4(a) through 4.5-4(c) would still apply to the Alternative to mitigate the potentially significant impact associated with the potential to cause a substantial adverse change in the significance of a historical, unique archaeological, or tribal cultural resource, or disturb human remains during construction. Overall, potential impacts related to Cultural and Tribal Cultural Resources would be similar under the Higher Number of Units – Same Footprint Alternative as compared to the Proposed Project.

Geology and Soils

As noted above, the Higher Number of Units – Same Footprint Alternative would result in the development of the same uses as the Proposed Project, and would include the same development footprint. However, the Alternative would result in the development of 900 more residential units than the Proposed Project and, thus, could expose a greater number of individuals to potential geological hazards. Consequently, the potential for the Alternative to result in impacts related to being located on a geological 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, or be located on expansive soil, would be greater than the Proposed Project. However, the Alternative's potential to destroy a unique paleontological resource or site or unique geologic feature would be similar to the Proposed Project. As such, Mitigation Measures 4.6-3 and 4.6-4 would still be required. Overall, impacts

[7] Because the BRPA would result in the preservation of the 47.1-acre Natural Habitat Area, the BRPA would include a reduced development footprint as compared to the Higher Number of Units – Same Footprint Alternative. Therefore, the BRPA would result in a reduced impact to multiple special-status species, including, but not limited to, burrowing owl, monarch butterfly, Crotch's bumble bee, Swainson's hawk, and white-tailed kite. The BRPA would result in the preservation of a greater amount of wetlands, in particular, the BRPA avoids the alkali wetlands. Other potential impacts related to biological resources, such as the potential to conflict with the City's Tree Ordinance and to conflict with the provisions of the Yolo HCP/NCCP, would be similar under the BRPA as compared to the Higher Number of Units – Same Footprint Alternative. Overall, the BRPA would result in fewer impacts related to Biological Resources as compared to the Lower Number of Units – Same Footprint Alternative.

related to Geology and Soils could be greater under the Higher Number of Units – Same Footprint Alternative as compared to the Proposed Project.

Hazards and Hazardous Materials

Because the development footprint for the Higher Number of Units – Same Footprint Alternative would be the same as compared to the Proposed Project, all RECs identified on the project site would still occur under the Alternative. Thus, similar to the Proposed Project, the Higher Number of Units – Same Footprint Alternative could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment related to soils associated with OCPs, ACMs, LBPs and lead-affected soil, potential USTs, on-site water wells and monitoring wells, and a buried natural gas pipeline. As such, Mitigation Measures 4.7-2(a) through 4.7-2(f) would still be required. Overall, impacts related to Hazards and Hazardous Materials under the Higher Number of Units – Same Footprint Alternative would be similar to the Proposed Project.

Hydrology and Water Quality

Given that the Higher Number of Units – Same Footprint Alternative would include the same development footprint as the Proposed Project, the potential for the Alternative to result in impacts related to water quality during construction and/or operation would also be the same. Therefore, Mitigation Measures 4.8-1 and 4.8-2 would still be required. In addition, impacts related to substantially altering the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in flooding on- or off-site; 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; redirect flood flows, or in flood hazard, tsunami, or seiche zone, risk release of pollutants due to project inundation, would be similar to the Proposed Project, and Mitigation Measures 4.8-4 and 4.8-5 would still be required. Overall, impacts related to Hydrology and Water Quality under the Higher Number of Units – Same Footprint Alternative would be similar to the Proposed Project.

Noise

Similar to the Proposed Project, the Higher Number of Units – Same Footprint Alternative would include the construction of a mixed-use development within the project site. Because the Alternative would include the development of 900 more residential units than the Proposed Project, construction activities could last longer. However, the same pieces of construction equipment would be used, and in the same locations. The Environmental Noise Assessment prepared for the Proposed Project, as well as the analysis of construction noise impact significance presented in Chapter 4.10, Noise, of this EIR, is based on types of construction equipment and their respective noise levels. As such, the increased construction time would not alter the conclusions of the analysis. Therefore, the Higher Number of Units – Same Footprint Alternative would have the potential to result in a significant and unavoidable impact related to the generation of a substantial temporary 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, and Mitigation Measure 4.10-1 would still be required. The Noise analysis conducted for the Proposed Project did not identify any significant traffic noise increases attributable to the Proposed Project (Chapter 4.10, Noise, Table 4.10-12). While traffic would increase as a result of this Alternative, the traffic noise level increases identified for the Proposed Project are sufficiently below the applicable thresholds, such that this Alternative would

not be anticipated to create any new significant impacts. Overall, impacts related to Noise under the Higher Number of Units – Same Footprint Alternative would be similar to the Proposed Project.

Population and Housing

Similar to the Proposed Project, the Higher Number of Units – Same Footprint Alternative would require annexation of the project site into the City of Davis. Because the project site is currently not located within the City of Davis and does not have a City General Plan land use designation, the Higher Number of Units – Same Footprint Alternative has not been included as part of the City's growth projections. As such, the increase in population resulting from the Alternative would not be within the range of growth projections assumed for the City of Davis. Therefore, similar to the Proposed Project, the Alternative would be considered to induce substantial unplanned population growth, and a significant and unavoidable and cumulatively considerable and significant and unavoidable impact would occur. Furthermore, as stated above, the Higher Number of Units – Same Footprint Alternative include the development of 900 additional dwelling units as compared to the Proposed Project; using the 2.57 persons/household average household size for the City of Davis, the Alternative would house approximately 2,313 more residents than the Proposed Project. Therefore, the Higher Number of Units – Same Footprint Alternative would result in an increase in the severity of the significant and unavoidable impact related to inducing substantial unplanned population growth identified for the Proposed Project. Overall, the Higher Number of Units – Same Footprint Alternative would result in greater impacts related to Population and Housing as compared to the Proposed Project.

Transportation

As previously discussed, the Higher Number of Units – Same Footprint Alternative has been specifically formulated to avoid the Proposed Project's significant and unavoidable VMT impacts. The 2,700-unit count was selected for the Alternative in order to reduce per capita VMT below both City and regional average VMT thresholds of 30.1 and 21.7 VMT per capita, respectively. The residential VMT per capita associated with the Proposed Project was calculated to be 31.5. The residential density under the Higher Number of Units – Same Footprint Alternative would increase to 13.78 du/ac, which would reduce residential VMT per capita by 40.7 percent. Therefore, the residential VMT per capita under the Higher Number of Units – Same Footprint Alternative would be 18.39, which is below the City of Davis average VMT threshold. Therefore, the significant and unavoidable and cumulatively considerable significant and unavoidable impact identified for the Proposed Project related to conflicting or being inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) would not occur under the Higher Number of Units – Same Footprint Alternative, and implementation of Mitigation Measure 4.13-4 would not be required.[8]

The underlying research supporting the foregoing strategy indicates that higher residential densities are associated with lower vehicle ownership, less driving, and less VMT on a per capita basis. Other underlying research posits that residential self-selection is a factor that contributes to less driving activity.[9] Residential self-selection is the concept that people with preferences to live close to destinations have a difficult time finding such housing, so they can be forced to live in a less-dense, more-auto-oriented neighborhood than they would prefer that is also located

[8] The residential VMT per capita associated with the BRPA was calculated to be 32.8, which is above both the City and regional average VMT thresholds of 30.1 and 21.7 VMT per capita, respectively. As such, the Higher Number of Units – Same Footprint Alternative would eliminate the significant and unavoidable VMT impact that would occur under the BRPA.

[9] Journal of the American Planning Association. *Does Compact Development Make People Drive Less?* 2016.

further away from the destinations to which they want or need to travel. A hypothetical example of this in the context of the currently proposed project is an existing employee of the University of California, Davis (UC Davis) who prefers to live close to work in the City of Davis, but instead must live in other communities such as Woodland, Elk Grove, and Roseville, due to a lack of viable housing opportunities in the City.

Importantly, it should be noted that the VMT analysis for the residential components of the Proposed Project and the Higher Number of Units – Same Footprint Alternative use the project-generated residential VMT per capita metric. This metric captures VMT associated with all vehicle travel activity that would start or end at the Proposed Project's residential uses and divides that VMT value by the number of project residents. This, in turn, creates a VMT-generation rate on a per resident basis. Residential VMT per capita is different than other VMT metrics, such as total VMT, which includes both project-related trips and all background trips generated by other uses within a given geographic area. The foregoing different VMT metrics are not to be compared to each other, as they present an "apples-to-oranges" comparison.

With respect to the potential to conflict with a program, plan, ordinance, or policy addressing the circulation system during construction activities, as previously discussed, the Higher Number of Units – Same Footprint Alternative would entail development of the project site with the same uses as the Proposed Project, with the exception that the Alternative would include 900 additional dwelling units. Therefore, similar to the Proposed Project, the Higher Number of Units – Same Footprint Alternative would generate construction traffic on local roadways and, thus, would have the potential to conflict with a program, plan, ordinance, or policy addressing the circulation system during construction activities, and Mitigation Measure 4.13-1 would still be required.

The Higher Number of Units – Same Footprint Alternative would include the development of 900 more units than the Proposed Project, and would house approximately 2,313 more residents. The increased population associated with the Alternative would be anticipated to result in a greater increase than the Proposed Project in the use of pedestrian, bicycle, and transit facilities in the site vicinity. Therefore, the severity of impacts related to conflicts between vehicles and pedestrians/bicyclists could be increased as compared to what is anticipated to occur under the Proposed Project. Although implementation of Mitigation Measures 4.13-1, 4.13-2(a) through 4.13-2(f), and 4.13-7 would be sufficient to reduce such impacts to a less-than-significant level, due to the greater increase in population associated with the Higher Number of Units – Same Footprint Alternative as compared to the Proposed Project, the Alternative could have a greater potential to conflict with a program, plan, ordinance, or policy addressing the circulation system, including pedestrian and bicycle facilities, as compared to the Proposed Project.

In addition, because development of the project site would be similar to the Proposed Project under the Higher Number of Units – Same Footprint Alternative, the significant and unavoidable impact identified for the Proposed Project related to conflicting with a program, plan, ordinance, or policy addressing the circulation system, including transit facilities and services, would still occur, and implementation of Mitigation Measures 4.13-3(a), 4.13-3(b), and 4.13-8 would still be required. Because the Alternative would result in a greater increase in population than the Proposed Project, the Alternative would also increase transit ridership as compared to the Proposed Project. The increase in transit ridership associated with the Proposed Project was determined to have the potential to exacerbate currently deficient Unitrans performance with respect to on-time performance targets; the even greater increase in transit ridership associated with the Higher Number of Units – Same Footprint Alternative could exacerbate currently deficient Unitrans performance to a greater level. Therefore, the Higher Number of Units – Same Footprint

Alternative would still have the potential to conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit facilities and services, and the severity of such impact could be increased as compared to the Proposed Project.

Overall, because the significant and unavoidable VMT impact (project-level and cumulative) identified for the Proposed Project would not occur under the Alternative, the Higher Number of Units – Same Footprint Alternative is considered to have fewer impacts related to Transportation as compared to the Proposed Project. It is recognized, however, that this Alternative would have similar or greater transportation impacts for other non-VMT topics, as discussed above. This Alternative's analysis places primary importance on the elimination of the Proposed Project's significant and unavoidable (project-level and cumulative) VMT impacts.

Off-Site Project Alternative

The possibility of an off-site location was considered as an alternative to the Proposed Project. In considering sites potentially available for future development of the Proposed Project, sites of similar size and characteristics (e.g., undeveloped) were considered. Given the relatively large size of the project site (approximately 380 acres, excluding the UATA), there are very limited options for consideration of the Off-Site Project Alternative. The off-site location selected for evaluation is the property evaluated for the formerly proposed Aggie Research Campus project, which is located immediately to the east of Mace Boulevard and to the north of County Road (CR) 32A, northeast of the City limits, in a currently unincorporated area of the County (see Figure 7-4).

The approximately 194-acre Off-Site Project Alternative site was previously evaluated as part of the Aggie Research Campus Project, which was subsequently reduced in size to 102 acres and processed as the DiSC 2022 Project. Both the Aggie Research Campus project and the DiSC 2022 project were approved by City Council but rejected by the voters.

The Off-Site Project Alternative would consist of a similar buildout of the components of the Proposed Project (e.g., 1,800 residential units) within the smaller Aggie Research Campus project site.

Similar to the Proposed Project, the Off-Site Project Alternative would consist of a mix-use development community, including neighborhood services; public, semi-public, and educational uses; associated on-site roadway improvements; utility improvements; parks, open space, and greenbelts; and off-site improvements. Similar entitlements would be required at this location, such as Sphere of Influence Amendment, Annexation, General Plan Amendment, and prezoning.

Because the Off-Site Project Alternative site is approximately 186 acres smaller than the Proposed Project site, the Off-Site Project Alternative would include a higher residential density than the Proposed Project, and would incorporate a greater number of multi-family residences and other more dense housing product types, such as townhomes. In general, the Off-Site Project Alternative would be anticipated to meet the basic objectives identified for the Proposed Project. However, because the Off-Site Project Alternative site is not located as close to the center of the City of Davis as the project site, the Alternative would not satisfy Objective 2 to the same extent as the Proposed Project.

Figure 7-4
Off-Site Project Alternative Site

Aesthetics

Similar to the project site, the Off-Site Project Alternative site consists of currently undeveloped land that has been historically used for agricultural operations and provides panoramic open space/agricultural views. As such, similar to the Proposed Project, the Alternative would introduce new structures and buildings on the site that would disrupt the existing panoramic open space/agricultural views available on the site. Therefore, the Off-Site Project Alternative would have a similar potential as the Proposed Project to have a substantial adverse effect on a scenic vista, and feasible mitigation still would not exist to reduce the impact to a less-than-significant level. Thus, the project-specific and cumulative significant and unavoidable impacts related to scenic vistas would still occur under the Alternative. In addition, the creation of new sources of light or glare would occur under the Alternative, and Mitigation Measures 4.1-4 and 4.1-6 would be required. Overall, impacts related to Aesthetics would be similar under the Off-Site Project Alternative as compared to the Proposed Project, including the identified significant and unavoidable impact.

Agricultural Resources

The Off-Site Project Alternative site contains approximately 159 acres of Prime Farmland and 39 acres of Farmland of Statewide Importance which would be subject to development. The Proposed Project would result in the conversion of 267 acres of Prime Farmland, 9.2 acres of Farmland of Statewide Importance, and 46.1 acres of Unique Farmland to non-agricultural use. Therefore, the Off-Site Project Alternative would reduce the conversion of agricultural land to urban uses by 108 acres of Prime Farmland and 7.7 acres of Unique Farmland. In addition, the site is currently in agricultural use and, thus, meets City of Davis's definition of "agricultural land" and the Yolo LAFCo's definition of Prime Agricultural Land.

Because the Off-Site Project Alternative would include the development of similar uses as the Proposed Project, the Alternative would result in similar significant and unavoidable impacts related to the conversion of farmland to non-agricultural uses, as well as impacts associated with involving changes in the existing environment which, due to their location or nature, could cumulatively result in loss of Farmland to non-agricultural use. Therefore, Mitigation Measures 4.2-1 and 4.2-4 would still be required. However, because the Alternative would reduce the conversion of agricultural land to urban uses by 108 acres of Prime Farmland and 7.7 acres of Unique Farmland as compared to the Proposed Project, the severity of the significant and unavoidable impacts related to Agricultural Resources would be reduced under the Off-Site Project Alternative as compared to the Proposed Project, and the Alternative would result in fewer impacts related to such.

Air Quality, GHG Emissions, and Energy

Grading activities are most often the most intensive phase of construction in terms of emissions. As such, because the Off-Site Project Alternative site is smaller than the project site, the Off-Site Project Alternative would result in reduced impacts related to generating GHG construction emissions, either directly or indirectly, that may have a significant impact on the environment, or conflicting with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Nonetheless, Mitigation Measure 4.3-7(a) would still be required. In addition, because the Off-Site Project Alternative would include the development of the same uses as the Proposed Project, operational emissions would generally be the same. However, as discussed in further detail under the Transportation discussion, the Off-Site Project Alternative would result in a reduction in VMT as compared to the Proposed Project. Similar to discussion for the Higher Number of Units – Same Footprint Alternative above, although the Off-Site Project Alternative

would result in significant and unavoidable impacts related to conflicting with or obstructing implementation of the applicable air quality plan during operation; a cumulatively considerable and significant and unavoidable net increase of a criteria pollutant for which the project region is in non-attainment under an applicable federal or State AAQS; and a cumulatively considerable and significant and unavoidable impact related to the generation of GHG emissions during operation, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, even with implementation of Mitigation Measures 4.3-2, 4.3-6, and 4.3-8, the severity of the foregoing impacts would reduced under the Off-Site Project Alternative as compared to the Proposed Project. Overall, the Off-Site Project Alternative would result in fewer impacts related to Air Quality, GHG Emissions, and Energy as compared to the Proposed Project.

Biological Resources

Given the general similarity of the land cover types present within the project site and the Off-Site Project Alternative site (e.g., agricultural land cover and City drainage channel), the same special-status plant and wildlife species would be anticipated to have the potential to occur on both sites. As such, similar to the Proposed Project, the Off-Site Project Alternative would have the potential to result in potential impacts to special-status plants, Crotch's bumble bee, monarch butterfly, VELB, western spadefoot, northwestern pond turtle, tricolored blackbird, burrowing owl, Swainson's hawk, white-tailed kite, and other birds protected under the MBTA and CFGC, special-status roosting bats, and American badger, and would have a similar potential to conflict with the provisions of the Yolo HCP/NCCP. As such, Mitigation Measures 4.4-1(a) and (b), 4.4-4(a) and (b), 4.4-5(a) and (b), 4.4-6(a), 4.4-8(a), 4.4-9(a) and (b), 4.4-10(a) through (c), 4.4-11(a) through (f), 4.4-12, 4.4-13(a) through (c), and 4.4-18(a) through (g) would still be required. However, because vernal pools are not present within the Off-Site Project Alternative site, potential impacts to special-status branchiopods would not occur, and Mitigation Measure 4.4-3(a) would not be required.

Both the Proposed Project and the Off-Site Project Alternative would have the potential to impact Valley Foothill Riparian land cover associated with Channel A, which traverses both the project site and the Off-Site Project Alternative. As such, the potential for the Off-Site Project Alternative to result in a substantial adverse effect on any riparian habitat or other Sensitive Natural Community would be similar as the Proposed Project, and Mitigation Measure 4.4-14 would still be required.

Whereas the project site contains approximately 23.565 acres of additional aquatic resources other than Channel A, approximately 20.349 acres of which would be permanently impacted by the Proposed Project, the Off-Site Project Alternative site does not contain any wetlands. According to a Wetland Delineation Report prepared for the Off-Site Project Alternative site by Sycamore Environmental Consultants, Inc. on December 10, 2014,[10] the segment of Channel A within the Off-Site Project Alternative site is not jurisdictional. Therefore, the significant and unavoidable impact identified for the Proposed Project related to having a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means, would not occur under the Off-Site Project Alternative, and Mitigation Measures 4.4-15(a) through 4.4-15(c) would not be required. As a result, the cumulatively considerable and significant and unavoidable

[10] Sycamore Environmental Consultants, Inc. *Biological Resources Evaluation for the Aggie Research Campus Project*. February 4, 2020.

impact identified for the Proposed Project related to the cumulative loss of wetland habitat for special-status species also would not occur under the Alternative.

Of the approximately 1,266 trees present within the project site, approximately 952 trees would be permanently impacted by the Proposed Project. In contrast, the Off-Site Project Alternative site contains only eight trees that could be permanently impacted by buildout of the site. As such, although Mitigation Measure 4.4-17 would still be required, the Off-Site Project Alternative would result in a reduced impact related to conflicting with the City's Tree Ordinance.

Overall, impacts to Biological Resources would be fewer under the Off-Site Project Alternative as compared to the Proposed Project.

Cultural and Tribal Cultural Resources

As discussed in Chapter 4.5, Cultural and Tribal Cultural Resources, of this EIR, although the potentially significant historical resources within the project site were determined not to be historically significant, the off-site improvements studied within the EIR for the Proposed Project have the potential to impact a segment of the California Pacific Railroad, and, thus, the Proposed Project could cause a substantial adverse change in the significance of a historical resource. In contrast, potentially historic resources have not been identified within the Off-Site Project Alternative site. Therefore, the Off-Site Project Alternative would result in fewer impacts to cultural historical resources, and Mitigation Measure 4.5-1 would not be required. However, the Off-Site Project Alternative would have the potential to cause a substantial adverse change in the significance of a unique archaeological or tribal cultural resource, or disturb human remains during construction, and Mitigation Measures 4.5-2, 4.5-3, and 4.5-4(a) through 4.5-4(c) would still apply to the Alternative. Due to the smaller development footprint associated with the Off-Site Project Alternative, the Off-Site Project Alternative's potential to cause a substantial adverse change in the significance of a unique archaeological or tribal cultural resource, or disturb human remains during construction would be reduced as compared to the Proposed Project. Overall, potential impacts related to Cultural and Tribal Cultural Resources could be fewer under the Off-Site Project Alternative as compared to the Proposed Project.

Geology and Soils

The Proposed Project would have the potential to result in a significant impact related to subsidence/settlement, liquefaction, and/or expansive soils. In contrast, of the foregoing soil conditions, only the potential for expansive soils was identified for the Off-Site Project Alternative site.[11] As such, although implementation of Mitigation Measure 4.6-3 would still be required, the Off-Site Project Alternative would be anticipated to result in reduced impacts related to being located on a geological 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, or be located on expansive soil. Nonetheless, the Off-Site Project Alternative would have a similar potential as the Proposed Project to destroy a unique paleontological resource or site or unique geologic feature, and Mitigation Measure 4.6-4 would still be required. Overall, because potential impacts related to subsidence/settlement, liquefaction would not occur under the Alternative, the Off-Site Project Alternative would result in fewer impacts related to Geology and Soils as compared to the Proposed Project.

[11] Wallace Kuhl & Associates, Inc. *Preliminary Geotechnical Engineering Report.* January 20, 2015.

Hazards and Hazardous Materials

Similar to the project site, the Off-Site Project Alternative site contains on-site wells that are considered a potential REC.[12] As such, mitigation similar to 4.7-2(d) would still be required under the Alternative. However, other RECs identified for the project site (OCPs, ACMs, LBPs and lead-affected soil, potential USTs, and a buried natural gas pipeline) are not present within the Off-Site Project Alternative site and, thus, Mitigation Measures 4.7-2(a) through 4.7-2(c), 4.7-2(e), and 4.7-2(f) would not be required for the Alternative. Overall, the Off-Site Project Alternative would result in fewer impacts related to Hazards and Hazardous Materials as compared to the Proposed Project.

Hydrology and Water Quality

Given that the Off-Site Project Alternative would include a smaller overall area of disturbance compared to the Proposed Project, the Alternative would have a reduced potential as compared to the Proposed Project to result in construction or operational impacts related to water quality, as well as impacts related to substantially altering the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in flooding on- or off-site; 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; redirect flood flows, or in flood hazard, tsunami, or seiche zone, risk release of pollutants due to project inundation. Nonetheless, Mitigation Measures 4.8-1, 4.8-2, 4.8-4, and 4.8-5 would still be required to ensure that potential impacts to water quality during project construction and operation, as well as impacts related to the alteration of drainage, would not occur.

Notwithstanding the above, based on the volumetric analysis conducted for the Aggie Research Campus project, it is anticipated that development of the proposed uses on the Off-Site Project Alternative site would increase downstream water surface elevations within the “ponded” area that occurs behind the Yolo Bypass levee during severe storm events, when the high waters in the Yolo Bypass prevent the flapgate at the levee from opening. The volumetric analysis for the Proposed Project found that downstream water surface elevations within the ponded area behind the Willow Slough Bypass could increase by approximately 0.01-foot due to project development. Project-specific analysis would be required to determine the relative magnitude of water surface elevation increases that could result from developing Off-Site Project Alternative site with the proposed uses. This discussion recognizes the possibility that the volumetric effect of developing the project at the Off-Site location could be greater than developing the project at the Proposed Project site.

Overall, the Off-Site Project Alternative would result in fewer impacts related to Hydrology and Water Quality as compared to the Proposed Project.

Noise

Similar to the Proposed Project, the Off-Site Project Alternative would include the construction of a mixed-use development. The Off-Site Project Alternative site is located in close proximity to noise-sensitive receptors, including the University Covenant Church located approximately 150 feet west, and the multi-family residences located approximately 650 feet to the west, across Mace Boulevard. However, assuming a worst-case scenario where construction activities were to

[12] Wallace Kuhl & Associates. *Phase I Environmental Site Assessment Mace Ranch Innovation Center*. January 6, 2015.

occur at only 150 feet from the nearest sensitive receptor, maximum construction noise levels would be an estimated 75 to 80 dB L_{max}. The majority of construction activity on the Off-Site Project Alternative site would occur at distances much greater than 150 feet. Construction activity occurring in the center of the Alternative site would be located approximately 1,500 feet from the church. At such distance, construction noise levels would be approximately 55 to 60 dB L_{max}. In addition, outdoor use areas at the church are located on the west side of the church building. Therefore, the additional distance and building shielding would provide an additional 5 dB of noise reduction to the outdoor use areas. Construction noise at the nearest multi-family residences would be similar to or less than the noise levels identified above.

In addition, because the Off-Site Project Alternative is smaller than the project site, construction activities associated with the Alternative would likely be of reduced duration and intensity as compared to the Proposed Project. As such, the Off-Site Project Alternative would not have the potential to result in the generation of a substantial temporary 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, Mitigation Measure 4.10-1 would not be required, and the significant and unavoidable impact identified for the Proposed Project would not occur. Therefore, the Off-Site Project Alternative would result in fewer impacts related to Noise as compared to the Proposed Project.

Population and Housing

Similar to the Proposed Project, the Off-Site Project Alternative would require annexation of the Off-Site Project Alternative site into the City of Davis. Because the Off-Site Project Alternative site is currently not located within the City of Davis and is designated as Agriculture in the City's General Plan, the site has not been anticipated for development with residential uses, and the Alternative has not been included as part of the City's growth projections. As such, the increase in population resulting from the Alternative would not be within the range of growth projections assumed for the City of Davis. Therefore, similar to the Proposed Project, the Alternative would be considered to induce substantial unplanned population growth, and a significant and unavoidable and cumulatively considerable and significant and unavoidable impact would occur. Because the Off-Site Project Alternative would result in the development of the same number of residential units as the Proposed Project, the Alternative's potential to result in a significant and unavoidable impact related to inducing substantial unplanned population growth would be similar to what was identified for the Proposed Project. Overall, the impacts related to Population and Housing under the Off-Site Project Alternative would be similar, as compared to the Proposed Project.

Transportation

As previously discussed, the Off-Site Project Alternative would entail development of the same amount and type of uses as the Proposed Project. Despite the different location of the Off-Site Project Alternative site, the Alternative would generate construction and operational traffic on local roadways and would be served by similar pedestrian, bicycle, and transit facilities as the Proposed Project and, thus, would have the potential to conflict with a program, plan, ordinance, or policy addressing the circulation system during construction activities, or related to pedestrian and bicycle facilities. As such, Mitigation Measures 4.13-1, and 4.13-2(a) through 4.13-2(f) would still be required, though amended to be specific to the off-site location and bicycle and pedestrian infrastructure within the area. In addition, because development under the Off-Site Project Alternative would be similar to the Proposed Project, the significant and unavoidable impact identified for the Proposed Project related to conflicting with a program, plan, ordinance, or policy

addressing the circulation system, including transit facilities and services would still occur, and implementation of Mitigation Measures 4.13-3(a) and 4.13-3 (b) would still be required.

While a project-specific traffic analysis of the Off-Site Project Alternative has not been conducted, the traffic analysis conducted for the Aggie Research Campus Project is instructive and allows for tentative conclusions to be drawn regarding potential impacts of the Alternative. According to the Aggie Research Campus Project Subsequent EIR, the Aggie Research Campus Project was anticipated to result in significant freeway ramp queuing impacts to the Mace Boulevard/I-80 Westbound Off-Ramp and the Chiles Road/I-80 Eastbound Off-Ramp. In comparison, under the Proposed Project scenario, all maximum queues would be accommodated within the available off-ramp storage (Chapter 4.13, Table 4.13-10). Therefore, development of the Off-Site Project Alternative would have a greater potential to result in a significant and unavoidable impact related to substantially increasing hazards due to a geometric design feature or incompatible use as compared to the Proposed Project. It is noted that under cumulative conditions, the Proposed Project and Off-Site Alternative have a similar potential to incrementally affect freeway off-ramp queues due to the addition of background traffic growth.

Similar to the Higher Number of Units – Same Footprint Alternative, because the Off-Site Project Alternative would include the same development as the Proposed Project on a smaller site, residential density would increase. Therefore, residential VMT per capita associated with the Alternative would also be expected to decrease based on CAPCOA guidance, as previously discussed. Nonetheless, because the exact reduction in VMT has not been calculated, the Off-Site Project Alternative would still have the potential to result in a significant and unavoidable and cumulatively considerable and significant and unavoidable impact related to being inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and Mitigation Measure 4.13-4 would still be required. Further, as discussed in the Transportation Impact Study prepared for the Proposed Project, average residential VMT per capita varies by between the different regions of the City of Davis. While the citywide residential VMT per capita is 30.1, the Proposed Project site is located within an area that generates approximately 31 VMT per capita, three percent above the City average. In comparison, the Off-Site Project Alternative site is located within the eastern portion of the City of Davis, where the residential VMT per capita ranges from 33 to 36, which is at minimum an increase of 9.6 percent above the City average.

Overall, although the significant and unavoidable impacts identified for the Proposed Project would still occur under the Off-Site Project Alternative, impacts related to Transportation could be greater under the Alternative as compared to the Proposed Project.

7.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

An EIR is required to identify the environmentally superior alternative from among the range of reasonable alternatives that are evaluated. The environmentally superior alternative is generally the alternative that would be expected to generate the least number of significant impacts. However, the lead agency may consider certain issue areas as a higher priority than others. For the purposes of this EIR, reduction of impacts related to VMT are considered a high priority due to the potential consequences of climate change for the City of Davis. As discussed in Chapter 4.3, Air Quality, Greenhouse Gas Emissions, and Energy, of this EIR, according to the Climate Change Vulnerability Assessment conducted as part of the City's CAAP, like much of California, the City is already experiencing impacts from extreme heat events, flooding and extreme precipitation, drought and poor air quality caused by wildfire smoke. The Climate Change Vulnerability Assessment identified how such impacts are likely to change through mid-century

and end-of-century timeframes. Specifically, projected changes include an increase in the number of extreme heat days, increased wildfire frequency and intensity, more intense precipitation events, and more frequent and/or prolonged droughts. Consequently, on March 5, 2019, the Davis City Council adopted a resolution declaring a climate emergency, which proposed a regional mobilization effort to reduce the effects of climate change. As part of the regional mobilization effort, the resolution accelerated the City's previously stated goal of achieving carbon neutrality by the year 2050 to a new carbon neutrality target date of 2040.

Identification of the environmentally superior alternative is an informational procedure and the alternative selected may not be the alternative that best meets the goals or needs of the City. Section 15126(e)(2) of the CEQA Guidelines requires that an environmentally superior alternative be designated and states, "If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." In this case, the No Project (No Build) Alternative would be considered the environmentally superior alternative, because the project site is assumed to remain in its current condition under the alternative. Consequently, as shown in Table 7-1 below, the No Project (No Build) Alternative would result in no impacts related to the majority of the resources areas where potentially significant and/or significant and unavoidable impacts were identified for the Proposed Project, and fewer impacts than the Proposed Project related to the three other resources areas where potentially significant and/or significant and unavoidable impacts were identified for the Proposed Project. However, the No Project (No Build) Alternative would not meet any of the project objectives, and thus, an environmentally superior alternative among the other alternatives must be identified pursuant to CEQA.

Apart from the No Project (No Build) Alternative, the Higher Number of Units – Same Footprint Alternative would meet all project objectives, and would satisfy Project Objectives 1, 2, and 7 to a greater extent than the Proposed Project. In addition, as discussed above and shown in Table 7-1, the Higher Number of Units – Same Footprint Alternative would result in fewer impacts than the Proposed Project related to Transportation; specifically, the significant and unavoidable VMT impact (project-level and cumulative) related to conflicting or being inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) would not occur under the Alternative. The Alternative would result in similar impacts as the Proposed Project related to Agricultural Resources, Biological Resources, Cultural and Tribal Cultural Resources, Hazards and Hazardous Materials, Hydrology and Water Quality, and Noise, whereas greater impacts could occur related to Aesthetics, Geology and Soils, and Population and Housing. It is noted that the temporary significant and unavoidable construction impact related to Noise and the significant and unavoidable wetland impacts related to Biological Resources identified for the Proposed Project would still occur under the Alternative. In addition, as previously discussed, due to the reduction in VMT associated with the Alternative, a reduction would occur in emissions of criteria pollutants and GHGs, and fewer impacts could occur related to Air Quality, Greenhouse Gas Emissions, and Energy. Overall, the Higher Number of Units – Same Footprint Alternative is the only alternative that eliminates the Proposed Project's significant and unavoidable VMT impacts. Thus, Higher Number of Units – Same Footprint Alternative is considered the environmentally superior alternative.

Table 7-1
Comparison of Significant Environmental Impacts for Project Alternatives

Impact	Proposed Project	Biological Resources Preservation Alternative	No Project (No Build) Alternative	Lower Number of Units – Same Footprint Alternative	Agricultural Resource Preservation Alternative	Higher Number of Units – Same Footprint Alternative	Off-Site Project Alternative
4.1 Aesthetics							
4.1-1 Have a substantial adverse effect on a scenic vista.	**Significant and Unavoidable**	**Fewer***	None	**Similar***	**Fewer***	**Greater***	**Similar***
4.1-4 Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.	Less-Than-Significant with Mitigation	Fewer	None	Similar	Similar	Similar	Similar
4.1-5 Have a substantial adverse effect on a scenic vista associated with development of the Proposed Project or Biological Resources Preservation Alternative in combination with future buildout of the City of Davis.	**Cumulatively Considerable and Significant and Unavoidable**	**Fewer***	None	**Similar***	**Fewer***	**Greater***	**Similar***
4.1-6 Creation of new sources of light or glare associated with development of the Proposed Project or Biological Resources Preservation Alternative in combination with future buildout of the City of Davis.	Less Than Cumulatively Considerable with Mitigation	Fewer	None	Similar	Similar	Similar	Similar
4.2 Agricultural Resources							
4.2-1 Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use or agricultural land as defined in the CKH Act (Government Code Section 56064).	**Significant and Unavoidable**	**Fewer***	None	**Similar***	**Fewer***	**Similar***	**Fewer***
4.2-4 Involve changes in the existing environment which, due to their location or nature, could cumulatively result in loss of Farmland to non-agricultural use.	**Cumulatively Considerable and Significant and Unavoidable**	**Fewer***	None	**Similar***	**Fewer***	**Similar***	**Fewer***
4.3 Air Quality, Greenhouse Gas Emissions, and Energy							
4.3-2 Conflict with or obstruct implementation of the applicable air quality plan during project operation.	**Significant and Unavoidable**	**Greater***	Fewer	**Similar***	**Similar***	**Fewer***	**Fewer***

Table 7-1
Comparison of Significant Environmental Impacts for Project Alternatives

Impact	Proposed Project	Biological Resources Preservation Alternative	No Project (No Build) Alternative	Lower Number of Units – Same Footprint Alternative	Agricultural Resource Preservation Alternative	Higher Number of Units – Same Footprint Alternative	Off-Site Project Alternative
4.3-6 Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).	**Cumulatively Considerable and Significant and Unavoidable**	**Greater***	Fewer	**Similar***	**Similar***	**Fewer***	**Fewer***
4.3-7 Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs during construction.	Less-Than-Cumulatively-Considerable with Mitigation	Greater	Fewer	Similar	Fewer	Fewer	Fewer
4.3-8 Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs during operation.	**Cumulatively Considerable and Significant and Unavoidable**	**Greater***	Fewer	**Similar***	**Similar***	**Fewer***	**Fewer***
4.4 Biological Resources							
4.4-1 Have a substantial adverse effect, either directly or through habitat modifications, on special-status plant species.	Less-Than-Significant with Mitigation	Fewer	Fewer	Similar	Fewer	Similar	Similar
4.4-2 Have a substantial adverse effect, either directly or through habitat modifications, on Crotch's bumble bee.	Less-Than-Significant with Mitigation	Fewer	Fewer	Similar	Fewer	Similar	Similar
4.4-3 Have a substantial adverse effect, either directly or through habitat modifications, on special-status branchiopods.	Less-Than-Significant with Mitigation	Fewer	Fewer	Similar	Similar	Similar	Fewer
4.4-4 Have a substantial adverse effect, either directly or through habitat modifications, on monarch butterfly.	Less-Than-Significant with Mitigation	Fewer	Fewer	Similar	Similar	Similar	Similar

Table 7-1
Comparison of Significant Environmental Impacts for Project Alternatives

Impact	Proposed Project	Biological Resources Preservation Alternative	No Project (No Build) Alternative	Lower Number of Units – Same Footprint Alternative	Agricultural Resource Preservation Alternative	Higher Number of Units – Same Footprint Alternative	Off-Site Project Alternative
4.4-5 Have a substantial adverse effect, either directly or through habitat modifications, on VELB.	Less-Than-Significant with Mitigation	Similar	Fewer	Similar	Similar	Similar	Similar
4.4-6 Impacts to western spadefoot either directly (e.g., cause a wildlife population to drop below self-sustaining levels, threaten to eliminate an animal community) or through substantial habitat modifications.	Less-Than-Significant with Mitigation	Fewer	Fewer	Similar	Similar	Similar	Similar
4.4-7 Have a substantial adverse effect, either directly or through habitat modifications, on northwestern pond turtle.	Less-Than-Significant with Mitigation	Similar	Fewer	Similar	Similar	Similar	Similar
4.4-8 Have a substantial adverse effect, either directly or through habitat modifications, on tricolored blackbird.	Less-Than-Significant with Mitigation	Fewer	None	Similar	Similar	Similar	Similar
4.4-9 Have a substantial adverse effect, either directly or through habitat modifications, on burrowing owl.	Less-Than-Significant with Mitigation	Fewer	Fewer	Similar	Fewer	Similar	Similar
4.4-10 Have a substantial adverse effect, either directly or through habitat modifications, on Swainson's hawk or white-tailed kite.	Less-Than-Significant with Mitigation	Fewer	None	Similar	Fewer	Similar	Similar
4.4-11 Have a substantial adverse effect, either directly or through habitat modifications, on other nesting birds and raptors protected under the MBTA and CFGC.	Less-Than-Significant with Mitigation	Similar	None	Similar	Fewer	Similar	Similar
4.4-12 Have a substantial adverse effect, either directly or through habitat modifications, on special-status roosting bats.	Less-Than-Significant with Mitigation	Similar	None	Similar	Fewer	Similar	Similar
4.4-13 Have a substantial adverse effect, either directly or through habitat modifications, on American badger.	Less-Than-Significant with Mitigation	Similar	None	Similar	Fewer	Similar	Similar
4.4-14 Have a substantial adverse effect on any riparian habitat or other Sensitive Natural Community identified in local or regional plans, policies, regulations or by the CDFW or USFWS.	Less-Than-Significant with Mitigation	Similar	Fewer	Similar	Similar	Similar	Fewer

Table 7-1
Comparison of Significant Environmental Impacts for Project Alternatives

Impact	Proposed Project	Biological Resources Preservation Alternative	No Project (No Build) Alternative	Lower Number of Units – Same Footprint Alternative	Agricultural Resource Preservation Alternative	Higher Number of Units – Same Footprint Alternative	Off-Site Project Alternative
4.4-15 Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	**Significant and Unavoidable**	Fewer	**Similar or Fewer***	**Similar***	**Similar***	**Similar***	Fewer
4.4-17 Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, or have a substantial adverse effect on the environment by converting oak woodlands or impacting individual trees.	Less-Than-Significant with Mitigation	Similar	None	Similar	Similar	Similar	Fewer
4.4-18 Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.	Less-Than-Significant with Mitigation	Similar	None	Similar	Similar	Similar	Similar
4.4-19 Cumulative loss of habitat for special-status species.	**Cumulatively Considerable and Significant and Unavoidable**	Fewer	**Similar or Fewer***	**Similar***	**Similar***	**Similar***	**Fewer**
4.5 Cultural and Tribal Cultural Resources							
4.5-1 Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines, Section 15064.5.	Less-Than-Significant with Mitigation	Similar	None	Similar	Similar	Similar	Fewer
4.5-2 Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to CEQA Guidelines, Section 15064.5.	Less-Than-Significant with Mitigation	Fewer	Fewer	Similar	Fewer	Similar	Fewer
4.5-3 Disturb any human remains, including those interred outside of dedicated cemeteries.	Less-Than-Significant with Mitigation	Fewer	Fewer	Similar	Fewer	Similar	Fewer
4.5-4 Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074.	Less-Than-Significant with Mitigation	Fewer	Fewer	Similar	Fewer	Similar	Fewer

Table 7-1
Comparison of Significant Environmental Impacts for Project Alternatives

Impact	Proposed Project	Biological Resources Preservation Alternative	No Project (No Build) Alternative	Lower Number of Units – Same Footprint Alternative	Agricultural Resource Preservation Alternative	Higher Number of Units – Same Footprint Alternative	Off-Site Project Alternative
4.6 Geology and Soils							
4.6-3 Be located on a geological 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, or be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code, creating substantial risks to life or property.	Less-Than-Significant with Mitigation	Similar	None	Fewer	Fewer	Greater	Fewer
4.6-4 Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	Less-Than-Significant with Mitigation	Fewer	None	Similar	Similar	Similar	Similar
4.7 Hazards and Hazardous Materials							
4.7-2 Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment.	Less-Than-Significant with Mitigation	Similar	None	Similar	Fewer	Similar	Fewer
4.8 Hydrology and Water Quality							
4.8-1 Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality during construction.	Less-Than-Significant with Mitigation	Similar	None	Similar	Fewer	Similar	Fewer
4.8-2 Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality during operations.	Less-Than-Significant with Mitigation	Similar	None	Similar	Fewer	Similar	Fewer
4.8-4 Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: substantially increase the rate or amount of surface runoff in a manner which would result in	Less-Than-Significant with Mitigation	Similar	None	Similar	Fewer	Similar	Fewer

Table 7-1
Comparison of Significant Environmental Impacts for Project Alternatives

Impact	Proposed Project	Biological Resources Preservation Alternative	No Project (No Build) Alternative	Lower Number of Units – Same Footprint Alternative	Agricultural Resource Preservation Alternative	Higher Number of Units – Same Footprint Alternative	Off-Site Project Alternative
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.							
4.8-5 Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows, or in flood hazard, tsunami, or seiche zone, risk release of pollutants due to project inundation.	Less-Than-Significant with Mitigation	Similar	None	Similar	Fewer	Similar	Fewer
4.10 Noise							
4.10-1 Generation of a substantial temporary 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.	**Significant and Unavoidable**	**Similar***	Fewer	**Similar***	**Similar***	**Similar***	Fewer
4.11 Population and Housing							
4.11-1 Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure).	**Significant and Unavoidable**	**Similar***	None	**Fewer***	**Fewer***	**Greater***	**Similar***
4.11-2 Cumulative unplanned population growth.	**Cumulatively Considerable and Significant and Unavoidable**	**Similar***	None	**Fewer***	**Fewer***	**Greater***	**Similar***

Table 7-1
Comparison of Significant Environmental Impacts for Project Alternatives

Impact	Proposed Project	Biological Resources Preservation Alternative	No Project (No Build) Alternative	Lower Number of Units – Same Footprint Alternative	Agricultural Resource Preservation Alternative	Higher Number of Units – Same Footprint Alternative	Off-Site Project Alternative
4.13 Transportation							
4.13-1 Conflict with a program, plan, ordinance, or policy addressing the circulation system during construction activities.	Less-Than-Significant with Mitigation	Similar	None	Similar	Similar	Similar	Similar
4.13-2 Conflict with a program, plan, ordinance, or policy addressing the circulation system, including pedestrian and bicycle facilities.	Less-Than-Significant with Mitigation	Similar	None	Fewer	Fewer	Greater	Similar
4.13-3 Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit facilities and services.	**Significant and Unavoidable**	**Similar***	None	**Fewer***	**Fewer***	**Greater***	**Similar***
4.13-4 Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).	**Significant and Unavoidable**	**Similar***	None	**Greater***	**Greater***	**Fewer**	**Fewer***
4.13-7 Conflict with a program, plan, ordinance, or policy addressing the circulation system, including pedestrian and bicycle facilities, associated with cumulative development of the Proposed Project or the BRPA in combination with future buildout of the City of Davis.	Less-Than-Significant with Mitigation	Similar	None	Fewer	Fewer	Greater	Similar
4.13-8 Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit facilities and services, associated with cumulative development of the Proposed Project or the BRPA in combination with future buildout of the City of Davis.	**Significant and Unavoidable**	**Similar***	None	**Fewer***	**Fewer***	**Greater***	**Similar***

Table 7-1
Comparison of Significant Environmental Impacts for Project Alternatives

Impact	Proposed Project	Biological Resources Preservation Alternative	No Project (No Build) Alternative	Lower Number of Units – Same Footprint Alternative	Agricultural Resource Preservation Alternative	Higher Number of Units – Same Footprint Alternative	Off-Site Project Alternative
4.13-9 Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) associated with cumulative development of the Proposed Project or the BRPA in combination with future buildout of the City of Davis.	**Significant and Unavoidable**	**Similar***	None	**Greater***	**Greater***	**Fewer**	**Fewer***
4.13-11 Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) associated with cumulative development of the Proposed Project or the BRPA in combination with future buildout of the City of Davis.	**Significant and Unavoidable**	**Similar***	None	**Similar***	**Similar***	**Similar***	**Greater***

Note: No Impact = "None;" Greater than the Proposed Project = "Greater," Less than Proposed Project = "Fewer;" and Similar to Proposed Project = "Similar"
Significant and Unavoidable impacts are presented in **bold** font.

* Significant and Unavoidable impact(s) determined for the Proposed Project would still be expected to occur under the Alternative.

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