



**Solano County
HD RANCH BIOGAS FACILITY
USE PERMIT AMENDMENT
*Initial Study and
Mitigated Negative Declaration***

September 2026

CEQA Lead Agency:

County of Solano

CHAPTER 1 – PART I OF INITIAL STUDY PROJECT DESCRIPTION

1.1 INTRODUCTION

The following analysis is provided by the Solano County Department of Resource Management as a review of and supplement to the applicant's completed "Part I of Initial Study". These two documents, Part I and II, comprise the Initial Study prepared in accordance with the California Environmental Quality Act (CEQA) Guidelines, Section 15063.

Project Title:	HD Ranch Biogas Facility
Application Number:	Amendment to U-01-06
Project Location:	7755 Midway Road, near Dixon (unincorporated County)
Assessor Parcel No.(s):	APNs 112-060-060, 112-060-070, and 112-060-080
Project Sponsor's Name and Address:	California Bioenergy 2134 E Mineral King Ave Visalia, CA 93292

General Information

This Mitigated Negative Declaration (MND) has been prepared by the County of Solano, as lead agency, pursuant to the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.), to analyze and disclose the environmental effects associated with the project. This document discusses the proposed project, the environmental setting for the proposed project, and the potential for impacts on the environment from the proposed project and any measures incorporated which will minimize, avoid and/or provide mitigation measures for the impacts of the proposed project on the environment.

- ☐ Please review this Initial Study. You may order additional copies of this document from the Solano County Department of Resource Management Planning Services Division at 675 Texas Street, Fairfield, CA, 94533.
- ☐ We welcome your comments. If you have any comments regarding the proposed project, please send your written comments to this Department by the deadline listed below.
- ☐ Submit comments via postal mail to:

Department of Resource Management
Planning Division
Attn: Travis Kroger, Senior Planner
675 Texas Street

Fairfield, CA 94533

- ☐ Submit comments via email to: planning@solanocounty.com
- ☐ Submit comments by the deadline of: **October 9, 2026**

Next Steps

After comments are received from the public and any reviewing agencies, the Department may recommend that the environmental review is adequate and that a Mitigated Negative Declaration be adopted or that the environmental review is not adequate and that further environmental review is required.

1.2 ENVIRONMENTAL DETERMINATION

On the basis of this Initial Study the Solano County Department of Resource Management finds:

- ☐ The proposed project could not have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.
- ☒ Although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the project proponent has agreed to revise the project to avoid any significant effect. **A MITIGATED NEGATIVE DECLARATION** will be prepared.
- ☐ The proposed project could have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT (EIR)** is required.
- ☐ The proposed project could have a significant effect on the environment, but at least one effect has been (1) adequately analyzed in a previous document pursuant to applicable legal standards, and (2) addressed by mitigation measures based on the previous analysis as described in the attached initial study. An EIR is required that analyzes only the effects that were not adequately addressed in a previous document.
- ☐ That although the proposed project could have a significant effect on the environment, no further environmental analysis is required because all potentially significant effects have been (1) adequately analyzed in an earlier EIR or **NEGATIVE DECLARATION** pursuant to applicable standards, and (2) avoided or mitigated pursuant to that earlier EIR or **NEGATIVE DECLARATION**, including revisions or mitigation measures that are included in the project, and further analysis is not required.

9.8.2026

Date



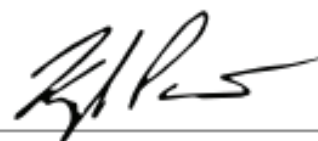
Travis Kroger, Senior Planner
County of Solano
Department of Resource Management

1.3 INCORPORATION OF MITIGATION MEASURES INTO THE PROPOSED PROJECT

By signing this document, the project proponent amends the project description to include the mitigation measures as set forth in Section 2.

8/11/2026

Date



Kyle Parreira, PE – 4Creeks, Inc.
On behalf of California Bioenergy
Project Proponent

1.4 CALIFORNIA ENVIRONMENTAL QUALITY ACT GUIDELINES

Section 15063 of the California Environmental Quality Act (CEQA) Guidelines requires that the Lead Agency prepare an Initial Study to determine whether a discretionary project will have a significant effect on the environment. All phases of the project planning, implementation, and operation must be considered in the Initial Study. The purposes of an Initial Study, as listed under Section 15063(c) of the CEQA Guidelines, include:

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

1.5 INITIAL STUDY

This document is the Initial Study/Mitigated Negative Declaration for the proposed construction and operation of a covered anaerobic digester and supporting infrastructure on-site. (Project). Solano County will act as the Lead Agency for this Project under CEQA and the CEQA Guidelines.

1.6 ENVIRONMENTAL CHECKLIST

The Lead Agency may use the CEQA Environmental Checklist Form (CEQA Guidelines, Section 15063(d)(3) and (f)) in preparation of an Initial Study to provide information for determination if there are significant effects of the project on the environment. A copy of the completed Environmental Checklist is set forth in **Section 2**.

1.7 NOTICE OF INTENT TO ADOPT A NEGATIVE DECLARATION

The Lead Agency shall provide a Notice of Intent to Adopt a Negative Declaration (CEQA Guidelines, Section 15072) to the public, responsible agencies, trustee agencies and the county clerk within which the project is located, sufficiently prior to adoption by the Lead Agency of the Negative Declaration to allow the public and agencies the review period. The public review period (CEQA Guidelines, Section 15105) shall not be less than 20 days, unless the Initial Study/Negative Declaration is submitted to the State Clearinghouse, in which case the review period shall not be less than 30 days unless a shorter period is approved by the State Clearinghouse (CEQA Guidelines, Section 15073(a)).

Prior to approving a project, the decision-making body of the Lead Agency shall consider the proposed Negative Declaration or Mitigated Negative Declaration together with any comments received during the public review process, and shall adopt the proposed Negative Declaration or Mitigated Negative Declaration only if it finds on the basis of the whole record before it (including the Initial Study and any comments received), that there is no substantial evidence that the project will have a significant effect on the environment and that the Negative Declaration reflects the Lead Agency's independent judgment and analysis (CEQA Guidelines, Section 15074(b)).

The written and oral comments received during the public review period will be considered by Solano County prior to adopting the Negative Declaration. Regardless of the type of CEQA document that must be prepared, the overall purpose of the CEQA process is to:

- 1) Assure that the environment and public health and safety are protected in the face of discretionary projects initiated by public agencies or private concerns;
- 2) Provide for full disclosure of the project's environmental effects to the public, the agency decision-makers who will approve or deny the project, and the trustee agencies responsible with managing resources (e.g. wildlife, air quality) that may be affected by the project; and

- 3) Provide a forum for public participation in the decision-making process pertaining to potential environmental effects.

According to CEQA Guidelines Section 15070, a public agency shall prepare or have prepared a proposed negative declaration for a project subject to CEQA when:

The initial study shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, or the initial study identifies potentially significant effects, but:

- 1) *Revisions in the project plans or proposals made by, or agreed to by the applicant before a proposed mitigated negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and*
- 2) *There is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment.*

The Environmental Checklist Discussion contained in Section Three of this document has determined that the environmental impacts of the Project are less than significant with mitigation measures and that a Mitigated Negative Declaration is adequate for adoption by the Lead Agency.

1.8 NEGATIVE DECLARATION OR MITIGATED NEGATIVE DECLARATION

The Lead Agency shall prepare or have prepared a proposed Negative Declaration or Mitigated Negative Declaration (CEQA Guidelines Section 15070) for a project subject to CEQA when the Initial Study shows that there is no substantial evidence, in light of the whole record before the agency, that the Project may have a significant effect on the environment. The proposed Negative Declaration or Mitigated Negative Declaration circulated for public review shall include the following:

- (a) A brief description of the project, including a commonly used name for the project.
- (b) The location of the project, preferably shown on a map.
- (c) A proposed finding that the project will not have a significant effect on the environment.
- (d) An attached copy of the Initial Study documenting reasons to support the finding.
- (e) Mitigation measures, if any.

1.9 INTENDED USES OF INITIAL STUDY/NEGATIVE DECLARATION DOCUMENTS

The Initial Study/Negative Declaration document is an informational document that is intended to inform decision-makers, other responsible or interested agencies, and the general public of

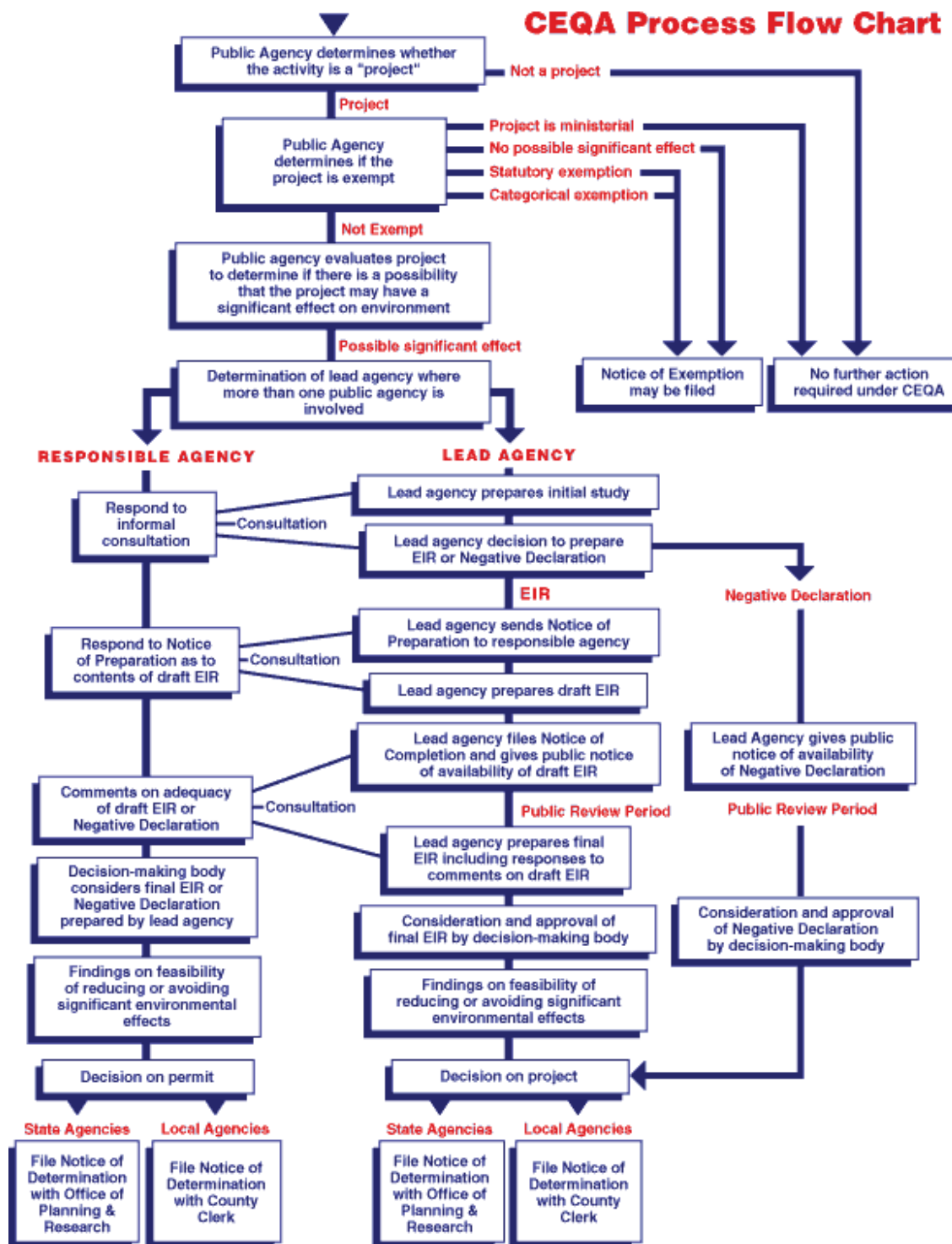
potential environmental effects of the proposed Project. The environmental review process has been established to enable the public agencies to evaluate environmental consequences and to examine and implement methods of eliminating or reducing any adverse impacts. While CEQA requires that consideration be given to avoiding environmental damage, the Lead Agency must balance any potential environmental effects against other public objectives, including economic and social goals. Solano County, as the Lead Agency, will make a determination, based on the environmental review for the Environmental Study, Initial Study and comments from the general public, if there are less than significant impacts from the proposed project and the requirements of CEQA can be met by adoption of a Mitigated Negative Declaration.

1.10 NOTICE OF DETERMINATION (NOD)

The Lead Agency shall file a Notice of Determination within five working days after deciding to approve the Project. The Notice of Determination (CEQA Guidelines, Section 15075) shall include the following:

- (1) An identification of the project including the project title as identified on the proposed negative declaration, its location, and the State Clearinghouse identification number for the proposed negative declaration if the notice of determination is filed with the State Clearinghouse.*
- (2) A brief description of the project.*
- (3) The agency's name and the date on which the agency approved the project.*
- (4) The determination of the agency that the project will not have a significant effect on the environment.*
- (5) A statement that a negative declaration or a mitigated negative declaration was adopted pursuant to the provisions of CEQA.*
- (6) A statement indicating whether mitigation measures were made a condition of the approval of the project, and whether a mitigation monitoring plan/program was adopted.*
- (7) The address where a copy of the negative declaration or mitigated negative declaration may be examined.*
- (8) The identity of the person undertaking a project which is supported, in whole or in part, through contracts, grants, subsidies, loans, or other forms of assistance from one or more public agencies or the identity of the person receiving a lease, permit, license, certificate, or other entitlement for use from one or more public agencies.*

1.11 CEQA PROCESS FLOW CHART



1.12 ENVIRONMENTAL SETTING

The 621-acre HD Ranch is an existing dairy ranch with an existing Conditional Use Permit U-01-06 that allows operation of the dairy farm, located within a rural unincorporated area of Solano County, northeast of the intersection of Midway Road and Sikes Road, near the city of Dixon. The proposed project is located interior to the site, substantially set back from surrounding roadways, within a portion of the site within the boundaries of the existing dairy operation. The proposed biogas facility would not be visible from the surrounding area.

The Project Site encompasses portions of three parcels and totals approximately 191,000 square feet (approximately 4.4 acres) of ground disturbance within the existing 621-acre dairy facility known as HD Ranch. The Site is topographically flat, with slopes ranging from 0 to 6 percent, and is predominantly occupied by existing dairy operations and associated cropland.

The Project Area is composed of heavily disturbed and developed land with paved and unpaved roads, covered hay storage barns, covered cattle barns, fenced feed lots and corrals, milking stalls and an operating dairy facility. The Project Area also includes cattle wastewater treatment ponds, a mowed sod lawn, parking lot and ruderal disturbed areas, dominated by non-native or invasive herbaceous plant species of disturbed areas, such as field mustard, milk-thistle and perennial rye grass

The existing HD Ranch dairy facility includes various agricultural structures, such as a milk barn, free stall barns, mechanical separators, silage storage areas, wastewater retention ponds, open lot corrals, and calf hutches, serving existing dairy operations. Access to the Site is provided from Midway Road.

The general environmental setting includes minimal natural vegetation, as the property has been historically used for agricultural and dairy production activities. An irrigation ditch lies directly east of the facility, facilitating local agricultural irrigation practices. Stormwater drainage on-site is directed toward existing settling and storage ponds utilized for wastewater management in dairy operations. No significant natural waterways or sensitive biological habitats are located on or adjacent to the Project Site.

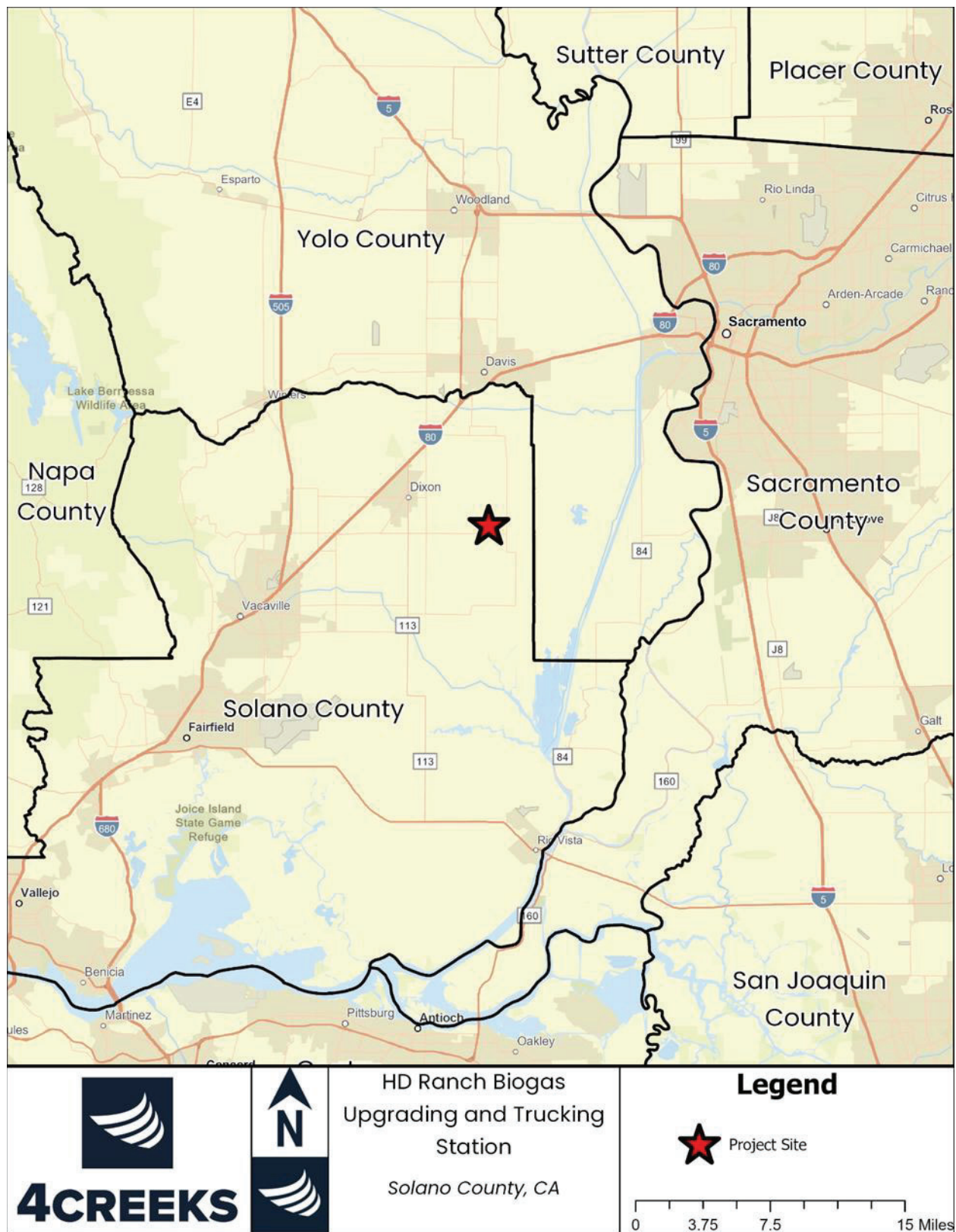


Figure 1-1 Regional Map

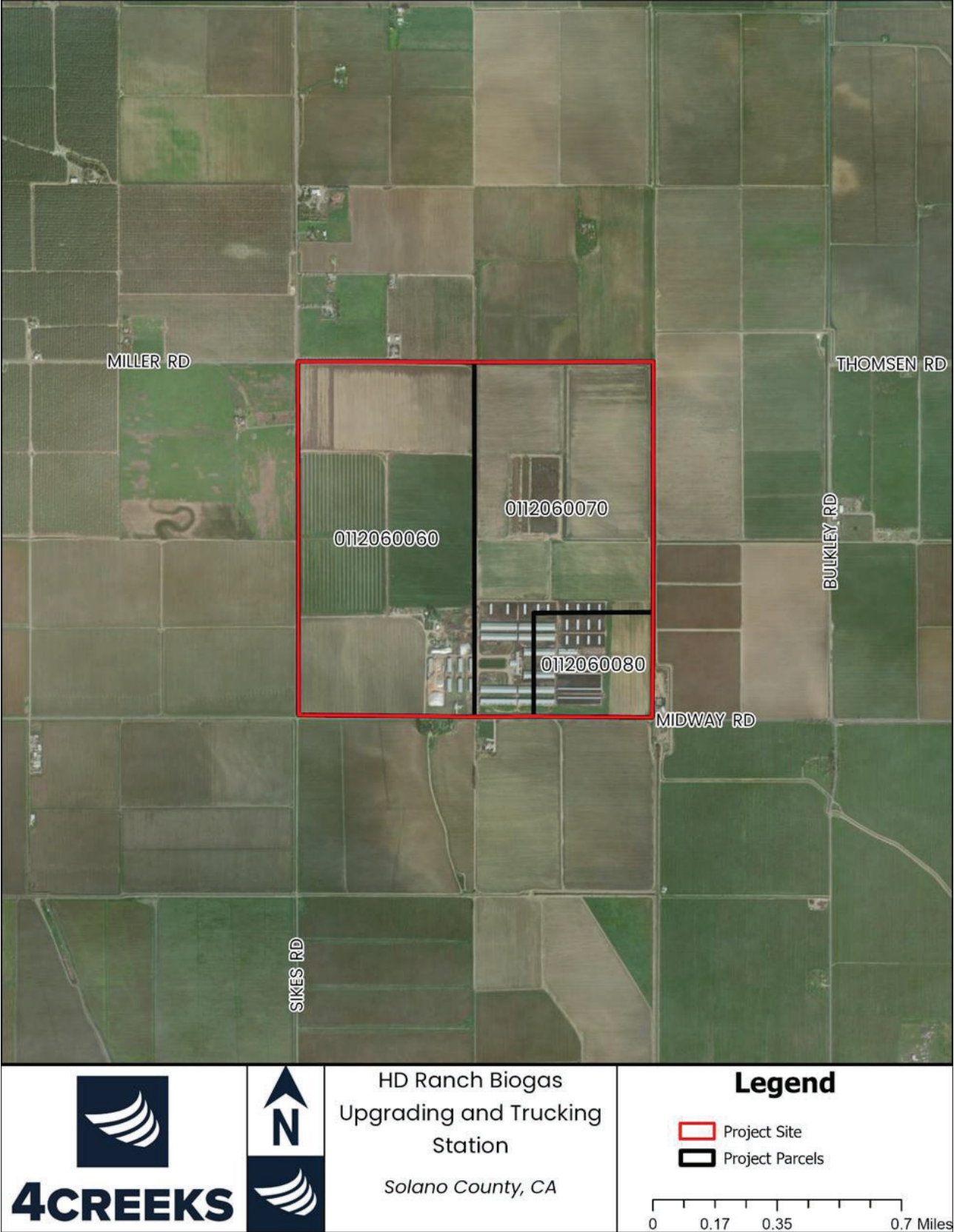


Figure 1-2 Aerial Photograph

1.13 PROJECT DESCRIPTION AND PURPOSE

Surrounding land primarily consists of agricultural operations, including row crops farmed to support dairy activities. Agricultural parcels border the Project Site on all sides and are similarly zoned Agricultural by Solano County. Existing residential uses in the surrounding area are minimal; the nearest off-site residence is located approximately 2,300 feet north of the proposed Project area.

HD Ranch proposes to amend Use Permit U-01-06 to construct and operate a covered anaerobic digester and supporting infrastructure on-site. and would involve approximately 191,000 square feet (approximately 4.4 acres) of ground disturbance, with the entire project site.

The purpose of the Project is to reduce methane emissions from livestock waste by capturing and upgrading biogas through an anaerobic digestion process. The processed biogas will be used to produce Renewable Compressed Natural Gas (RCNG) and transported off-site for injection into a natural gas system to serve as sustainable vehicle fuel. The product RCNG is currently planned to be trucked to an interconnection location south of Tulare, CA. In the future, there may be opportunities to inject the RNG at locations in Gustine or Madera. At the building permit stage, applicants are required to provide sufficient information to the fire district. Once substantial design is completed, the design package will be submitted to the City of Dixon Fire Department for review and approval. The proposed project has been designed to capture and divert all stormwater from the new system to the existing wastewater retention ponds for onsite storage, as confirmed in the approved Waste Management Plan. All improvements will be under 20 feet in height. The tallest component of the Project will be a light post at 18 feet tall. See Figure 3-3.

A Grading Permit application will be submitted for this Project, once substantial design has been completed. The proposed physical improvements for this Project encompass a covered lagoon digester, a conditioning facility, and a dedicated trucking station—each designed to support efficient waste processing, treatment, and transport operations. Grading plans for each of these areas will be included in the grading permit application.

Anaerobic Digester

The proposed anaerobic digester is a covered lagoon designed to capture gas that would otherwise be released as fugitive emissions from dairy wastewater. The digester will consist of a double-lined lagoon, constructed to meet Regional Water Quality Control Board (RWQCB) Tier 1 specifications, and covered with high-density polyethylene (HDPE). The digester will measure approximately 430 feet long by 400 feet wide, with an average depth of 20 feet and side slopes of 2:1 (horizontal:vertical), resulting in a total capacity of approximately 10.6 million gallons, including two feet of freeboard. The height of the digester structure is above ground level, with the HDPE cover extending minimally above the surface to accommodate gas collection. The proposed lagoon has been designed to Solano County and CV-RWQCB Tier 1

standards, and in coordination with Water Board staff. The digester will remain below 18 feet in height.

Biogas Conditioning and Upgrading Plant

The biogas conditioning plant is a series of equipment designed to process raw methane captured by the digester into RCNG. The conditioning plant includes a hydrogen sulfide (H₂S) pre-treatment system, activated carbon filter, micro-Gas Chromatography System (micro-GCS), gas chromatographs, chiller, moisture trap, injection compressor, blower skid, and various valves and analyzers to ensure gas quality. The plant is constructed from durable materials such as steel and HDPE, depending on location, pressures, and exposure to environmental elements. The conditioning process removes H₂S and moisture from the biogas, leaving a composition primarily of methane (CH₄) and carbon dioxide (CO₂). The gas then enters a Biogas Upgrading System (BEMS) to remove CO₂, producing RCNG suitable for filling compressed natural gas (CNG) tanks for off-site hauling via a trucking station integrated into the facility. The biogas trucking facility simply consists of a filling panel to receive biogas from the upgrader and connect to trailer-mounted tanks. The tanks are filled with product gas, renewable natural gas (RNG), from the system so that the RNG can be trucked off site for interconnection to a utility transmission line. The biogas conditioning plant will remain below 18 feet in height.

The biogas is piped underground from the digester to the conditioning plant and upgrader using HDPE or steel piping, selected based on operational requirements and environmental exposure. The biogas collection and conditioning process operates as a closed system with emergency vents to maintain proper pressures and ensure site safety. Biogas is not classified as a hazardous material, as it is a natural gas of similar or improved quality compared to fugitive emissions currently released from dairy operations.

Supporting Infrastructure and Construction

Supporting infrastructure includes a new lined and covered wastewater pond, a sand trap (approximately 50 feet by 30 feet), new wastewater and biogas piping, and modifications to the existing flush pit, which will receive a new lift pump to transfer wastewater to the digester. All pond improvements will comply with RWQCB standards. Construction activities will involve earthwork, concrete pouring, pipe laying, and lining of the new wastewater pond to support the installation and operation of the anaerobic digester and associated systems. Electrical and control systems will be installed, along with improvements to internal access areas for operational support.

Operational Details

The anaerobic digester system will operate remotely on a continuous basis, 24 hours per day, seven days per week, with occasional maintenance and monitoring by staff. Biogas produced on-site will be transported off-site, with an estimated average of one truck trip per day and a maximum of up to seven trips per week.

Environmental and Safety Considerations

No chemicals are produced by this project. Both the wastewater handling and biogas collection and conditioning processes are designed as closed systems, with emergency overflows and vents to ensure proper wastewater management and site safety. The Project addresses potential emissions such as H₂S, which is removed during the conditioning process. Other substances, including ammonia, nitrous oxide, nitrogen leaching, non-methane volatile organic compounds, and formaldehyde, are not generated or introduced by the project. The system is designed to capture and process biogas that would otherwise be released into the atmosphere, thereby reducing environmental impact.

Biogas is classified as a hazardous material under the Globally Harmonized System of Classification and Labelling of Chemicals, where it is designated as an extremely flammable gas. When stored or pressurized, it poses further hazards, requiring regulatory precautions for handling, storage, and transportation.

The HD Ranch Biogas Facility project incorporates several design features and mitigation measures to reduce potential hazards associated with biogas production, handling, and related operations. The project employs closed systems for wastewater handling and biogas collection and conditioning, which minimize the risk of uncontrolled releases. Emergency overflows and vents are integrated to maintain site safety and proper wastewater management. During the conditioning process, H₂S is removed, addressing toxicity concerns. The system captures and processes biogas that would otherwise escape as fugitive emissions from dairy operations, converting it into renewable natural gas and reducing overall greenhouse gas emissions compared to unmanaged releases.

Additional engineering controls include pressure relief systems, shutoff valves, and leak detection mechanisms to prevent explosions or gas leaks. No large-scale storage of highly toxic or reactive materials occurs on-site, and any hazardous materials, such as fuels for maintenance, are stored in approved containers with secondary containment.

This Project improves the sustainability of HD Ranch's operations by reducing methane emissions and producing renewable energy, contributing to regional efforts to promote clean energy and mitigate greenhouse gas emissions.

Parking and Access: Access to the HD Ranch Project site is provided via Midway Road, a public roadway that borders the facility to the south and is in fair condition. On-site circulation includes a 40-foot-wide internal roadway leading to the milk barn, providing sufficient space for vehicle and truck movement. The existing parking area is unpaved, covering approximately 22,100 square feet with a dirt surface, and no new parking areas are proposed as part of the Project. The facility is expected to generate minimal traffic, with an estimated average of one biogas transport truck trip per day and no increase in employee or visitor trips anticipated.

Landscaping and Design: No landscaping is proposed for this Project.

Utilities and Electrical Services: The HD Ranch Project includes utility improvements necessary to support the anaerobic digester and associated infrastructure. Existing domestic water wells are located on-site and will continue to serve the facility. No changes are proposed to the existing sewage disposal system, as the Project does not involve domestic wastewater generation. Stormwater from the facility is directed to the existing on-site storage pond for management and containment. In terms of electrical services, the Project includes the installation of electrical and control systems to support the operation of the digester, biogas conditioning plant, and related equipment. Power is currently available on-site, with utility lines running along Midway Road and the western boundary of the facility.

1.14 ADDITIONAL DATA

NRCS Soil Classification:	Prime and Urban/Other Lands
Agricultural Preserve Status/Contract No.:	Yes: Williamson Act Contract No. 1297
Non-renewal Filed (date):	n/a
Airport Land Use Referral Area:	Travis ALUC Plan, Zone C
Alquist Priolo Special Study Zone:	Not Applicable
Primary or Secondary Management Area of the Suisun Marsh	Not Applicable
Primary or Secondary Zone identified in the Delta Protection Act of 1992:	Not Applicable

1.15 SURROUNDING GENERAL PLAN, ZONING AND LAND USES

	General Plan	Zoning	Land Use
Subject site	Agriculture	Exclusive Agriculture A-40 40-ac minimum	Agriculture
North	Agriculture	Exclusive Agriculture A-40 40-ac minimum	Agriculture- row crops
South	Agriculture	Exclusive Agriculture A-40 40-ac minimum	Agriculture-row crops
East	Agriculture	Exclusive Agriculture A-40 40-ac minimum	Agriculture-row crops
West	Agriculture	Exclusive Agriculture A-40 40-ac minimum	Agriculture-row crops

1.16 LAND USE CONSISTENCY ANALYSIS

General Plan

The subject property is designated Agricultural by the Solano County General Plan. This designation provides areas for the practice of agriculture as the primary use, including areas that contribute significantly to the local agricultural economy, and allows for secondary uses that support the economic viability of agriculture. Agricultural land use designations protect these areas from intrusion by non-agricultural uses and other uses that do not directly support the economic viability of agriculture. Agricultural areas within Solano County are identified within one of 10 geographic regions. The site is within the Dixon Ridge agricultural area which provides for agricultural production, agricultural processing facilities, and agricultural services. This includes both irrigated and dryland farming and grazing activities. Agriculture-related housing is also permitted within areas designated for agriculture to provide farm residences and necessary residences for farm labor housing.

Zoning

The property is zoned Exclusive Agriculture- A-40 (40-acre minimum lot sizes). Agriculture is the major industry in the County generating a large amount of the tax revenue in the unincorporated County. Also, agriculture is the largest single zoning district classification on the County zoning map. The Board of Supervisors has determined that the promotion and preservation of agriculture is of vital interest to the County. The standards stated in the A-40 zoning district preserve agriculture in a number of ways, including allowing agricultural-related support uses, excluding incompatible uses, and protecting the viability of the family farm. Dairy farming and supporting biogas facilities are an allowed use with a use permit.

1.17 RESPONSIBLE, TRUSTEE, & AGENCIES THAT MAY HAVE JURISDICTION

Agencies that May Have Jurisdiction over the Project

- ☐ California Regional Water Quality Control Board – Central Valley
- ☐ Dixon Fire Protection District
- ☐ Solano Resource Conservation District
- ☐ Yolo-Solano Air Quality Management District

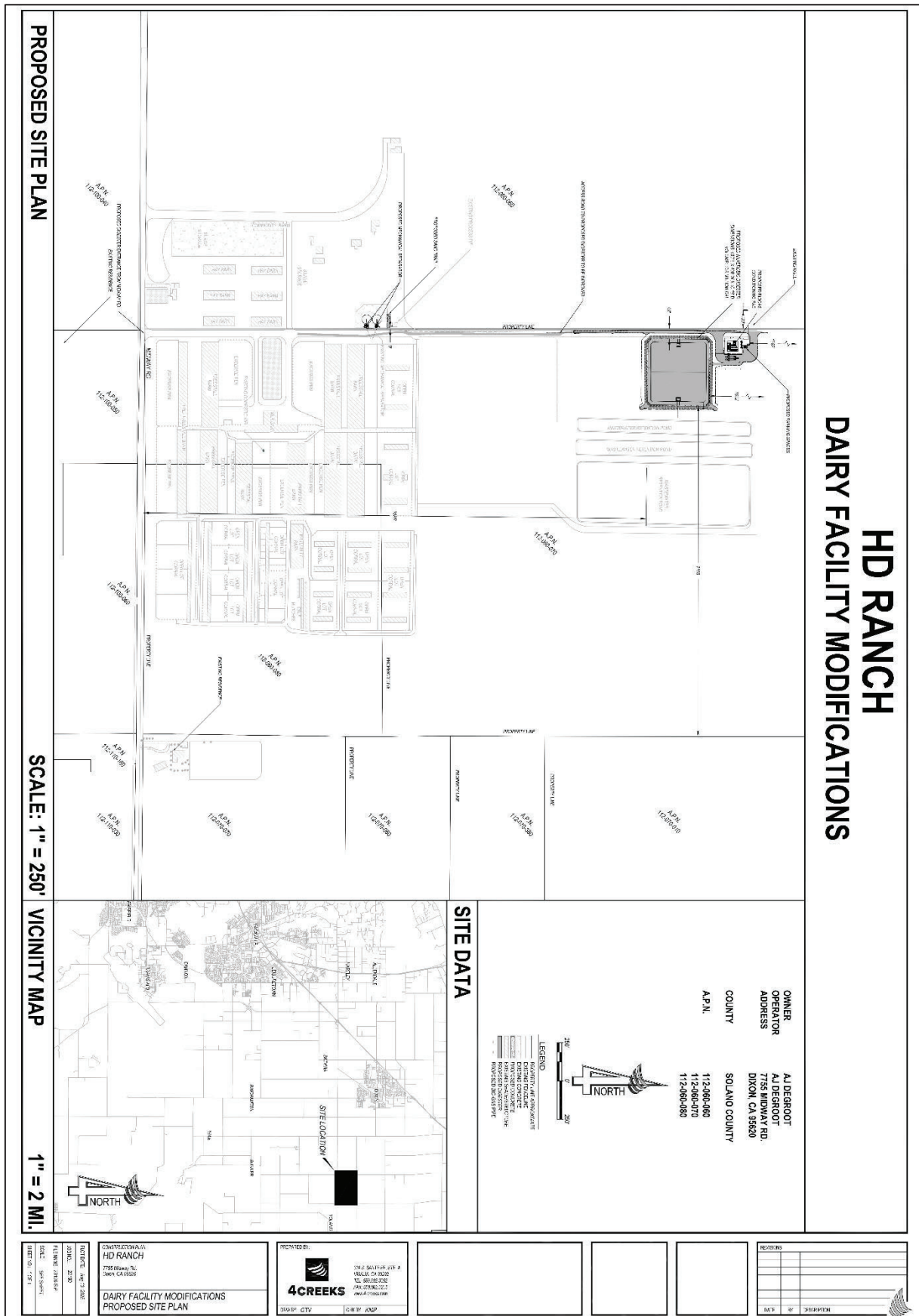


Figure 1-3: Site Plan

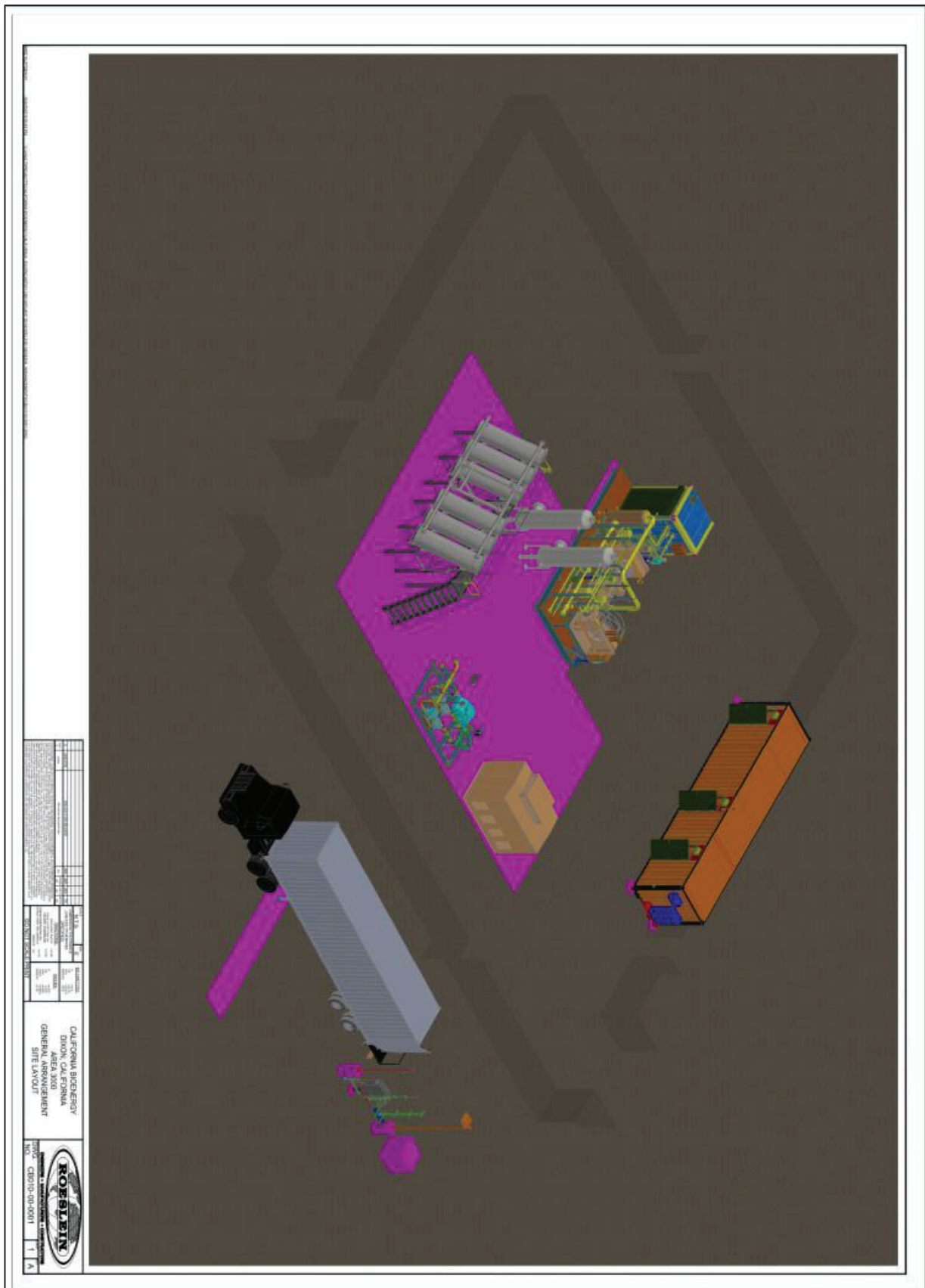


Figure 1-4: Conceptual Site Layout

CHAPTER 2 – EVALUATION OF ENVIRONMENTAL IMPACTS

This chapter discusses the potential for adverse impacts on the environment. Where the potential for adverse impacts exists, the report discusses the affected environment, the level of potential impact on the affected environment and methods to avoid, minimize or mitigate for potential impacts to the affected environment.

Findings of SIGNIFICANT IMPACT

Based on the Initial Study, Part I as well as additional application materials reviewed by the Department of Resource Management, the project does have the potential for significant impacts to any environmental resources.

Findings of LESS THAN SIGNIFICANT IMPACT WITH MITIGATION MEASURES

Based on the Initial Study, Part I as well as the review of the proposed project by the Department of Resource Management, the project requires mitigation measures to reduce potential impacts to less than significant levels.

- | | |
|--|--|
| ☐ CULTURAL RESOURCES | ☐ GEOLOGY AND SOILS (PALEO RESOURCES) |
| ☐ BIOLOGICAL RESOURCE | ☐ HAZARDOUS AND HAZARDOUS MATERIALS |
| ☐ TRIBAL CULTURAL RESOURCES | ☐ MANDATORY FINDINGS OF SIGNIFICANCE |

Findings of LESS THAN SIGNIFICANT IMPACT

Based on the Initial Study, Part I as well as the review of the proposed project by the Department of Resource Management, the following environmental resources were considered and the potential for impact is considered to be less than significant. A detailed discussion of the potential adverse effects on environmental resources is provided below:

- | | |
|---|--|
| ☐ AESTETICS | ☐ GEOLOGY AND SOILS |
| ☐ AGRICULTURE | ☐ GREENHOUSE GASES |
| ☐ AIR QUALITY | ☐ HYDROLOGY |
| ☐ NOISE | ☐ LAND USE |
| ☐ ENERGY | ☐ PUBLIC SERVICES |
| ☐ TRANSPORTATION | ☐ UTILITIES |

Findings of NO IMPACT

Based on the Initial Study, Part I as well as the review of the proposed project by the Department of Resource Management, the following environmental resources were

considered but no potential for adverse impacts to these resources were identified. A discussion of the no impact finding on environmental resources is provided below:

- | | | | |
|--------------------------|-------------------|--------------------------|------------------------|
| ☐ | MINERAL RESOURCES | ☐ | POPULATION AND HOUSING |
| ☐ | RECREATION | ☐ | WILDFIRE |

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites, in the parentheses following each question. A “No Impact” answer is adequately supported if the reference information sources show that the impact simply does not apply to Projects like the one involved (e.g., the Project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on Project-specific factors as well as general standards (e.g., the Project will not expose sensitive receptors to pollutants, based on a Project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as Project-level, indirect as well as direct, and construction as well as operational impact.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.
4. “Negative Declaration: Less Than Significant with Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact.” The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level (mitigation measures from “Earlier Analyses,” as described in (5) below, may be cross-referenced).
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c) (3)(D). In this case, a brief discussion should identify the following:
 - Earlier Analysis Used. Identify and state where they are available for review.
 - Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

- Mitigation Measures. For effects that are “Less than Significant with Mitigation Measures Incorporated.” Describe and mitigation measures which were incorporated or refined from the earlier document and the extent to which they address Site-specific conditions for the Project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

2.1 ENVIRONMENTAL ANALYSIS

The following section evaluates the impact categories and questions in the checklist and identifies mitigation measures, if applicable.

I. AESTHETICS

Would the Project result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within State scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the Site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Environmental Setting

Scenic Resources

Scenic resources in Solano County include landscapes and features that are visually or aesthetically pleasing and contribute to the county's distinct rural and natural character. These features provide a visual benefit to communities and are valued by both residents and visitors. Prominent scenic resources in the county include expansive agricultural fields, marshlands, and the Coast Range, which is visible from much of the county due to the predominantly flat topography in the east. Other notable scenic elements include oak woodlands, the Sacramento–San Joaquin Delta, and heritage trees that enhance the visual quality of local communities and roadways. The Project Site is located in a rural area of Solano County, characterized primarily by agricultural uses and open space. These surrounding agricultural

landscapes and distant ridgelines may be considered scenic resources under the Solano County General Plan.

Scenic Vistas

A scenic vista refers to a viewpoint that offers expansive or distant views of highly valued landscape features for the enjoyment of the public. In Solano County, scenic vistas are often defined by views of the Coast Range to the west and north, open grasslands, and oak-covered hillsides. The Project Site is situated in a relatively flat portion of the county and may offer limited views toward the Coast Range; however, visibility may vary depending on topography and atmospheric conditions. No formally designated scenic vista points are located on or immediately adjacent to the Project Site, but distant views of ridgelines and natural landscape features may contribute to the overall visual character of the area.

Existing Site Photographs

The following photographs show the existing Project Site and surrounding areas.



Photo 1: Non-native perennial rye grass grassland (with mustard) strip along Midway Road on southern boundary



***Photo 2: Hay Storage on the left and covered feedlots and corrals on the right
(View North)***



***Photo 3: View of ruderal weed dominated disturbed area along Midway Road west
of main driveway at entrance (View West)***



Photo 4: Feed lots and open-air barns (View East)



Photo 5: Looking north through the center of the Project Area



Photo 6: HD Ranch Dairy Facility and lawn in central Project area (View East)



Photo 7: Cattle in dairy facility feed lots in Project Area



Photo 8: Covered manure piles near Project Area (View West)



Photo 9: Cattle Wastewater Treatment Ponds in Northern Project Area



Photo 10: Cattle Wastewater Ponds in Northern Project Area

Regulatory Setting

Scenic Roadways

The California Scenic Highway Program was established in 1963 by the State Legislature to protect and enhance the natural beauty of California highways and adjacent corridors through conservation strategies. The State Scenic Highway System includes a list of highways that have either been officially designated or are eligible for designation. State laws governing the scenic highway program are in Sections 260–263 in the Street and Highways Code.

State Scenic Highways

There are not any officially designated scenic highways in Solano County. However, a stretch of State Route (SR) 37 located between the city of Vallejo and the county’s western boundary is defined as an “eligible State scenic highway—not officially designated” by the California Scenic Highway Mapping System (Caltrans 2008). Additionally, SR 160, directly adjacent to the county border in Sacramento County, is a state-designated Scenic Highway. However, neither of these are within the vicinity of the Project Site. The project site is not located on any major highways.

Solano County General Plan

The 2008 General Plan includes the following policies associated with aesthetic resources that relate to the proposed Project:

- **Policy AR.G-1** Recognize, value and support the critical roles of all agricultural lands in the stability and economic well-being of the county.
- **Policy AR. G-3** Support the ability of farmers to earn sufficient income and expand the county's agricultural base by allowing for a wide range of economic activities that support local agriculture.
- **Policy G-5** Ensure availability of affordable energy supplies and require efficiency and conservation measures to minimize energy consumption.
- **Policy RS. P. -35** Protect the unique scenic features of Solano County, particularly hills, ridgelines, wetlands, and water bodies.
- **Policy RS.P-36:** Support and encourage practices that reduce light pollution and preserve views of the night.
- **Policy RS.P-57** Encourage the use of Technology or siting to minimize adverse impacts from energy production facilities on the environment, including wildlife and agricultural resources.
- **Policy RS.P-58:** Require the siting of energy facilities in a manner compatible with surrounding land uses and in a manner that will protect scenic resources.

Discussion

a) Would the Project have a substantial adverse effect on a scenic vista?

Less than Significant Impact: The HD Ranch Project is located within an existing dairy operation in rural Solano County, surrounded primarily by agricultural uses such as row crops. There are no officially designated scenic vistas within or near the Project Site, and the flat topography and built environment of the existing facility limit the Site's visibility from public view corridors. The proposed anaerobic digester and supporting infrastructure would be constructed within the boundaries of the existing facility and would not introduce structures that significantly obstruct or degrade views of recognized scenic resources. The biogas facility would not be visible from any of the surrounding areas because it would be located interior to the site. Therefore, the Project would have a **Less than Significant Impact**.

b) Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within State scenic highway?

No Impact: There are no designated or eligible State scenic highways in the vicinity of the Project Site (Caltrans, 2019). The Project is located along Midway Road in a rural agricultural zone, and the site is not visible from any state-designated scenic highway. Additionally, the site does not contain notable scenic resources such as heritage trees, rock outcroppings, or historic structures. Therefore, the Project would have **No Impact**.

- c) **In non-urbanized areas, would the Project substantially degrade the existing visual character or quality of the Site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?**

Less than Significant Impact: The Project Site is located in a non-urbanized agricultural area and is currently developed as a dairy facility. The proposed anaerobic digester and associated improvements, including the biogas upgrading facility and related infrastructure, would be consistent with the existing agricultural and utility-related character of the site. All new development would be located within the operational boundary of the dairy and would not extend beyond the disturbed footprint. The proposed facility would not be visible from the surrounding area, setback substantially from any main roadways, therefore, it would not contrast sharply with the surrounding built and agricultural environment. As such, the Project would have a **Less than Significant Impact**.

- d) **Would the Project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?**

Less than Significant Impact: The Project includes the installation of new lighting for operational and safety purposes. However, all lighting would be directed downward and shielded to reduce glare and minimize light spillover onto adjacent agricultural lands. Lighting would be limited to areas necessary for nighttime operations and safety, and the Project would not include highly reflective materials or surfaces that would result in substantial glare. The Project would also comply with applicable County regulations regarding exterior lighting in agricultural zones. Given these design features, the Project would not create a substantial source of light or glare that would adversely affect views in the area. There is a **Less than Significant Impact**.

II. AGRICULTURE AND FOREST RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act Contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forestland or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forestland to non-forest use?	☐	☐	☒	☐

Environmental Setting

Solano County is renowned as one of the world's leading agricultural regions, with agriculture playing a pivotal role in Solano County's economy. According to the 2023 Solano County Crop and Livestock Report, agriculture in the County encompasses over 100 different commodities, including fruits, nuts, vegetables, grains, seed crops, nursery stock, livestock, poultry, and apiary

products and services. Solano County contains approximately 329,000 acres of agricultural land, supporting a robust and diverse agricultural economy.

The Project is located in unincorporated Solano County, northeast of the intersection of Midway Road and Sikes Road, near the City of Dixon. The Project Site is currently used as part of an active dairy operation and is designated for agricultural use under the Solano County General Plan. The Site is classified as Prime Agricultural Land by the California Department of Conservation's Farmland Mapping and Monitoring Program (FMMP) and is currently under Williamson Act Contract No. 1297. According to the FMMP, the surrounding lands are also Prime Farmland, primarily for the cultivation of row crops.

Regulatory Setting

California Land Conservation Act of 1965

The California Land Conservation Act of 1965, commonly called the Williamson Act, allows local governments to enter into contracts with private landowners to restrict the activities on specific parcels of land to agricultural or open space uses. The landowners benefit from the contract by receiving significantly reduced property tax assessments. The California Department of Conservation oversees the California Land Conservation Act; however, local governments are responsible for determining specific allowed uses and enforcing the contract.

California Farmland Mapping and Monitoring Program (FMMP)

The FMMP is implemented by the California Department of Conservation (DOC) to conserve and protect agricultural lands within the State. The land included in this program is based on soil type, annual crop yields, and other factors that influence the quality of farmland. The FMMP mapping categories for the site includes prime and urban or other, defined by the California Department of Conservation as follows:

- **Prime Farmland** has the ideal physical and chemical composition for crop production. It has been used for irrigated production for years before classification and can produce sustained yields.
- **Grazing Land** is suitable for livestock grazing. It is part of the important farmland categories and is based on soil quality, moisture supply and ability to store soil moisture.
- **Urban and Built-up Land** is occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.



Figure 2-4: FMMP Map

Discussion

- a) Would the Project 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?**

Less than Significant Impact: The HD Ranch Project is located on land designated as Prime Farmland by the FMMP and is currently under Williamson Act Contract No. 1297. However, the proposed Project would not convert this farmland to non-agricultural use. The Project involves the construction and operation of an anaerobic digester and associated infrastructure to support an existing dairy facility. These improvements are related to and supportive of ongoing agricultural operations, specifically dairy production. The Project does not involve a land use change, subdivision, or urban development that would permanently remove the land from agricultural production. Therefore, the Project would not result in the conversion of Prime Farmland to non-agricultural use, and impacts would be **Less than Significant**.

- b) Would the Project conflict with existing zoning for agricultural use, or a Williamson Act Contract?**

No Impact: The Project Site is zoned for agricultural use and is currently enrolled under Williamson Act Contract No. 1297. The proposed anaerobic digester and supporting infrastructure are an allowed use with a Conditional Use Permit. In the zoning district (Table 28.21 A Table of Allowed Uses)

Solano County's Williamson Act Uniform Rules indicate that compatible uses that are permitted subject to a conditional use permit on nonprime land may be approved based on findings demonstrating the following:

- a. Conditions have been required that mitigate or avoid those onsite and offsite impacts so as to make the use consistent with the principles set for in Section IV (A)(1) to the greatest extent possible, while maintaining the purpose of the use.
- b. The productive capability of the subject land has been considered as well as the extent to which the use may displace or impair agricultural operations.
- c. The use does not include a residential subdivision.

This use is allowed in the agricultural zone with a conditional use permit. The Project takes by product from the cattle operation and does not displace agricultural uses. Conditions of approval will be included for the project to reduce impacts, and mitigation measures are identified to reduce potential impacts to a less than significant level.

Therefore, the Project would not conflict with existing zoning or the Williamson Act contract. There is **No Impact**.

- c) **Would the Project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned timberland Production (as defined by Government Code section 51104(g))?**

No Impact: The Project Site is located in an agricultural area and is not zoned as forest land, timberland, or Timberland Production. The Project would not involve or result in the rezoning of any land designated for timber or forest uses. Therefore, **No Impacts** would occur.

- d) **Would the Project result in the loss of forestland or conversion of forest land to non-forest use?**

No Impact: No conversion of forestland, as defined under the Public Resource Code, will occur as a result of the Project, and there will be **No Impacts**.

- e) **Would the Project involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forestland to non-forest use?**

Less than Significant Impact: The Project involves the development of infrastructure to support an existing dairy operation, which is an agricultural use. The improvements would not interfere with adjacent agricultural operations or limit future agricultural productivity. No changes are proposed that would result in the conversion of surrounding farmland to non-agricultural use. Additionally, no forest lands are present on or near the site. Therefore, potential impacts related to the indirect conversion of farmland or forest land would be **Less than Significant**.

III. AIR QUALITY

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable Federal or State ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Environmental Setting

The proposed Project is in unincorporated Solano County, within the jurisdiction of the Yolo-Solano Air Quality Management District (YSAQMD). The Project lies within the Sacramento Valley Air Basin (SVAB), which is bounded by the Coast Ranges on the west, the Sierra Nevada on the east, and the San Joaquin Valley to the south. The terrain and meteorological conditions in this basin tend to influence the formation and retention of air pollutants, particularly during the summer months when high temperatures and stagnant air can trap pollutants near the ground.

The YSAQMD is responsible for regulating air quality and enforcing Federal, state, and local air pollution control laws within Yolo and the northeastern portion of Solano County. The YSAQMD works in coordination with the California Air Resources Board (CARB) and the United States Environmental Protection Agency (USEPA) to ensure compliance with the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS). These standards are established to protect public health and welfare and regulate concentrations of the following criteria pollutants: ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulate matter less than 10 microns in diameter (PM₁₀), particulate matter less than 2.5 microns in diameter (PM_{2.5}), and lead. Additionally, California has

established ambient standards for pollutants such as hydrogen sulfide (H₂S), vinyl chloride, sulfates, and visibility-reducing particles.

To support project-level air quality analysis, the YSAQMD provides the "Handbook for Assessing and Mitigating Air Quality Impacts," which outlines recommended methodologies for evaluating potential emissions and assessing project compliance with applicable thresholds and standards. This guidance document was utilized in preparing the air quality analysis for the HD Ranch Project.

Pollutants of Concern

Criteria air pollutants are defined as pollutants for which the Federal and State governments have established ambient air quality standards for outdoor concentrations. The Federal and State standards have been set at levels above which concentration could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons such as children, pregnant women, and the elderly, from illness or discomfort. Criteria air pollutants include ozone (O₃), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), particulate matter 2.5 microns or less in diameter (PM_{2.5}), particulate matter ten microns or less in diameter (PM₁₀), and lead (Pb). Note that reactive organic gases (ROGs), which are also known as reactive organic compounds (ROCs) or volatile organic compounds (VOCs), and nitrogen oxide (NO_x) are not classified as criteria pollutants. However, ROGs and NO_x are widely emitted from land development projects and participate in photochemical reactions in the atmosphere to form O₃; therefore, NO_x and ROGs are relevant to the proposed Project and are of concern in the air basin and are listed below along with the criteria pollutants. As shown in Table 1, the SJVAB is in nonattainment for several pollutant standards.

Ozone: Ozone is not emitted directly into the environment but is generated from complex chemical reactions between reactive organic gases (ROG), or non-methane hydrocarbons, and oxides of nitrogen (NO_x) that occur in the presence of sunlight. ROG and NO_x generators in Solano County include motor vehicles, recreational boats, other transportation sources, and industrial processes.

PM₁₀: PM₁₀, or particulate matter, is a complex mixture of primary or directly emitted particles, and secondary particles or aerosol droplets formed in the atmosphere by precursor chemicals.

Carbon Monoxide: Carbon Monoxide (CO) is a colorless, odorless, and poisonous gas produced by incomplete burning of carbon fuels. When CO enters the bloodstream, it reduces the delivery of oxygen to the body's organs and tissues. Health threats are most serious for those who suffer from cardiovascular disease, particularly those with angina or peripheral vascular disease. Exposure to elevated CO levels can cause impairment of visual perception, manual dexterity, learning ability and performance of complex tasks. The primary source of carbon monoxide is automobile use.

Nitrogen Dioxide: Nitrogen Dioxide (NO_2) is a brownish, highly reactive gas that is present in all urban atmospheres. NO_2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections. Nitrogen oxides are an important precursor both to ozone (O_3) and acid rain and may affect both terrestrial and aquatic ecosystems.

The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NO). NO_2 plays a key role, together with VOCs, in the atmospheric reactions that produce O_3 . NO_2 forms when fuel is burned at hot temperatures. The two major emission sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

Sulfur Dioxide: Sulfur Dioxide (SO_2) affects breathing and may aggravate existing respiratory and cardiovascular disease in high doses. Sensitive populations include asthmatics, individuals with bronchitis or emphysema, children, and the elderly. SO_2 is also a primary contributor to acid deposition, or acid rain, which causes acidification of lakes and streams and can damage trees, crops, historic buildings, and statues. In addition, sulfur compounds in the air contribute to visibility impairment in large parts of the country. This is especially noticeable in national parks. Ambient SO_2 results largely from stationary sources such as coal and oil combustion, steel mills, refineries, pulp, and paper mills and from nonferrous smelters.

Toxic Air Contaminants

In addition to criteria pollutants, the Project area is also subject to emissions of toxic air contaminants (TACs). TACs are a diverse group of air pollutants that are known or suspected to cause serious health effects such as cancer, birth defects, neurological damage, asthma, and other respiratory issues. Some TACs can cause acute symptoms like eye and throat irritation, headaches, and nausea. California law defines TACs as substances that may cause or contribute to an increase in mortality or serious illness or pose a potential hazard to human health. More than 200 substances have been designated as TACs by CARB. These include chemicals from industrial sources, commercial operations like gas stations and dry cleaners, and mobile sources such as cars and trucks.

One of the most significant TACs in California is diesel particulate matter (DPM). DPM is not a single substance, but a complex mixture of particles and gases emitted from diesel engines. It varies based on engine type, operating conditions, and fuel composition. DPM poses the greatest public health risk among TACs, largely due to its small particle size (10 microns or less), which allows it to be inhaled deeply into the lungs. DPM is a known human carcinogen and contributes to other health issues such as asthma and bronchitis.

CARB regulates TACs under several programs, including the Tanner Air Toxics Act (AB 1807), the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588), and the Children's Environmental Health Protection Act (SB 25). High-priority facilities under AB 2588 must conduct health risk assessments and may be required to notify nearby residents and implement emission reduction strategies if risks are found to exceed established thresholds.

Air Pollution Constituents and Attainment Status

CARB coordinates and oversees both State and Federal air pollution control programs in the State. CARB oversees the activities of local air quality management agencies and maintains air quality monitoring stations throughout the State in conjunction with the USEPA and local air districts. The CARB has divided the State into 15 air basins based on meteorological and topographical air pollution factors. The CARB and USEPA use data collected at these stations to classify air basins as Attainment, Nonattainment, Nonattainment-Transitional, or Unclassified, based on air quality data for the most recent three calendar years compared with the AAQS. Attainment areas may be the following:

- **Attainment/Unclassified (“Unclassifiable” in Some Lists):** These basins have never violated the air quality standard of interest or do not have enough monitoring data to establish Attainment or Nonattainment status.
- **Attainment-Maintenance (National Ambient Air Quality Standards [NAAQS] Only):** These basins violated a NAAQS that is currently in use (were Nonattainment) in or after 1990 but now attain the standard and are officially redesignated as Attainment by the USEPA with a Maintenance State Implementation Plan (SIP).
- **Attainment (Usually Only for CAAQS, But Sometimes for NAAQS):** These basins have adequate monitoring data to show attainment, have never been Nonattainment, or, for NAAQS, have completed the official Maintenance period.
- **Nonattainment** areas are imposed with additional restrictions as required by the USEPA. The air quality data are also used to monitor progress in attaining air quality standards.

Based on data from CARB and YSAQMD, the attainment classification for the SVAB is as follows:

Table 3-1: Attainment Status for the Sacramento Valley Air Basin		
Pollutant	Designation/Classification	
	Federal Standards	State Standards
Ozone – One hour	No Federal Standard ^a	Nonattainment
Ozone – Eight hour	Nonattainment	Nonattainment
PM 10	Attainment/Unclassified	Nonattainment
PM 2.5	Nonattainment	Nonattainment
Carbon Monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen Dioxide	Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment
Lead (Particulate)	Attainment	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility Reducing Particles	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	Attainment
^a Effective June 15, 2005, the U.S. Environmental Protection Agency (EPA) revoked the Federal 1-hour ozone standard, including associated designations and classifications.		

Sources: California Air Resources Board, Yolo-Solano AQM

Local Air Quality Conditions

Ambient air quality in Solano County can be inferred from ambient air quality measurements conducted at nearby air quality monitoring stations. Existing levels of ambient air quality and historical trends and projections in the vicinity of the Project are documented by measurements made by the YSAQMD, which also maintains air quality monitoring stations which process ambient air quality measurements.

The purpose of the monitoring station is to measure ambient concentrations of pollutants and determine whether ambient air quality meets the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS). For the HD Ranch Project, the Vacaville – Ulatis Drive station was used as the primary source of air quality data due to its proximity and similar environmental setting. However, for PM_{2.5} and PM₁₀, the Vallejo – 304 Tuolumne Street station was used due to availability of monitoring data for those pollutants.

Air monitoring data for the years 2021 to 2023 were retrieved from these stations to represent the ambient air quality in the Project area. Ambient emission concentrations vary due to localized variations in emission sources and climate and should be considered generally representative of conditions near the Project Site.

Overall, the monitoring data indicate that ozone levels exceeded State and Federal standards on some days, particularly in 2021 and 2023. PM_{2.5} levels showed a notable exceedance in 2023, while PM₁₀ concentrations remained below Federal 24-hour standards throughout the period. Annual average concentrations for PM_{2.5} and PM₁₀ were consistently below their respective thresholds, suggesting generally acceptable long-term particulate matter levels in the region. These data help establish baseline air quality conditions and inform the assessment of potential air quality impacts from the proposed Project.

Table 3-2: Local Air Monitoring Station Data						
Pollutant	Averaging Time	Item	Standard	2021	2022	2023
Ozone	1 Hour	Max 1 Hour (ppm)	0.09 ppm	0.095	0.086	0.075
		Days > State Standard (0.09 ppm)	--	1	0	0
	8 Hour	Max 8 Hour (ppm)	0.070 ppm	0.078	0.068	0.069
		Days > State Standard (0.070 ppm)	--	2	0	14
		Days > National Standard (0.075 ppm)	--	1	0	0
PM 2.5	24-Hour	Max 24 Hour Average Concentration (µg/m3)	--	32*	31*	37*
		Days > National 24-Hour Standard	--	0*	0*	1.1*
	Annual	Annual average Concentration (µg/m3)	12 µg/m3	8.7*	8.1*	6.4*
PM 10	24-Hour	Max 24 Hour Average Concentration (µg/m3)	50 µg/m3	49.6 *	35.4*	38.1*
		Days > State 24-Hour Standard	--	**	0*	**
		Days > National 24-Hour Standard	--	0*	0*	0*
	Annual	Annual Average Concentration (µg/m3)	20 µg/m3	14.6*	12.3*	12.5*

* Data was used from Vallejo-304 Tuolumne Street

**There was insufficient (or no) data available to determine the value

Source: California Air Resources Board Air Quality Statistics – iADAM tool

California and National Air Quality Standards have been included in Table 3-3 below, California and National Ambient Air Quality Standards.

Table 3-3: California and National Ambient Air Quality Standards				
Pollutant	Averaging Time	California Standards	National Standards	
		Concentration ³	Primary	Secondary
Ozone (O ₃)	1 Hour	0.09 ppm (180 µg/m ³)	--	Same as Primary Standard
	8 Hour	0.070 ppm (137 µg/m ³)	0.075 ppm (147 µg/m ³)	
Respirable Particulate Matter (PM ₁₀)	24 Hour	50 µg/m ³	150 µg/m ³	Same as Primary Standard
	Annual Arithmetic Mean	20 µg/m ³	--	
Fine Particulate Matter (PM _{2.5})	24 Hour	--	35 µg/m ³	Same as Primary Standard
	Annual Arithmetic Mean	12 µg/m ³	15 µg/m ³	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)	--
	8 Hour	9.0 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	--
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)	--	--
Nitrogen Dioxide (NO ₂) ⁸	1 Hour	0.18 ppm (339 µg/m ³)	100 ppb (188 µg/m ³)	--
	Arithmetic Mean	0.030 ppm (57 µg/m ³)	53 ppb (100 µg/m ³)	Same as Primary Standard
Sulfur Dioxide	1 Hour	0.25 ppm (655 µg/m ³)	75 ppb (196 µg/m ³)	--
	3 Hour	--	--	0.5 ppm (1300 µg/m ³)
	24 Hour	0.04 ppm (105 µg/m ³)	0.14 ppm (for certain areas)	--
	Annual Arithmetic Mean	--	0.030 ppm (for certain areas)	--
Lead ^{10,11}	30 Day Average	1.5 µg/m ³	--	--
	Calendar Quarter	--	1.5 µg/m ³ (for certain areas)	Same as Primary Standard
	Rolling 3-Month Average	--	0.15 µg/m ³	
Visibility Reducing Particles ¹²	8 Hour	See Footnote 1	No National Standards	

Sulfates	24 Hour	25 µg/m3	
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m3)	
Vinyl Chloride ¹⁰	24 Hour	0.01 ppm (26 µg/m3)	
1. California standards for O3, CO (except 8-hour Lake Tahoe), SO2 (1- and 24-hour), NO2, and PM (PM10, PM2.5, and visibility-reducing particles) are values that are not to be exceeded. All others are not to be equaled or exceeded. California AAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations. 2. National standards (other than for O3 and PM and those based on the annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth-highest 8-hour concentration measured at each Site in a year, averaged over 3 years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m3 is equal to or less than 1. For PM2.5, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the USEPA for further clarification and current national policies. 3. Concentration is expressed first in the units in which it was promulgated. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torrs; ppm in this table refers to ppm by volume or micromoles of pollutant per mole of gas. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torrs. 4. Any equivalent measurement method that can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used. 5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health. 6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. 7. The reference method as described by the USEPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the USEPA. 8. On October 1, 2015, the national 8-hour O3 primary and secondary standards were lowered from 0.075 to 0.070 ppm. 9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 µg/m3 to 12.0 µg/m3. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 µg/m3, as was the annual secondary standard of 15 µg/m3. The existing 24-hour PM10 standards (primary and secondary) of 150 µg/m3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years. 10. To attain the 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each Site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm. 11. On June 2, 2010, a new 1-hour SO2 standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each Site must not exceed 75 ppb. The 1971 SO2 national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated as Nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard, the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm. 12. CARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants. 13. The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m3 as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated as Nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standards are approved. 14. In 1989, CARB converted both the general statewide 10 mi visibility standard and the Lake Tahoe 30 mi visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.			
°C = degrees Celsius mg/m3 = micrograms per cubic meter AAQS = ambient air quality standards CARB = California Air Resources Board		SO2 = sulfur dioxide USEPA = United States Environmental Protection Agency	PM10 = particulate matter less than 10 microns in size ppb = parts per billion ppm = parts per million

CO = carbon monoxide mg/m3 = milligrams per cubic meter	mi = mile/miles NO2 = nitrogen dioxide O3 = ozone	PM = particulate matter PM2.5 = particulate matter less than 2.5 microns in size
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Source: CARB 2023, USEPA, 2023

Regulatory Setting

Federal Regulations

The 1970 Federal Clean Air Act (CAA) authorized the establishment of national health-based air quality standards and set deadlines for their attainment. The CAA Amendments of 1990 introduced new deadlines and enhanced requirements for areas not in attainment. Areas in violation of Federal standards must adopt a State Implementation Plan (SIP) detailing how they will meet the standards.

State Regulations

Under the 1988 California Clean Air Act (CCAA), air districts are required to work toward attainment of more stringent California Ambient Air Quality Standards (CAAQS). The CCAA focuses on transportation and area-wide emissions and mandates 5% annual emission reductions averaged over three years for nonattainment pollutants. The California Air Resources Board (CARB) oversees state-level programs, toxic air contaminant regulations, and regional air district compliance.

Regional Regulations – Yolo–Solano Air Quality Management Districts (YSAQMD)

YSAQMD has authority over air quality within Yolo County and northeastern Solano County. The District enforces rules that address both construction-related and operational emissions, including particulate matter, odorous substances, and air toxics. Relevant YSAQMD rules that may apply to the Project include:

- **Rule 2.3 (Ringelmann Chart)** – Limits visible emissions based on Ringelmann opacity standards.
- **Rule 2.5 (Nuisance)** – Prohibits emissions that cause injury, detriment, nuisance, or annoyance to the public or damage to property.
- **Rule 2.11 (Particulate Matter)** – Regulates fugitive dust emissions from activities such as grading and soil handling.
- **Rule 3.4 (New Source Review)** – Requires review of emissions from new or modified stationary sources of pollution.
- **Rule 3.15 (Greenhouse Gas Permitting)** – Requires permitting for major stationary sources of GHGs under certain thresholds.
- **Rule 4.5 (Federal Permitting)** – Establishes Federal operating permit requirements for major sources under Title V.

YSAQMD Handbook for Assessing and Mitigating Air Quality Impact

YSAQMD's Handbook for Assessing and Mitigating Air Quality Impacts (2007) serves as a guidance document for CEQA lead agencies evaluating air quality impacts. The handbook outlines:

- Thresholds of significance for criteria pollutants and GHGs;
- Screening criteria for determining the need for quantitative emissions analysis;
- Construction and operational emission mitigation strategies;
- Best management practices (BMPs) for dust control;
- Guidance on cumulative impact analysis and health risk assessments.

The handbook emphasizes the importance of early consultation with the District, use of modeling tools such as CalEEMod, and mitigation of emissions through project design, technology, or offsets when necessary.

Discussion

Thresholds of Significance

According to the State CEQA Guidelines (Appendix G), a project would have a potentially significant impact on air quality if it would:

- *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 region is nonattainment under an applicable Federal or State ambient air quality standard;*
- *Expose sensitive receptors to substantial pollutant concentrations; or*
- *Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.*

The YSAQMD has established recommended thresholds of significance for criteria air pollutants and toxic air contaminants, which are summarized in Table 3-4 below. These thresholds are intended to determine whether a project's emissions would cause or contribute to a violation of air quality standards or result in potentially significant health impacts.

Table 3-4: YSAQMD Criteria Pollutant Thresholds					
Emissions Source	Pollutant Emissions Thresholds (tons/year)				
	ROG (VOCs)	NO _x	PM ₁₀	CO	SO _x
Construction	10	10	80 lbs/day (~14.6 tons/year)	100	27
Operations	10	10	80 lbs/day (~14.6 tons/year)	100	27
Note: PM _{2.5} thresholds are not currently established by YSAQMD due to the lack of an official EPA designation for the region.					
CO = carbon monoxide			SJVAPCD = San Joaquin Valley Air Pollution Control District		
NO _x = nitrogen oxides			SO _x = sulfur oxides		
PM _{2.5} = particulate matter less than 2.5 microns in size			VOCs = volatile organic compounds		

<i>PM₁₀</i> = particulate matter less than 10 microns in size	
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Source: YSAQMD Handbook for Assessing and Mitigating Air Quality Impacts (2007)

If emissions from the Project exceed any of these thresholds, the impact would be considered potentially significant and would require mitigation.

Toxic Air Contaminants (TACs) Thresholds

TACs are evaluated separately from criteria pollutants. According to the YSAQMD Handbook, a project would be considered to have a significant impact if:

- The Maximally Exposed Individual (MEI) has a cancer risk of 10 in one million or more;
- The Hazard Index (HI) for non-cancer acute or chronic exposure is 1.0 or greater.

a) Would the Project conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant. The HD Ranch Anaerobic Digester Project is located within the jurisdiction of the YSAQMD, which oversees implementation of the SIP and regional air quality plans for the SVAB. The YSAQMD works closely with the CARB and the EPA to enforce compliance with State and Federal ambient air quality standards and to develop measures that contribute toward attainment of those standards.

The YSAQMD has adopted quantitative thresholds of significance for criteria pollutants, which serve as benchmarks to assess whether a project would cause or contribute to a violation of applicable air quality standards. Projects with emissions that remain below these thresholds are generally considered consistent with the regional air quality plan and are not expected to obstruct its implementation.

Short-Term Emissions

Construction of the HD Ranch Project would generate temporary emissions associated with grading, excavation, equipment use, and the installation of the anaerobic digester system and supporting infrastructure. Emissions were estimated using CalEEMod Version 2022.1.1 and incorporate project-specific assumptions, including approximately 191,000 square feet of ground disturbance. The model excluded phases for demolition and architectural coating, as these activities are not part of the proposed development. Additionally, assumptions for equipment use and vehicle activity were adjusted to reflect the rural, low-intensity nature of the Project.

The estimated construction emissions are shown in Table 3-5. All modeled emissions fall below the YSAQMD's construction thresholds of significance, indicating that the Project would not contribute to a violation of applicable air quality standards during construction.

Table 3-5: Estimated Construction Emissions

	Pollutant Emissions Thresholds and Project Emissions (tons/year)					
	ROG (VOCs)	NO _x	PM ₁₀	PM _{2.5}	CO	SO _x

Threshold	10	10	80 lbs/day (~14.6 tons/year)	*	100	27
Emissions Generated	0.11	1.03	39.1 lbs/day	13.1 lbs/day	1.33	<0.005

Note: PM_{2.5} thresholds are not currently established by YSAQMD due to the lack of an official EPA designation for the region.

During long-term operation, the Project would generate emissions primarily from a limited number of vehicle trips related to employee commuting and the transportation of biogas to an off-site injection point. The product RNG is currently planned to be trucked to an interconnection location south of Tulare, CA. In the future, there may be opportunities to inject the RNG at locations in Gustine or Madera. Energy use for the digester and upgrading system operations is expected to be minimal and limited to control systems and pumps. Area sources typically associated with residential or commercial uses, such as fireplaces and consumer products, were not included in the model.

Operational emissions are presented in the table below. The values confirm that the Project's operational phase emissions are substantially below all applicable thresholds established by YSAQMD.

Table 3-6: Estimated Operational Emissions						
	Pollutant Emissions Thresholds and Project Emissions (tons/year)					
	ROG (VOCs)	NO _x	PM ₁₀	PM _{2.5}	CO	SO _x
Threshold	10	10	80 lbs/day (~14.6 tons/year)	*	100	27
Emissions Generated	0.01	<0.005	4.53 lbs	13.1 lbs/day	0.03	<0.005

Note: PM_{2.5} thresholds are not currently established by YSAQMD due to the lack of an official EPA designation for the region.

Given that both the construction and operational emissions associated with the HD Ranch Anaerobic Digester Project are well below the applicable thresholds established by the air district, the Project would not conflict with or delay the implementation of regional air quality plans or SIP objectives. The Project would not interfere with any strategies or measures intended to reduce emissions or improve regional air quality. Therefore, the impact would be **Less than Significant**.

b) Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable Federal or State ambient air quality standard?

Less Than Significant Impact: The SVAB, in which the HD Ranch Project is located, is designated as non-attainment for ozone (O₃) and particulate matter (PM_{2.5}) under both Federal and State standards, and for PM₁₀ under the State standard. Due to the cumulative nature of air quality impacts, emissions from individual projects have the potential to collectively contribute to air quality degradation within a region already experiencing non-attainment.

The cumulative impact assessment for air quality typically involves comparing individual project emissions to established regional thresholds of significance. If a project's emissions do not exceed these thresholds, it generally indicates that its contribution would not be cumulatively considerable.

As detailed in the emission summaries provided previously, both construction and operational emissions associated with the HD Ranch Project are substantially below the YSAQMD's significance thresholds for criteria pollutants, including the key ozone precursors reactive organic gases (ROG) and nitrogen oxides (NO_x). Specifically, modeled construction emissions were 0.11 tons/year ROG and 1.03 tons/year NO_x, while operational emissions were even lower, at 0.01 tons/year ROG and less than 0.005 tons/year NO_x. These values demonstrate minimal incremental contributions relative to YSAQMD thresholds.

The Project's low-intensity operation involves minimal vehicle traffic, predominantly from employee commuting and occasional biogas transportation, and minimal energy usage associated with control systems and pumping. Furthermore, standard dust mitigation measures will be implemented during construction, minimizing fugitive dust emissions. Considering the Project's small scale, limited emissions profile, effective implementation of best management practices, and adherence to all applicable YSAQMD regulations, the Project's incremental contribution to cumulative emissions in the region would not be considerable. Therefore, the impact related to cumulative emissions would be *Less than Significant*.

c) Would the Project expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact: Sensitive receptors typically include residential areas, schools, hospitals, daycare centers, elderly care facilities, and similar establishments that may be particularly vulnerable to air pollution. The nearest sensitive receptor to the Project site is a single-family residence located approximately 2,300 feet north of the proposed Project area.

During construction, pollutant emissions would primarily consist of particulate matter (PM₁₀ and PM_{2.5}), as well as exhaust emissions (NO_x, CO, ROG) from construction equipment and vehicle trips. The construction phase would be temporary, relatively short-term, and emissions would be minimized through compliance with YSAQMD dust control measures and equipment emission standards, including potential use of equipment meeting higher-tier engine standards.

Operational emissions would be minimal due to the limited scale of the project and the absence of significant stationary emission sources or high volumes of vehicle traffic. The primary sources of emissions would be associated with employee commutes and occasional truck trips transporting biogas. These sources produce emissions significantly below YSAQMD's thresholds, as previously discussed.

Due to the substantial distance between the Project site and the nearest sensitive receptor (approximately 2,300 feet), as well as the Project's very low emission levels during both construction and operational phases, the likelihood of sensitive receptors being exposed to substantial pollutant concentrations is minimal. Therefore, the Project's impact related to this threshold would be **Less than Significant**.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less Than Significant Impact: Potential sources of odor associated with the HD Ranch Project primarily include dairy manure and the anaerobic digestion process itself. However, the HD Ranch dairy is an existing operational dairy facility already generating dairy manure odors typical of agricultural operations in rural Solano County. The proposed Project aims to reduce existing odors by introducing an anaerobic digester system that will substantially contain and treat manure-related emissions.

Under current management practices at dairy farms, manure is typically flushed into open ponds or collected into uncovered stockpiles. Manure stored in this manner is naturally subject to anaerobic decomposition, resulting in the release of odorous compounds such as ammonia and hydrogen sulfide into the ambient air. By contrast, the proposed anaerobic digestion process will occur within an enclosed and covered digester system, capturing biogas and significantly reducing odors through containment and controlled biological processes. Additionally, captured biogas will be cleaned and transported off-site via trucks to a natural gas injection point, further reducing odor emissions at the source. The biogas collection and conditioning process operates as a closed system with emergency vents to maintain proper pressures and ensure site safety, reducing odors compared to current operations.

During the construction phase, the Project would generate typical temporary odors associated with construction equipment, exhaust emissions, and earth-moving activities. However, these odors would be short-lived, minor, localized, and common construction activities in rural agricultural areas. Furthermore, the nearest sensitive receptor, a single-family residence, is located approximately 2,300 feet north of the proposed active construction and operational areas of the project, substantially reducing the likelihood of odor-related impacts.

Due to the rural location of the Project site, the significant setback distance to sensitive receptors, and the enclosed nature of the proposed anaerobic digestion facility, the Project would not produce odors that adversely affect a substantial number of people. Therefore, the potential impacts from odor emissions associated with the HD Ranch Project would be considered **Less than Significant**.

IV. BIOLOGICAL RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish & Game or U.S. fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on State or Federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through director removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery Sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?	☐	☐	☐	☒
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Environmental Setting

A Biological Resources Assessment was prepared for this Project and is available in Appendix B.

The HD Ranch Project Area encompasses approximately 164.5 acres within a larger 620-acre active dairy facility located in unincorporated Solano County, California. The Project Site lies in Township 7 North, Range 2 East, Section 29 of the Dixon 7.5-minute U.S. Geological Survey (USGS) quadrangle. Elevations range from approximately 35 to 39 feet above mean sea level.

The Project Area is situated on relatively flat terrain and consists primarily of heavily disturbed land used for cattle operations. Land cover includes dairy infrastructure such as feedlots, barns, hay storage, paved and unpaved roads, and wastewater treatment ponds. Vegetation in undeveloped areas is dominated by ruderal, non-native herbaceous species such as perennial rye grass (*Festuca perennis*), field mustard (*Brassica rapa*), and milk thistle (*Silybum marianum*). No natural vegetation communities or riparian habitats occur on the Site.

The surrounding area is composed of agricultural land and rural residential uses. The Site is bordered by open fallow fields and row crops, which may support wildlife movement and foraging. While no critical habitats are present within or adjacent to the Project Site, the Study Area supports limited potential foraging habitat for special-status raptors such as Swainson's hawk (*Buteo swainsoni*). One adult Swainson's hawk was observed foraging in a fallow field approximately 180 yards west of the Project Area during a March 2025 biological field survey.

No trees or large shrubs suitable for nesting occur within the Project Area, although the alignment of overhead power poles provides marginal nesting substrate. The cattle wastewater ponds are lined and do not support wetland vegetation or wildlife use. Based on field observations and a literature review, the Project Area does not support suitable habitat for special-status plant species or most special-status wildlife species due to existing land disturbance, lack of native vegetation, and the intensity of agricultural operations.

Vegetation Community or Land Cover Type	Acres
Upland	
Disturbed/ruderal perennial ry grass	9.02
Disturbed/Ruderal field mustard	16.60
Aquatic	
Cattle wastewater treatment ponds	24.94
Other Land types	

Feedlots/corrals/milking stalls/barns	67.49
Hay storage barns	21.77
Paved road/dirt roads	24.67
Total	164.50

Regulatory Setting

Federal Endangered Species Act (FESA)

The Federal ESA protects plants and animals listed as endangered or threatened by USFWS and the National Marine Fisheries Service (NMFS). Section 9 of the ESA prohibits the taking of listed wildlife, where take is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct” (50 Code of Federal Regulations [CFR] 17.3). For plants, this statute governs “removing, possessing, maliciously damaging, or destroying any listed plant on Federal land and removing, cutting, digging up, damaging, or destroying any listed plant on non-Federal land in knowing violation of State law” (16 U.S. Code [USC] 1538). Under Section 7 of ESA, Federal agencies are required to consult with USFWS if their actions, including permit approvals or funding, could adversely affect a listed (or proposed) species (including plants) or its Critical Habitat (see definition of Critical Habitat below). Through consultation and the issuance of a biological opinion (BO), the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity, provided the activity will not jeopardize the continued existence of the species. Section 10 of ESA provides for issuance of incidental take permits where no other Federal actions are necessary provided a habitat conservation plan (HCP) is developed.

The Federal Migratory Bird Treaty Act (FMBTA: 16 USC 703–712)

The Migratory Bird Treaty Act (MBTA) implements international treaties between the United States and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in §§ 3800, 3513, and 3503.5 of the California Fish and Game Code.

Birds of Prey (CA Fish and Game Code Section 3503.5)

Sections 3800, 3513, and 3503 of the California Fish and Game Code specifically protect birds of prey. Section 3800 states that it is unlawful to take nongame birds, such as those occurring naturally in California, that are not resident game birds, migratory game birds, or fully protected birds, except when in accordance with regulations of the commission or a mitigation plan approved by CDFW for mining operations. Section 3513 explicitly prohibits taking or possessing

any migratory nongame bird as designated in the MBTA. Section 3503 of the California Fish and Game Code prohibits the take, possession, or needless destruction of the nest or eggs of any bird. Additionally, Subsection 3503.5 prohibits taking, possessing, or destroying any birds and their nests in the orders Strigiformes (owls) or Falconiformes (hawks and eagles). These provisions, along with the Federal MBTA, serve to protect nesting raptors.

Clean Water Act

Section 404 of the Clean Water Act of (1972) is to maintain, restore, and enhance the physical, chemical, and biological integrity of the nation's waters. Under Section 404 of the Clean Water Act, the US Army Corps of Engineers (USACE) regulates discharges of dredged and filled materials into "waters of the United States" (jurisdictional waters). Waters of the US, including navigable waters of the United States, interstate waters, tidally influenced waters, and all other waters where the use, degradation, or destruction of the waters could affect interstate or foreign commerce, tributaries to any of these waters, and wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries.

California Endangered Species Act (CESA)

The California ESA (California Fish and Game Code §§ 2050–2116) generally parallels the main provisions of ESA, but unlike its Federal counterpart, the California ESA applies the take prohibitions to species proposed for listing (called "candidates" by the state). Section 2080 of the California Fish and Game Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." the California ESA allows for take incidental to otherwise lawful development Projects. State lead agencies are required to consult with CDFW to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered, threatened, or candidate species or result in the destruction or adverse modification of essential habitat.

Solano County General Plan

The 2008 General Plan includes the following policies associated with biological resources that relate to the proposed Project:

- **Policy RS.P-1:** Protect and enhance the County's natural habitats and diverse plant and animal communities, particularly occurrences of special-status species, wetlands, sensitive natural communities, and habitat connections.
- **Policy RS.P-2:** Manage the habitat found in natural areas and ensure its ecological health and ability to sustain diverse flora and fauna.
- **Policy RS.P-6:** Protect oak woodlands and heritage trees and encourage the planting of native tree species in new developments and along road rights-of-way.
- **Policy RS.P-65:** Require the protection of natural water courses.

- **Policy RS.P-68:** Protect existing open spaces, natural habitat, floodplains, and wetland areas that serve as groundwater recharge areas.
- **Policy RS.P-70:** Protect land surrounding valuable water sources, evaluate watersheds, and preserve open space lands to protect and improve groundwater quality, reduce polluted surface runoff, and minimize erosion.
- **Policy RS.P-71:** Ensure that land use activities and development occur in a manner that minimizes the impact of earth disturbance, erosion, and surface runoff pollutants on water quality.
- **Policy RS.P-72:** Preserve riparian vegetation along county waterways to maintain water quality.
- **Policy RS.P-75:** Require and provide incentives for site plan elements (such as permeable pavement, swales, and filter strips) that limit runoff and increase infiltration and groundwater recharge.

Discussion

a) Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish & Game or U.S. fish and Wildlife Service?

Less Than Significant Impact with Mitigation. A Biological Resources Assessment (BRA) was prepared for the HD Ranch Project and included a literature review, records search, and habitat assessment survey (Appendix B). The survey identified two special-status species: Swainson's hawk (*Buteo swainsoni*) and song sparrow (*Melospiza melodia*). A single Swainson's hawk was observed foraging approximately 180 yards west of the Project Area. The Project Area itself does not provide suitable foraging or nesting habitat due to disturbance, absence of prey base, and lack of trees or natural vegetation. Song sparrows were briefly observed flying through the area, but no nesting habitat is present.

Although direct impacts to special-status species are unlikely, construction activities may cause temporary disturbances to nearby foraging or nesting raptors if present during the breeding season. To reduce this potential impact, Mitigation Measure BIO-1 requires a pre-construction survey for Swainson's hawk, burrowing owl, and nesting birds to be conducted by a qualified biologist no more than 14 days prior to ground disturbance if construction occurs between February 1 and September 15. If active nests are found, protective measures will be implemented in coordination with CDFW.

With implementation of BIO-1, the Project would not result in a substantial adverse effect to any candidate, sensitive, or special-status species, and impacts would be **Less than Significant with Mitigation.**

b) Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?

No Impact. Based on the findings of the Biological Resources Assessment (Appendix B), the HD Ranch Project Area does not support any riparian habitat, native vegetation communities, or other sensitive natural communities as recognized by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS). The Site is an actively operated dairy facility and is heavily disturbed by structures, bare ground, feedlots, manure storage, and wastewater ponds.

The limited vegetative cover consists of non-native, ruderal species such as field mustard (*Brassica rapa*), perennial rye grass (*Festuca perennis*), and milk thistle (*Silybum marianum*), all of which occur in previously disturbed and compacted soils. No wetlands, vernal pools, or hydrophytic vegetation indicative of jurisdictional waters or riparian communities were identified during the March 2025 biological survey.

As such, the Project would not result in direct or indirect impacts to riparian habitat or any sensitive natural communities. There is **No Impact**.

c) Would the Project have a substantial adverse effect on State or Federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through director removal, filling, hydrological interruption, or other means?

No Impact. The BRA included an evaluation of the Project Area for jurisdictional features such as wetlands, vernal pools, and other waters potentially subject to regulation under the Clean Water Act or California Fish and Game Code. The site survey conducted in March 2025 confirmed that the Project Area contains no wetlands, marshes, riparian areas, or seasonal aquatic features.

Although the site includes cattle wastewater treatment ponds, these are man-made, lined, and actively managed as part of the dairy operation. They lack wetland vegetation, natural hydrology, or habitat functions that would support classification as Waters of the U.S. or Waters of the State. No vernal pools or hydrophytic vegetation were observed, and the site does not meet the criteria for jurisdictional wetlands as defined by the U.S. Army Corps of Engineers or the California Department of Fish and Wildlife.

Because the Project will not directly or indirectly affect any protected wetlands or jurisdictional aquatic features, **No Impact** would occur.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery Sites?

Less than Significant Impact: The BRA concluded that the Project Area is located within a heavily developed and disturbed portion of an existing dairy facility. Land uses include feedlots, milking barns, manure handling areas, hay storage, and wastewater ponds, all of which experience continuous human activity and vehicle use. As a result, the Project Area itself does not provide viable wildlife nursery habitat or functions as a primary movement corridor for native wildlife.

While the surrounding fallow agricultural fields may provide foraging habitat and opportunities for limited wildlife movement, the proposed improvements would occur entirely within the disturbed footprint of the existing facility. No natural drainages, riparian corridors, or vegetative linkages that facilitate wildlife movement occur within or immediately adjacent to the Project Area.

Although some migratory birds and raptors, such as Swainson's hawk and song sparrow, were observed foraging or flying over the area, no nesting or nursery sites were identified within the Project footprint. Potential temporary disruption to movement or foraging during construction is expected to be minimal and short-term. Implementation of Mitigation Measure BIO-1, which requires pre-construction surveys and seasonal work restrictions to protect nesting birds, would further reduce any potential for indirect impacts.

Therefore, the Project would not interfere with wildlife movement or nursery use, and impacts would be **Less than Significant**.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact: The Project is located in unincorporated Solano County and is subject to the biological resource policies of the Solano County General Plan. The General Plan includes multiple policies focused on the protection of sensitive habitats, special-status species, water quality, and native vegetation (see Regulatory Setting, above). However, the Project Area does not support any native trees, oak woodlands, riparian vegetation, or sensitive natural communities, nor does it involve removal of any protected trees.

The BRA confirms that the site is fully developed with dairy infrastructure and disturbed ground. The minimal vegetation present consists of ruderal and non-native weedy species. No tree preservation ordinance or local habitat conservation plans apply to this area, and the Project would not conflict with local policies intended to preserve biological resources. As such, the

Project would not conflict with any local biological resource policies or ordinances, and **No Impact** would occur.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or another approved local, regional, or State habitat conservation plan?

No Impact: The HD Ranch Project is in unincorporated Solano County, which is not covered by an adopted Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP). While portions of Solano County are being considered under future regional conservation planning efforts, no approved HCPs or NCCPs currently apply to the Project Area.

As confirmed in the BRA, the Project would not conflict with the goals or provisions of any local, regional, or State habitat conservation plan. The Project is consistent with existing agricultural zoning and would not extend into protected or planned conservation lands. Therefore, the Project would not conflict with the provisions of an adopted conservation plan, and **No Impact** would occur.

Mitigation Measure

MM-BIO-1: Swainson's Hawk, Burrowing Owl and Nesting Bird Survey. If construction, grading, or project-related activities are to commence between February 1 and September 15, a focused survey for Swainson's hawk, burrowing owl, and nesting birds on the site and within ¼ mile of the site shall be conducted by a qualified biologist no later than 14 days prior to the start of construction work (including clearing and grubbing). If active nests are found, the California Fish and Wildlife shall be contacted to determine appropriate protective measures for the species, and these measures shall be implemented prior to the start of any ground-disturbing activities. If no active nests are found during the focused survey, no further mitigation will be required.

V. CULTURAL RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

Northwest Information Center Record Search Results for the HD Ranch Project: On March 21, 2025, an archival records search was conducted at the Northwest Information Center (NWIC) to support the proposed HD Ranch Project. The search encompassed the entire Area of Potential Effect (APE) and a 0.5-mile around it, referred to as the Cultural Study Area. The information sources included previous surveys and cultural resource files, the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), the Office of Historic Preservation (OHP) Archaeological Determination of Eligibility, the OHP Directory of Properties in the Historic Property Data File, historical topographic maps, and historical aerial photographs.

The search identified no recorded cultural resources within the Cultural Study Area. However, ten cultural resource studies have been completed within the 0.5-mile radius, as documented in the NWIC records (see Table 1 in the Phase I Cultural Resources Assessment). No cultural resources were recorded within the Project area or the 0.5-mile radius based on the NWIC search results.

Pedestrian Survey: An intensive pedestrian survey was conducted by Soar Environmental Consulting, Inc. on March 27-28, 2025, covering the entire Project area. The survey was performed by Heather Froshour, Senior Archaeologist, and involved systematic inspection of the 146-acre Project Site to identify any surface archaeological resources. No cultural resources, including prehistoric or historic artifacts, features, or sites, were observed during the survey. The Project area, primarily used for dairy operations and agricultural activities, showed no evidence of intact cultural deposits or features.

Sacred Lands File (SLF) Search: As part of the cultural resources assessment, Soar Environmental Consulting, Inc. requested a Sacred Lands File (SLF) search from the Native

American Heritage Commission (NAHC) on March 21, 2025. The SLF search results, received on March 26, 2025, were negative, indicating no known sacred lands or tribal cultural resources within the Project area. The NAHC provided a consultation list of eight individuals representing four California Native American tribal groups traditionally and culturally affiliated with the Project area. Solano County, as the Lead Agency, sent outreach letters to these tribal representatives. In November 2025, the Yoche Dehe Wintun Nation Tribe requested consultation. A site visit with representatives of the Tribe was conducted on January 16, 2026. No cultural sensitivity was identified since the site appears to be previously disturbed. Therefore, the Tribe requested pre-construction training for all construction workers prior to any activity, in the event that unknown resources are uncovered, and standard mitigation measures in the event that any cultural resources are found.

Regulatory Setting

This report defines “cultural resources” as prehistoric or historical archaeological Sites and historical objects, buildings, or structures. Following 36 Code of Federal Regulations (CFR) §60.4, “historical” in this report applies to cultural resources at least 50 years old. The significance or importance of a cultural resource is dependent upon whether the resource qualifies for inclusion at the local level in a local register of historical resources, at the State level in the California Register of Historical Resources (CRHR), or the Federal level in the National Register of Historic Places (NRHP). Cultural resources that are determined to be eligible for inclusion in the CRHR are called “historical resources” (California Code of Regulations [CCR] 15064.5[a]). Under this statute, the determination of eligibility is partially based on the consideration of the criteria of significance as defined in 14 CCR 15064.5(a)(3). Cultural resources eligible for the NRHP are deemed “historic properties.”

National Historic Preservation Act: The National Historic Preservation Act was adopted in 1966 to preserve historical and archeological Sites in the United States. The Act created the National Register of Historic Places, the list of National Historic Landmarks, and the State Historic Preservation offices.

California Environmental Quality Act: Under CEQA, a historical resource is a resource listed in, or determined to be eligible for listing in, the CRHR. Historical resources may include, but are not limited to, “any object, building, structure, Site, area, place, record, or manuscript which a lead agency determines to be historically or archaeologically significant” (PRC §5020.1[j]). In addition, a resource included in a local register of historical resources or identified as significant in a local survey conducted per the State guidelines is also considered a historic resource under California Public Resources Code (PRC) Section 5020.1.

CEQA details appropriate measures for the evaluation and protection of cultural resources in §15064.5 of the CEQA Guidelines. According to CEQA guidelines §15064.5 (a)(3), the criteria for listing on the CRHR includes the following:

1. *Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.*
2. *Is associated with the lives of persons important in our past.*
3. *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.*
4. *Has yielded, or may be likely to yield, information important in prehistory or history.*

According to CEQA guidelines §21074 (a)(1), criteria for tribal cultural resources includes the following:

Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

1. *Included or determined to be eligible for inclusion in the California Register of Historical Resources.*
2. *Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.*

Protection of cultural resources within California is additionally regulated by PRC §5097.5, which prohibits the destruction, defacing, or removal of any historic or prehistoric cultural features on land under the jurisdiction of State or local authorities.

Health and Safety Code, Section 7050.5: Section 7050.5 of the California Health and Safety Code requires that construction or excavation be stopped in the vicinity of discovered human remains until the county coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the California Native American Heritage Commission (NAHC). CEQA Guidelines (Public Resources Code Section 5097) specify the procedures to be followed when discovering human remains on non-Federal land. The disposition of Native American burials falls within the jurisdiction of the NAHC.

Solano County General Plan:

The Solano County General Plan contains the following policies and implementation programs related to cultural resources.

- **Policy RS P-38:** Identify and preserve important prehistoric and historic structures, features, and communities.
- **Policy RS P-39:** Tie historic preservation efforts to the County's economic development pursuits, particularly those relating to tourism.
- **Policy RS P-40:** Consult with Native American governments to identify and consider Native American cultural places in land use planning.

- **Policy RS.I-25:** Require cultural resources inventories for all new development Projects in areas identified with medium or high potential for archaeological or cultural resources. Where a preliminary Site survey finds medium to high potential for substantial archaeological remains, the County shall require a mitigation plan to protect the resource before issuance of permits. Mitigation may include:
 - Having a qualified archaeologist present during initial grading or trenching (monitoring).
 - Redesign of the Project to avoid archaeological resources (this is considered the strongest tool for preserving archaeological resources).
 - Capping the Site with a layer of fill.
 - Excavation and removal of the archaeological resources and curation in an appropriate facility under the direction of a qualified archaeologist.
 - Alert applicants for permits within early settlement areas to the potential sensitivity. If significant archaeological resources are discovered during construction or grading activities, such activities shall cease in the immediate area of the find until a qualified archaeologist can determine the significance of the resource and recommend alternative mitigation.
 -

Discussion

a) Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

Less Than Significant Impact with Mitigation: The Project involves construction activities, including earthwork, concrete pouring, pipe laying, and lining of a new wastewater pond, resulting in approximately 191,000 square feet (4.4 acres) of ground disturbance within the existing dairy operation. The Phase I Cultural Resources Assessment (CRA), conducted by Soar Environmental Consulting, Inc., included a records search at the Northwest Information Center (NWIC), a Sacred Lands File (SLF) search, and an intensive pedestrian survey of the Project Site. No historical resources, as defined by CEQA Guidelines Section 15064.5, were identified within the Project area or the 0.5-mile Cultural Study Area. However, the potential for unanticipated historical resources beneath the ground surface exists due to the Project's ground-disturbing activities. Implementation of Mitigation Measures CUL-1 and CUL-2 will ensure that impacts on historical resources remain **Less than Significant with Mitigation Incorporated**.

b) Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less Than Significant Impact with Mitigation: No known archaeological resources were identified within the Project area based on the NWIC records search, SLF search, and pedestrian survey conducted on March 27-28, 2025. The Project Site, located within an existing dairy facility, has been subject to prior agricultural disturbance, reducing the likelihood of intact

archaeological deposits. However, the possibility of encountering unanticipated archaeological resources during construction activities, such as earthwork for the anaerobic digester or wastewater pond, cannot be ruled out. Implementation of Mitigation Measures CUL-1, Cul-2 and CUL-3 will ensure that potential impacts on unknown archaeological resources remain **Less than Significant with Mitigation Incorporated**.

c) Would the Project disturb any human remains, including those interred outside of dedicated cemeteries?

Less Than Significant Impact with Mitigation: No known human remains are documented within the Project vicinity, as confirmed by the NWIC and SLF searches. The Project Site's history of dairy and agricultural use suggests a low likelihood of encountering human remains. However, ground-disturbing activities, limited to a maximum of 2-3 feet below ground surface for the sides of the pond, could potentially unearth unanticipated human remains. Implementation of Mitigation Measure CUL-3, which aligns with California Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98, will ensure that any impacts from the discovery of human remains remain **Less than Significant with Mitigation Incorporated**.

Mitigation Measures for Impacts on Cultural Resources

Mitigation Measure CUL-1: Archaeological Alert Sheet and Crew Training. The project applicant, or designee, shall implement an Archaeological Alert Sheet and Crew Training Program to mitigate the impacts to archaeological resources. The Archaeological Alert Sheet and Crew Training should be prepared and performed prior to any ground-disturbing work at all locations within the project site. This Alert Sheet shall be distributed to all project personnel, including construction – crew and their supervisory personnel, the Project Design Team and the future contractor(s). The Alert Sheet shall contain information regarding potential archaeological resources and the actions to take in the case of inadvertent discovery of cultural resources, including contact protocol and avoidance and minimization measures.

Mitigation Measure CUL-2: Procedures for Handling Encountered Cultural Resources. Construction shall stop within a 50-foot buffer surrounding the find if previously unknown resources are encountered before or during grading activities. A qualified cultural resources specialist shall be consulted to determine whether the resource requires further study. The qualified cultural resources specialist shall make recommendations to the County on the measures that shall be implemented to protect the discovered resources, including but not limited to excavating the finds and evaluating the discoveries following Section 15064.5 of the CEQA Guidelines and the County's General Plan.

If the resources are determined to be unique historical resources as defined under Section 15064.5 of the CEQA Guidelines, mitigation measures shall be identified by the monitor and recommended to the Lead Agency. Appropriate mitigation measures for significant resources

could include avoiding or capping, incorporating the Site in green space, parks, or open space, or data recovery excavations of the finds. No further grading shall occur in the discovery area until the Lead Agency approves the measures to protect these resources. Any historical/cultural artifacts recovered as a result of mitigation shall be provided to a County-approved institution or person capable of providing long-term preservation to allow future scientific study. Further grading or site work within the area of discovery shall not be allowed until the preceding steps have been taken.

Mitigation Measure CUL-3: Procedures for Handling Human Remains Discovery. In the event that human remains are unearthed during the excavation and grading activities of any future development Project, all activity shall cease immediately. Pursuant to Health and Safety Code (HSC) Section 7050.5, no further disturbance shall occur until the County Coroner has made the necessary findings regarding origin and disposition pursuant to PRC Section 5097.98(a). If the remains are determined to be of Native American descent, the coroner shall within 24 hours notify the Native American Heritage Commission (NAHC) and the Yocha Dehe Wintun Nation (Tribe) or a member of the Tribe is determined to be the Moste Likely Decedent (MLD), who shall then serve as the consultant on how to proceed with the remains. Pursuant to PRC Section 5097.98(b), upon the discovery of Native American remains, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the most likely descendants regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The landowner shall discuss and consult with the descendants all reasonable options regarding the descendants' preferences for treatment.

VI. ENERGY

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

Environmental Setting

Electricity

According to the California Energy Commission (CEC), California consumed approximately 272,576 gigawatt-hours (GWh) of electricity in 2022. By sector, commercial uses accounted for approximately 40% of the state's electricity consumption, residential uses represented 32%, and industrial activities used about 18% (CEC 2023). Due to California's stringent building efficiency standards and robust energy conservation programs, the state's electricity usage per capita remains among the lowest in the United States.

Pacific Gas and Electric Company (PG&E) provides electricity to Solano County, including the HD Ranch Project site. PG&E delivers electricity derived from a diverse energy mix. As reported in PG&E's 2022 Power Content Label, renewable energy comprises approximately 39.4% of its electricity supply, including 18.2% from solar power, 10.4% from wind, 4.8% from eligible hydroelectric sources, and 6% from geothermal and biomass sources (PG&E 2022).

The proposed HD Ranch Project would require electricity primarily for operational equipment, including pumps, biogas conditioning systems, controls, and associated infrastructure. The Project would also produce renewable energy in the form of Renewable Compressed Natural Gas (RCNG), significantly contributing to the region's renewable energy goals.

Natural Gas

California consumed approximately 2,110,000 million cubic feet (MMcf) of natural gas in 2022 (EIA 2023). Natural gas in California serves multiple purposes, including space heating, cooking, electricity generation, and transportation fuel. Residential and small commercial customers represent the majority of natural gas users, accounting for about 33% of the gas delivered

statewide. Large consumers, including power plants and industrial facilities, consume approximately 67% of the natural gas delivered in California (CPUC 2023).

Natural gas delivery in Solano County is also managed by PG&E. The California Public Utilities Commission (CPUC) regulates natural gas rates and services, including pipeline distribution, storage, and procurement. While most of California's natural gas supply originates from out-of-state sources, increasing attention is focused on developing biogas projects, such as anaerobic digesters at dairies and wastewater treatment plants. These projects are encouraged by State policies and incentives due to their potential for renewable energy production and GHG emission reductions.

The HD Ranch Project does not propose the use of conventional natural gas during its operational phase. Instead, it will produce RCNG by capturing methane from dairy manure, contributing to renewable natural gas supplies.

Petroleum

California consumed approximately 617 million barrels of petroleum products in 2022, primarily for transportation purposes, accounting for approximately 89% of the total petroleum usage (EIA 2023). This translates into approximately 1.7 million barrels per day, or around 71 million gallons daily. Petroleum products used in California include gasoline, diesel fuel, liquefied petroleum gas, and jet fuel.

California has implemented aggressive policies aimed at reducing petroleum consumption through vehicle efficiency standards, support for electric vehicles, and the promotion of renewable and alternative fuels. These initiatives are anticipated to significantly reduce petroleum demand statewide over the next decade.

The HD Ranch Project will produce Renewable Compressed Natural Gas (RCNG) to displace conventional petroleum fuels, thereby supporting California's goals to reduce petroleum dependence and vehicle emissions.

Regulatory Setting

Federal

Federal Energy Policy and Conservation Act

The Federal Energy Policy and Conservation Act of 1975 established the first-ever corporate average fuel economy (CAFE) standards in the United States, targeting on-road motor vehicles to reduce fuel consumption and enhance energy efficiency. These regulations, administered by the National Highway Traffic Safety Administration, have been periodically revised to keep pace with evolving technologies and national energy goals. The most recent update, finalized in 2022, sets a requirement for automobile manufacturers to achieve a fleetwide average fuel economy of 49 miles per gallon by model year 2026, a significant improvement that aims to curb petroleum consumption and associated emissions.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 further bolstered national energy policy by mandating increases in fuel economy and implementing a comprehensive Renewable Fuel Standard. This standard, now in its second phase, stipulates the blending of 36 billion gallons of renewable fuels into the national fuel supply by 2022, covering both gasoline and diesel fuel markets. The EISA also introduced efficiency requirements for appliances and lighting, energy conservation measures for buildings, and incentives for research into carbon capture, advanced energy storage, and alternative energy technologies. Together, these provisions support a multi-faceted approach to reducing reliance on imported oil, lowering greenhouse gas emissions, and promoting a cleaner energy economy.

State

Warren–Alquist Act

The Warren–Alquist Act of 1974 laid the foundation for California's modern energy regulatory framework by establishing the California Energy Commission (CEC). The act granted the CEC authority over energy demand forecasting, the development of energy conservation standards for buildings and appliances, and implementation of research and development initiatives targeting alternative energy. These efforts have made California a national leader in energy efficiency and innovation, with policies that continue to evolve in response to climate imperatives and technological progress.

State of California Energy Action Plan

The CEC and CPUC approved the first State of California Energy Action Plan in 2003. The plan established shared goals and specific actions to ensure the provision of adequate, reliable, and reasonably priced electrical power and natural gas supplies; it also identified cost-effective and environmentally sound energy policies, strategies, and actions for California's consumers and taxpayers. In 2005, the CEC and CPUC adopted a second Energy Action Plan to reflect various policy changes and actions of the prior 2 years. At the beginning of 2008, the CEC and CPUC determined that it was not necessary or productive to prepare a new energy action plan. This determination was based, in part, on a finding that the state's energy policies have been significantly influenced by the passage of Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006 (discussed below). Rather than produce a new energy action plan, the CEC and CPUC prepared an "update" that examines the state's ongoing actions in the context of global climate change.

Assembly Bill 32 (2006) and Senate Bill 32 (2016)

AB 32 and SB 32 remain cornerstone policies in California's climate legislation. AB 32 established the state's first enforceable cap on greenhouse gas emissions, targeting 1990 levels by 2020. SB 32 expanded upon this mandate by setting a new target of reducing emissions to 40% below 1990 levels by 2030. To guide implementation, the CARB prepares and regularly updates its Scoping Plan, a roadmap outlining sector-specific strategies including

energy conservation, building electrification, expansion of renewable energy, and reductions in transportation-related emissions.

California Building Standards

Title 24 regulates the energy performance of new and renovated buildings through its two key parts: Part 6, which contains the Building Energy Efficiency Standards, and Part 11 (CALGreen), which governs sustainable construction practices. The most recent 2022 updates to Title 24 include enhanced thermal insulation, higher-performance windows, solar photovoltaic requirements, and all-electric readiness for residential and commercial buildings. These standards are instrumental in reducing building energy use, utility costs, and carbon emissions.

California Code of Regulations, Title 20 and 24

Title 20 and 24 impose appliance efficiency standards and energy conservation measures that apply broadly across residential, industrial, and commercial sectors. These standards help lower baseline energy demand and ensure that California continues to lead the nation in energy-efficient technology adoption.

SB 100

SB 100, signed into law in 2018, reinforces California's clean energy trajectory by mandating that all electricity sold to retail customers be derived from renewable or zero-carbon sources by 2045. A milestone target under SB 100 requires that 60% of this electricity come from renewables by 2030. This legislation supports energy security, greenhouse gas reductions, and economic growth through clean technology investments.

Executive Order B-55-18

Executive Order B-55-18, signed in 2018, sets a statewide target of achieving carbon neutrality by no later than 2045. This executive action commits California to removing as much carbon dioxide from the atmosphere as it emits, thereby necessitating sweeping changes across energy, transportation, industry, and land use sectors.

Local

Solano County General Plan

The Solano County General Plan contains the following policies related to energy conservation.

- **Policy RS.P-50** calls on the County to provide incentives for city and county residents and businesses to produce and use renewable sources of energy.
- **Policy RS.P-53** directs the County to enable production of renewable energy from resources available in Solano County, such as solar, water, wind, and biofuels, and to reduce the reliance on energy resources from outside the county.

Discussion

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?

Less Than Significant Impact: The HD Ranch Project would not result in the wasteful, inefficient, or unnecessary use of energy resources. During construction, energy would be consumed in the form of fuel used by construction equipment and vehicles, as well as electricity required for minor on-site power needs. However, the Project does not involve extensive or prolonged grading or vertical construction, and overall construction energy demands are limited. Construction activities will be conducted using modern equipment, and Tier 4 Final diesel engines are expected for off-road vehicles to comply with CARB emissions requirements, contributing to efficient fuel usage.

During operation, the Project will generate RCNG through the anaerobic digestion of dairy manure, a process that displaces traditional fossil fuel use by producing a clean-burning transportation fuel. This aligns directly with California's renewable energy goals. The biogas upgrading facility and associated electrical systems are designed to operate efficiently. Operational energy use is therefore offset by the renewable energy the Project generates. The energy produced is expected to exceed the Project's consumption, providing a net benefit to regional energy resources. Thus, the Project would not cause a significant impact related to energy inefficiency or waste. The impact is considered **Less than Significant**.

b) Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

No Impact: The Project is designed to comply with and support numerous State and local energy and climate policies. The HD Ranch anaerobic digester is consistent with SB 100 and Executive Order B-55-18 by producing renewable energy that reduces reliance on fossil fuels and supports the transition to carbon neutrality. The Project also aligns with the goals of the Solano County General Plan, including policies that promote renewable energy generation from local resources (Policy RS.P-61), reduce fossil fuel dependency (Policy RS.P-53), and encourage energy efficiency through modern infrastructure.

Furthermore, the Project is subject to the energy efficiency and conservation requirements of the California Green Building Standards Code (CALGreen) and Title 24 of the California Code of Regulations. The Project's construction and operational practices incorporate sustainable site design and low-energy technologies, avoiding conflict with State or regional energy goals. Overall, the Project will contribute positively to renewable energy development and energy efficiency targets and will not conflict with any adopted plans or policies. There would be **No Impact**.

VII. GEOLOGY AND SOILS

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct and indirect risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or Site or unique geologic feature?	☐	☒	☐	☐

Environmental Setting

Geologic Stability and Seismic Activity

- ❖ **Seismicity:** Solano County is located in a region of moderate seismic activity influenced by nearby fault systems. While there are no known active faults crossing the HD Ranch Project Site itself, regional faults such as the Green Valley Fault, Cordelia Fault, and Calaveras Fault are located within a broader area that could affect the region during a significant seismic event. The San Andreas Fault, a major tectonic boundary, is located approximately 55 miles southwest of the Project Site. According to the California Geological Survey and the Solano County General Plan, the Project Site is not located within an Alquist-Priolo Earthquake Fault Zone. However, the site could be subject to moderate ground shaking during a major regional earthquake. The probability of peak ground acceleration exceeding 0.2g in 50 years is consistent with other areas of the Sacramento Valley and eastern Bay Area, where ground shaking hazards are considered moderate.
- ❖ **Liquefaction:** Liquefaction occurs when water-saturated, unconsolidated soils temporarily lose strength during strong ground motion. Solano County soils generally have low to moderate susceptibility to liquefaction, particularly in areas with recent alluvial deposits and shallow groundwater. The Project Site lies on relatively flat alluvial terrace soils, including Yolo silty clay loam and Capay silty clay loam, which are moderately well-drained. Groundwater depth in this area is typically deeper than 10 feet, and no perched groundwater was observed during the biological field surveys. Based on these conditions and regional liquefaction susceptibility maps, the liquefaction potential at the Project Site is low.
- ❖ **Landslides:** Landslides typically occur in areas of steep terrain and unstable slopes, often triggered by rainfall or seismic activity. The HD Ranch Project Site is located on nearly level terrain with elevations ranging from approximately 35 to 39 feet above sea level and no significant slopes or topographical relief. According to the California Landslide Inventory and Solano County General Plan, the Project Site is not located in an area with known landslide hazards, and the risk of landslides is considered negligible.
- ❖ **Subsidence:** Land subsidence has occurred historically in Solano County due to groundwater withdrawal, particularly in agricultural areas with high water demand. While some areas near Dixon have experienced minor subsidence, the HD Ranch Project Site is located in a zone where the potential for significant subsidence is low. The Project would not involve extraction of groundwater or other subsurface materials that would exacerbate subsidence, and no known subsidence-related hazards have been identified on or near the site.

Soils Involved in the Project: The proposed Project Site contains three soil types, according to the US Department of Agriculture (USDA) Web Soil Survey. The properties of the soil are described briefly below, as defined by the USDA:

- ❖ **Yolo silty clay loam, 0 to 2 percent slopes:** This soil is a well-drained alluvial soil commonly found on floodplains and alluvial fans. It has moderate permeability and a high available water capacity, making it suitable for a wide range of agricultural uses. The flat slope and good drainage characteristics reduce erosion risks. Yolo soils are typically used for irrigated crops, pastures, and orchards.
- ❖ **Capay clay, 0 percent slopes:** Capay clay is a poorly drained soil formed on valley floors. It has high clay content, slow permeability, and a tendency to retain moisture, which may lead to temporary ponding during wet seasons. This soil type can present challenges for construction due to its shrink-swell behavior but is commonly used for non-intensive grazing or limited agricultural activities in areas with proper drainage management.
- ❖ **Brentwood Clay Loam:** This soil is well to moderately well drained, formed in valley fill from sedimentary rocks on nearly level to gently sloping fans in California's Coast Range valleys. It has moderately slow permeability and is moist in winter, dry in summer unless irrigated. Low erosion risks due to gentle slopes and slow runoff. Suitable for irrigated agriculture; used for tree fruit, nut crops, vegetables, and field crops. Moderately slow permeability may challenge construction drainage.

Groundwater: The Project specific Geotechnical Engineering Investigation Report confirmed that groundwater was not encountered during field investigation completed on 3/28/25. Borings were completed to depths of 41.5 feet and 51.5 feet. This finding indicates stable subsurface conditions with low risk of groundwater intrusion during construction activities.

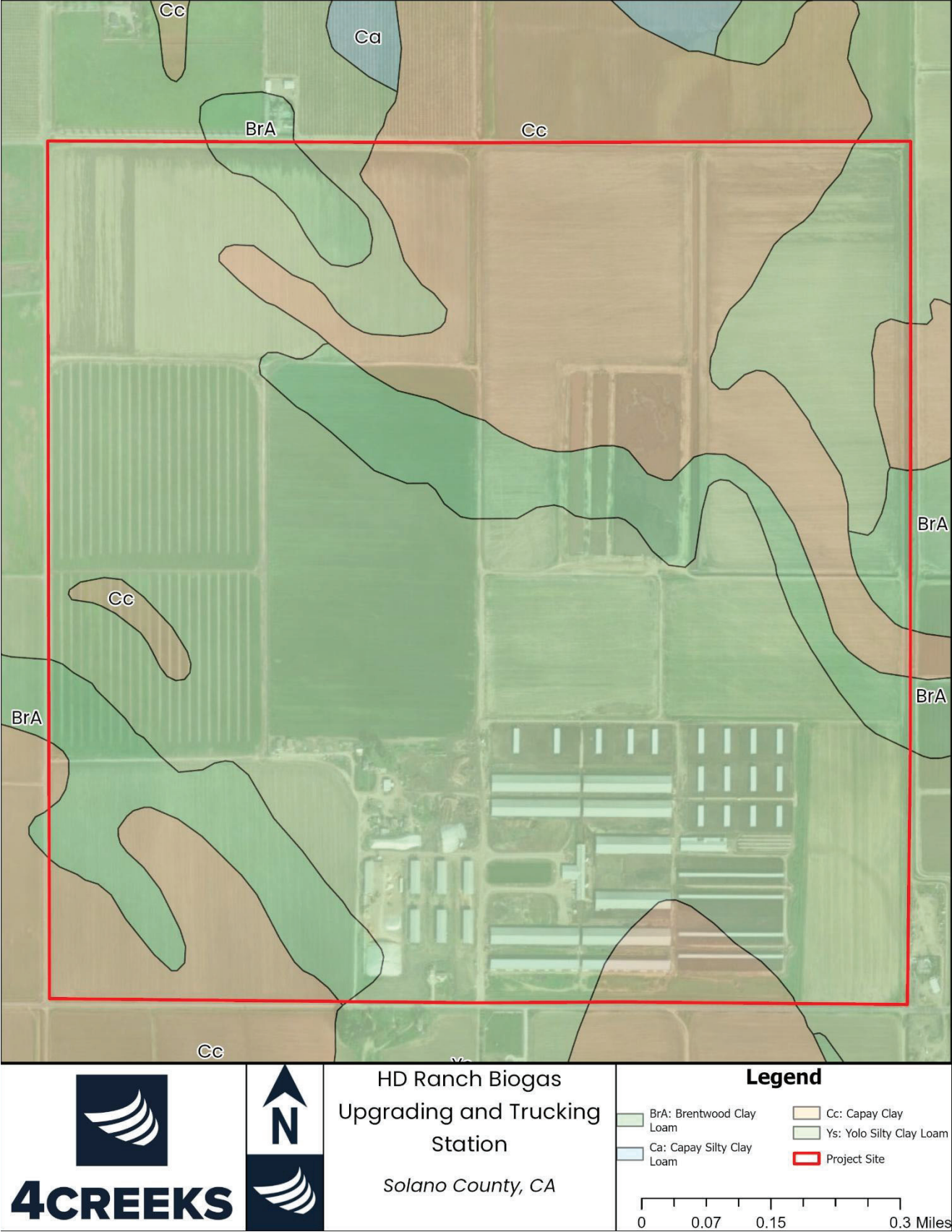


Figure 2-5: Soil Types Map

Regulatory Setting

California Building Code: The California Building Code (CBC) contains general building design and construction requirements for fire and life safety, structural safety, and access compliance. CBC provisions provide minimum standards to safeguard life or limb, health, property, and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all buildings and structures and specific equipment.

Discussion

a) Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

No Impact: The Project Site is not located within an Alquist-Priolo Earthquake Fault Zone, and there are no known active or potentially active faults beneath or immediately adjacent to the Project Area. While regional faults such as the Green Valley and Calaveras Faults are present elsewhere in Solano County, they are not located within or near the Project boundary. Therefore, the Project would not be exposed to surface fault rupture hazards, and **No Impact** would occur.

ii. Strong seismic ground shaking?

No Impact: The Project Site may be subject to moderate ground shaking during a regional seismic event due to its proximity to several regional fault systems. However, the Project would be required to comply with the CBC seismic design standards, which account for local geologic and seismic conditions. With adherence to these design standards, the potential for injury, loss, or structural failure due to ground shaking would be **Less Than Significant**.

iii. Seismic-related ground failure, including liquefaction?

Less than significant impact: According to regional liquefaction hazard maps and site conditions, the liquefaction potential at the Project Site is low. The soils are composed primarily of Yolo silty clay loam and Capay clay, which are moderately well-drained and have low groundwater levels. There is no history of liquefaction in the immediate area, and the flat terrain further reduces susceptibility. Therefore, the risk of seismic-related ground failure is **Less Than Significant**.

iv. Landslides?

No Impact: The Project Site is located on flat terrain with no slopes or unstable geological formations. There are no landslide-prone areas identified on or near the site in the California Landslide Inventory or the Solano County General Plan. Therefore, the potential for landslides is negligible, and **No Impact** would occur.

b) Would the Project result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact: Construction activities such as grading and excavation could result in minor soil disturbance. However, the Project would be subject to State Water Resources Control Board regulations requiring a Stormwater Pollution Prevention Plan (SWPPP) and erosion control best management practices (BMPs). Grading Permit application will be submitted upon completion of substantial design, encompassing plans for the digester lagoon, upgrader, and trucking station to ensure compliance with erosion and sediment control standards. With these standard regulatory measures in place, soil erosion and topsoil loss would be minimized, resulting in a **Less than Significant Impact**.

c) Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Less than Significant Impact: As described above, the Project Site is not located in a landslide-prone or liquefaction-susceptible zone. While some minor subsidence has been recorded regionally in areas with high groundwater extraction, the Project would not extract groundwater or disturb deep soils. The Site's clay-based soils are moderately stable and not prone to lateral spreading or collapse. Therefore, impacts related to unstable soils would be **Less than Significant**.

d) Would the Project be located on expansive soil, as defined in Section 1803.5.3 of the California Building Code (2025), creating substantial direct or indirect risks to life or property?

No Impact: The Capay clay present on portions of the Project Site has moderate shrink-swell potential, which may result in expansive soil behavior. However, compliance with California Building Code (CBC) requirements for foundation design in expansive soils would mitigate this potential hazard. As such, the risk to life or property would be **Less than Significant**.

e) Would the Project 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?

No Impact: The proposed Project would not require wastewater services, and no on-site wastewater disposal would occur. There would be no significant impacts on or from geophysical features or hazards with the implementation of the proposed Project, and no mitigation would be necessary. **No Impact.**

f) Would the Project directly or indirectly destroy a unique paleontological resource or Site or unique geologic feature?

Less Than Significant Impact with Mitigation: The Project Site is not located in an area identified as sensitive for paleontological resources, and no unique geologic features or known fossil localities have been recorded in or near the site. However, standard construction activities involving ground disturbance have the potential to unearth unknown subsurface resources, including cultural, historical, or tribal resources. The Project will implement Mitigation Measures Paleo-1.

These mitigation measures will reduce the impact to less than significant by requiring immediate cessation of construction activities upon discovery of unanticipated resources, consultation with qualified specialists to evaluate significance, and implementation of appropriate protective actions—such as avoidance, capping, data recovery excavation, or proper treatment of human remains in compliance with CEQA Guidelines Section 15064.5, County General Plan policies, Health and Safety Code Section 7050.5, and Public Resources Code Section 5097.98.

Compliance with standard mitigation measures (e.g., worker environmental awareness training and established procedures for inadvertent discoveries) and Paleo-1 would result in a **Less Than Significant impact with Mitigation.**

Mitigation Measures for Impacts on Geology and Soils

Mitigation Measure PALEO-1: If any sub-surface bones or other potential fossils are found anywhere within the Project impact footprint by construction personnel in the absence of a qualified paleontologist or paleontological monitor, construction will cease within a 50-foot radius and a qualified paleontologist shall be notified immediately to assess their significance and make further recommendations. Fossil remains collected during monitoring and salvage shall be cleaned, repaired, sorted, and cataloged as part of the mitigation program. Prepared fossils, along with copies of all pertinent field notes, photos, and maps, shall be deposited (as a donation) in a scientific institution with permanent paleontological collections. A final summary report outlining the results of the mitigation program shall be prepared by a qualified paleontologist and submitted to the Solano County for concurrence. This report shall include discussions of the methods used, stratigraphic section(s) exposed, fossils collected, and significance of recovered fossils.

VIII. GREENHOUSE GAS EMISSIONS

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	☐	☐	☒	☐
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

Environmental Setting

Climate change refers to significant long-term alterations in Earth's average weather patterns, including changes in temperature, precipitation, storm frequency, and severity. Current concerns about climate change are informed by historical climate data, particularly temperature records spanning the past 150 years. Unlike historical climate fluctuations that have occurred naturally, the current rate and magnitude of climate change are largely attributable to human activities, especially those involving fossil fuel combustion and large-scale deforestation.

According to the most recent scientific assessment by the Intergovernmental Panel on Climate Change (IPCC) (Sixth Assessment Report, AR6, 2023), global average temperatures are projected to increase by approximately 1.4°C to 4.4°C by the end of the century compared to pre-industrial levels, depending on future emissions scenarios. Climate models predict that warming will continue to intensify adverse impacts globally and within California. Potential impacts identified by recent state-specific climate assessments (California's Fourth Climate Change Assessment, 2018, and subsequent updates) include:

1. Decreased reliability and reduced supply of freshwater resources due to shrinking Sierra Nevada snowpack.
2. Increased frequency, intensity, and scale of wildfires throughout California.
3. Decreased productivity and increased vulnerability of agricultural crops to drought, pests, and extreme weather.
4. Worsened air quality due to increased concentrations of ozone and particulate matter.

5. Rising sea levels, leading to flooding and displacement in coastal communities.
6. Damage and loss of critical habitats and marine ecosystems.
7. Heightened public health risks from increased incidence of heat-related illness, respiratory conditions, infectious diseases, and allergies.
8. Reduced forest health, increasing susceptibility to drought, pests, and disease outbreaks.

Greenhouse gases (GHGs) are atmospheric gases that absorb and emit radiation, thus trapping heat and contributing to global warming. This phenomenon is analogous to the warming experienced inside a greenhouse. While greenhouse gases occur naturally, human activities—particularly fossil fuel combustion, agriculture, waste management, and industrial processes—have significantly increased the concentrations of these gases in the atmosphere beyond naturally occurring levels.

The primary GHGs identified under California's Assembly Bill 32 (AB 32) and subsequent climate policies include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). These gases differ in their atmospheric lifetimes and heat-trapping capacities, which are quantified using a measure known as Global Warming Potential (GWP). GWP compares the warming effect of a given gas relative to carbon dioxide, typically assessed over a 100-year timeframe. For instance, methane (CH₄) has a GWP approximately 28–36 times greater than carbon dioxide (CO₂), reflecting the latest IPCC AR6 findings.

Table 3-7 below summarizes the key characteristics, sources, and GWPs of primary GHGs:

Greenhouse Gas	Description	Atmospheric Lifetime	GWP (100-Year)	Primary Sources
Carbon dioxide (CO ₂)	Naturally occurring, colorless, odorless gas	30 – 95 years	1	Fossil fuel combustion, deforestation, cement production, chemical manufacturing
Methane (CH ₄)	Flammable gas, primary component of natural gas	12 years	28–36	Agriculture (livestock), landfills, oil and gas extraction and transport, coal mining.
Nitrous oxide (N ₂ O)	Colorless, non-flammable gas with anesthetic effects	114 Years	265–298	Agriculture (fertilizer use), fossil fuel combustion, wastewater management, industrial processes
Hydrofluoro-carbons (HFCs)	Man-made gases developed as replacements for ozone-depleting substances	1.4 – 270 years	12 to 14,8000	Refrigeration, air conditioning, aerosol propellants, solvents

Perfluorocarbons (PFCs)	Stable synthetic gases, chemically inert	2,600 – 50,000 years	6,630 to 11,100	Aluminum production, semiconductor manufacturing
Chloro-fluorocarbons	Synthetically formed gas, non-toxic nonflammable, insoluble and chemically unreactive.	55-140 years	3,800 to 8,100	Refrigerants, aerosol propellants, and cleaning solvents.
Sulfur hexafluoride (SF ₆)	Synthetic gas, extremely potent	3,200 years	23,500	Electrical insulation, magnesium processing, semiconductor industry

Sources: Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6, 2023), California Air Resources Board (CARB), U.S. Environmental Protection Agency (EPA)

Each greenhouse gas listed above has a different capacity to influence climate change, depending on its concentration, atmospheric lifetime, and global warming potential. Concentrations of GHGs are commonly measured in parts per million (ppm), parts per billion (ppb), or parts per trillion (ppt). To illustrate these measurements, one part per million is roughly equivalent to one drop of water diluted in approximately 13 gallons, approximately the volume of a standard compact car fuel tank. Higher emissions lead directly to increased atmospheric concentrations, intensifying global warming and climate-related impacts.

To compare the impact of different GHGs, their emissions are often expressed in metric tons of carbon dioxide equivalents (MT CO₂e). This standardizes emissions by multiplying the quantity of each gas by its respective GWP, allowing all GHGs to be expressed as a single unit equivalent to CO₂. The table below shows the GWP values used in California's 2022 Scoping Plan (based on IPCC's Fourth Assessment Report [AR4]) and the updated values in the Sixth Assessment Report (AR6).

Table 3–8: Global Warming Potential for Selected Greenhouse Gases		
Pollutant	2022 Scoping Plan Values from the Fourth Assessment Report (AR4)	Sixth Assessment Report (AR6) Values
Carbon dioxide (CO ₂)	1 (by definition)	1 (by definition)
Methane (CH ₄)	25	29.8 ± 11
Nitrous oxide (N ₂ O)	298	273 ± 130
Note: The USEPA and CARB use global warming potential values from the IPCC Fourth Assessment Report (2007). USEPA = United States Environmental Protection Agency		

Sources: California Air Resources Board (CARB). 2022a. 2022 Scoping Plan for Achieving Carbon Neutrality. Intergovernmental Panel on Climate Change (IPCC). 2021. Climate Change 2021: The Physical Science Basis, Sixth Assessment Report.

Regulatory Setting

Federal Regulations

Historically, the United States approached the reduction of GHG emissions through voluntary programs and initiatives. However, a pivotal moment occurred on April 2, 2007, when the United States Supreme Court ruled that the U.S. Environmental Protection Agency USEPA has the authority to regulate carbon dioxide (CO₂) emissions under the Clean Air Act (CAA). The ruling

concluded that GHGs fall within the definition of a pollutant under the CAA and that the USEPA had a duty to determine whether these emissions endangered public health or welfare. As a result, in December 2009, the USEPA issued a formal endangerment finding for six GHGs, thereby establishing the legal basis for future regulatory actions.

On December 7, 2009, the USEPA Administrator finalized a rule determining that six key GHGs—carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆)—pose a threat to public health and welfare. The USEPA also determined that GHG emissions from motor vehicles contribute to climate change. This action laid the groundwork for the adoption of fuel economy standards and GHG emission limits for light-duty and heavy-duty vehicles.

In coordination with the U.S. Department of Transportation (USDOT), the USEPA has since implemented stringent fuel efficiency and emissions standards for medium- and heavy-duty trucks and buses. Most recently, the Corporate Average Fuel Economy (CAFE) standards for model years 2024 through 2026 were finalized. These standards aim to achieve an industry-wide fleet average fuel efficiency of approximately 49 miles per gallon by 2026, contributing to a significant reduction in fuel consumption and GHG emissions over the lifespan of vehicles. These efforts are projected to save consumers billions of dollars in fuel costs and avoid hundreds of millions of metric tons of GHG emissions.

State Agencies

California Air Resources Board (CARB)

Established in 1967 under the Mulford-Carrell Act, CARB is the lead agency in California for implementing air quality regulations and climate change policies. One of the most significant legislative actions guiding CARB is the California Global Warming Solutions Act of 2006 (AB 32), which mandates the reduction of statewide GHG emissions to 1990 levels by 2020. This goal was pursued through a combination of market-based compliance mechanisms, performance standards, and incentive programs detailed in the Scoping Plan adopted by CARB.

In 2016, Senate Bill 32 (SB 32) was enacted to build on AB 32, requiring a 40 percent reduction in emissions below 1990 levels by 2030. Alongside this, Assembly Bill 197 (AB 197) provided further direction to CARB to prioritize reductions in disadvantaged communities and increase transparency in climate-related decision-making. Together, these laws underscore California's leadership role in addressing climate change.

The most recent 2022 Scoping Plan Update charts a course to achieve carbon neutrality in California by 2045. This comprehensive plan evaluates strategies across multiple sectors, including transportation, buildings, energy, agriculture, and natural lands. Key elements include the acceleration of zero-emission vehicle deployment, large-scale renewable energy generation, carbon sequestration through forestry and soils, and energy efficiency upgrades

across residential and commercial sectors, environmental, energy security, environmental justice, and public health priorities.

SB 97 and State CEQA Guidelines

In response to growing concern about climate change, the State passed Senate Bill 97 (SB 97) in 2007, which directed the Governor's Office of Planning and Research (OPR) to develop guidelines under the CEQA for the analysis and mitigation of GHG emissions. These guidelines became effective in 2010 and require lead agencies to analyze the potential impacts of GHG emissions in environmental documents.

Although the CEQA Guidelines do not establish quantitative thresholds for GHG emissions, they encourage agencies to quantify emissions, consider long-term impacts, and apply performance-based or programmatic mitigation measures. Lead agencies have discretion to determine significance based on substantial evidence and are encouraged to incorporate regional climate plans, air district guidance, and the best available science.

California Green Building Standards

The CALGreen Code, officially Part 11 of the California Building Standards Code, sets mandatory green building requirements for residential and non-residential projects. First adopted in 2008 with voluntary provisions, the Code now includes mandatory measures that promote sustainability in construction, such as energy and water efficiency, use of sustainable materials, construction waste diversion, and indoor air quality improvements.

The most recent 2022 update, effective January 1, 2023, further enhances requirements for building energy performance, water conservation, and electric vehicle infrastructure. CALGreen is an essential tool in California's broader climate strategy by ensuring new developments align with the State's emissions reduction goals.

Yolo-Solano Air Quality Management District (YSAQMD)

The HD Ranch Project falls under the jurisdiction of the YSAQMD, which has the authority to regulate stationary sources of air pollution, implement CEQA review procedures, and enforce air quality standards within Solano and Yolo Counties.

YSAQMD's 2007 *Handbook for Assessing and Mitigating Air Quality Impacts* serves as a reference for public agencies and developers conducting CEQA evaluations. While the District does not prescribe specific numeric thresholds for GHG emissions, it emphasizes consistency with regional climate action plans, the application of best management practices (BMPs), and project-level mitigation to reduce both criteria pollutants and GHG emissions.

YSAQMD enforces a variety of air quality rules relevant to the construction and operation of projects such as HD Ranch. These include:

- **Rule 2.28 – Cutback and Emulsified Asphalt:** Limits the use of asphalt materials that contain high levels of volatile organic compounds (VOCs), which contribute to smog formation and impact regional air quality.
- **Rule 2.37 – Natural Gas-Fired Water Heaters and Small Boilers:** Establishes emissions performance standards and product certification requirements to reduce nitrogen oxide (NOx) emissions from residential and small commercial water heating systems.
- **Rule 2.40 – Architectural Coatings:** Regulates VOC emissions from paints, stains, and sealants used in architectural applications, minimizing evaporative emissions during painting and drying processes.
- **Rule 2.41 – Wood Burning Appliances:** Restricts installation and use of uncertified wood stoves and fireplaces to limit emissions of fine particulate matter (PM_{2.5}), carbon monoxide (CO), and air toxics.
- **Rule 2.50 – Diesel Engine Idling Limits:** Prohibits unnecessary idling of diesel-powered vehicles and equipment in order to minimize emissions of diesel particulate matter, a known toxic air contaminant, particularly in areas with sensitive receptors.

Solano County General Plan

The Solano County General Plan includes the following policies regarding greenhouse gas emissions:

- **Policy AG.P-21:** Promote natural carbon sequestration to offset carbon emissions by supporting sustainable farming methods (such as no-till farming, crop rotation, cover cropping, and residue farming), encouraging the use of appropriate vegetation within urban-agricultural buffer areas, and protecting grasslands from conversion to non-agricultural uses.
 - *Program AG.I-22:* Promote sustainable agricultural activities and practices that support and enhance the natural environment. These activities should minimize impacts on soil quality and erosion potential, water quantity and quality, energy use, air quality, and natural habitats. Sustainable agricultural practices should be addressed in the County's proposed Climate Action Plan to address climate change effects.
- **Policy RS.P-49:** Ensure energy conservation and reduced energy demand in the county through required use of energy-efficient technology and practices.
- **Policy RS.P-53:** Enable renewable energy sources to be produced from resources available in Solano County, such as solar, water, wind, and biofuels to reduce the reliance on energy resources from outside the county.
- **Policy RS.P-54:** Reduce Solano County's reliance on fossil fuels for private transportation and energy production.
- **Policy HS.I-42:** Continue to implement and monitor the measures and implementing actions contained in the Solano County Climate Action Plan adopted in 2011.
- **Policy HS.P-45:** Promote consistency and cooperation in air quality planning efforts.

- **Policy TC.P-6:** Participate in transportation programs that promote technological solutions resulting in more efficient use of energy resources, reduced greenhouse gas emissions and noise, and improved air quality.
- **Policy PF.P-10:** Maintain an adequate water supply by promoting water conservation and development of additional cost-effective water sources that do not result in environmental damage.
- **Policy PF.P-11:** Promote and model practices to improve the efficiency of water use, including the use of water-efficient landscaping, beneficial reuse of treated wastewater, rainwater harvesting, and water conserving appliances and plumbing fixtures.
- **Policy PF.P-28:** Promote technologies that allow the use and reuse of solid waste, including biomass or biofuel as an alternative energy source.

Discussion

Thresholds of Significance

State CEQA Guidelines Section 15064.4 provides that the “determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency,” and emphasizes that the determination should be based to the extent possible on scientific and factual data. It also recognizes that an ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting.

Appendix G of the State CEQA Guidelines includes thresholds for determining significance related to greenhouse gas emissions. Under Appendix G, a project would result in a significant impact related to GHGs if it would:

- Generate greenhouse gas 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 greenhouse gases.

Currently, there are no statewide numeric thresholds for GHG emissions, and the methodology and thresholds for assessing GHG impacts continue to evolve among California air districts. YSAQMD, which has jurisdiction over the HD Ranch Project, has not adopted quantitative thresholds for GHG emissions under CEQA. Instead, the District’s CEQA guidance encourages the use of best practices and recommends evaluating consistency with the California Air Resources Board’s Scoping Plan and relevant local climate action plans.

In the absence of adopted thresholds from YSAQMD, this analysis evaluates the Project’s greenhouse gas emissions by assessing consistency with the 2022 CARB Scoping Plan and

applicable Solano County General Plan policies. It also considers whether the Project incorporates feasible best management practices to minimize GHG emissions, such as the use of low-emission equipment, renewable energy, energy-efficient infrastructure, and methane capture technology. If the Project supports long-term emission reduction strategies, avoids conflicts with adopted climate policy, and does not result in significant new or additional sources of emissions, impacts are considered less than significant.

a) Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than Significant: The HD Ranch Project would generate greenhouse gas emissions during both construction and operational phases. Based on CalEEMod modeling, construction-related emissions are estimated to be approximately 222 metric tons (MT) of carbon dioxide (CO₂) per year, with additional emissions of 0.01 MT of methane (CH₄) and less than 0.005 MT of nitrous oxide (N₂O), for a total of approximately 223 MT CO₂e when accounting for the GWPs of all GHGs. These emissions are short-term, occurring only during site grading, digester construction, and associated infrastructure development. Best management practices, including the use of Tier 4 final engines for construction equipment and dust suppression measures, would further minimize emissions.

Operational emissions are expected to be substantially lower, with a maximum of approximately 36.7 MT CO₂ per year in carbon dioxide emissions, and 2.03 MT CH₄ and 0.02 MT N₂O, for a total of approximately 93.3 MT CO₂e annually when converted using GWPs. The operational phase includes emissions from limited vehicle trips, energy use, and fugitive emissions associated with digester operation. However, the project would also capture methane that would otherwise be emitted from manure storage and utilize it for renewable vehicle fuel production, resulting in a substantial net GHG reduction from a life-cycle perspective.

Given the relatively small quantity of direct GHG emissions, the short duration of construction, and the overall GHG benefit from the methane capture system, the Project would not result in emissions that would have a significant impact on the environment. Therefore, impacts would be **Less than Significant**.

b) Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

No Impact. The Project is consistent with key State and local policies aimed at reducing GHG emissions, including the CARB 2022 Scoping Plan and Solano County General Plan policies that promote renewable energy generation, reduction of fossil fuel use, and sustainable agricultural practices. The Project captures methane, a potent greenhouse gas, and converts it into renewable compressed natural gas (RCNG) for transportation fuel, which directly aligns with the State's strategy to decarbonize transportation and reduce short-lived climate pollutants.

Additionally, the Project incorporates energy-efficient design elements and supports local renewable energy goals by reducing emissions associated with conventional manure management. The Project does not conflict with any local climate action plans or the YSAQMD CEQA guidance and applies best practices to reduce emissions from both construction and operation. As such, the Project does not conflict with applicable plans or policies adopted to reduce GHG emissions, and impacts would be **Less than Significant**.

IX. HAZARDS AND HAZARDOUS MATERIALS

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) 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 or excessive noise to the public or the environment?	☐	☐	☐	☒
e) 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?	☐	☒	☐	☐
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g) Expose people or structures, either directly or indirectly, to significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

Environmental Setting

The proposed Project Site is approximately 4 miles southeast of the nearest school, Dixon High School. It is approximately 8 miles southeast of the nearest public airport, University Airport in Davis.

The Department of Toxic Substances Control's (DTSC's) EnviroStor was used to identify any sites associated with the release of hazardous materials or wastes within the Project area. This research confirmed that the Project Site and the surrounding area are not hazardous.

Regulatory Setting**Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S. Code [U.S.C.] §9601 et seq.)**

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, or the Superfund Act) authorizes the President to respond to releases or threatened releases of hazardous substances into the environment.

Occupational Safety and Health Administration

The Occupational Safety and Health Administration (OSHA) sets and enforces Occupational Safety and Health Standards to ensure safe working conditions. OSHA provides training, outreach, education, and compliance assistance to promote safe workplaces. The proposed Project would be subject to OSHA requirements during construction and maintenance.

Toxic Substances Control Act of 1976 (15 U.S.C. §2601 et seq.)

The Toxic Substance Control Act was enacted by Congress in 1976 and authorized the EPA to regulate any chemical substances determined to cause an unreasonable risk to public health or the environment.

Hazardous Waste Control Law, Title 26

The Hazardous Waste Control Law creates hazardous waste management requirements. The law is implemented by regulations contained in Title 26 of the California Code of Regulations (CCR).

California Code of Regulations, Title 22, Chapter 11

Title 22 of the California Code of Regulations contains regulations for identifying and classifying hazardous wastes. The CCR defines waste as hazardous if it has the following characteristics: ignitability, corrosivity, reactivity, and/or toxicity.

California Emergency Services Act

The California Emergency Services Act created a multi-agency emergency response plan for California. The Act coordinates various agencies, including CalEPA, Caltrans, the California

Highway Patrol, regional water quality control boards, air quality management districts, and county disaster response offices.

California Code of Regulations

14 CCR §17896.9, Dairy In-Vessel Digestion Operations, establishes regulatory requirements for dairy in-vessel digestion operations in California, mandating compliance with Enforcement Agency (EA Notification provisions under Title 14, Division 7, Chapter 5.0, Article 3.0. These operations must undergo EA inspections at least monthly during the initial 12 months, with potential reductions to quarterly after one year and annually after two years, subject to EA approval and Department concurrence, provided no additional risks to public health, safety, or the environment are introduced. Imported materials must be directly pumped or off-loaded into covered, leak-proof containers at the dairy, then processed—potentially screened, separated, or treated—via a contained system before co-digestion in an in-vessel digester; any unsuitable separated materials lacking beneficial use shall be managed as solid waste.

Local

Certified Unified Program Agency

Certified by the California Environmental Protection Agency as a CUPA, and is thereby responsible for the implementation and enforcement of regulations and guidelines for the CUPA that includes the following:

- Hazardous materials handling, release response plans and inventory Disclosure program (business plans).
- California accidental release prevention (CalARP) Program.
- Underground storage tank program pursuant to Health and Safety Code Section 25283 and as that section may be subsequently amended.
- Aboveground petroleum storage act requirements for spill prevention, control and countermeasure (SPCC) plans pursuant to Health and Safety Code Sections 25502(a)(1) and 25404 and as those sections may be subsequently amended.
- Hazardous waste generator and onsite hazardous waste treatment (tiered permitting) Programs pursuant to Health and Safety Code Sections 25502(a)(1) and 25404 and as those sections may be subsequently amended.
- California fire code hazardous material management plans and hazardous material inventory statements pursuant to this Volume VI of the Glendale Building and Safety Code, 2014.

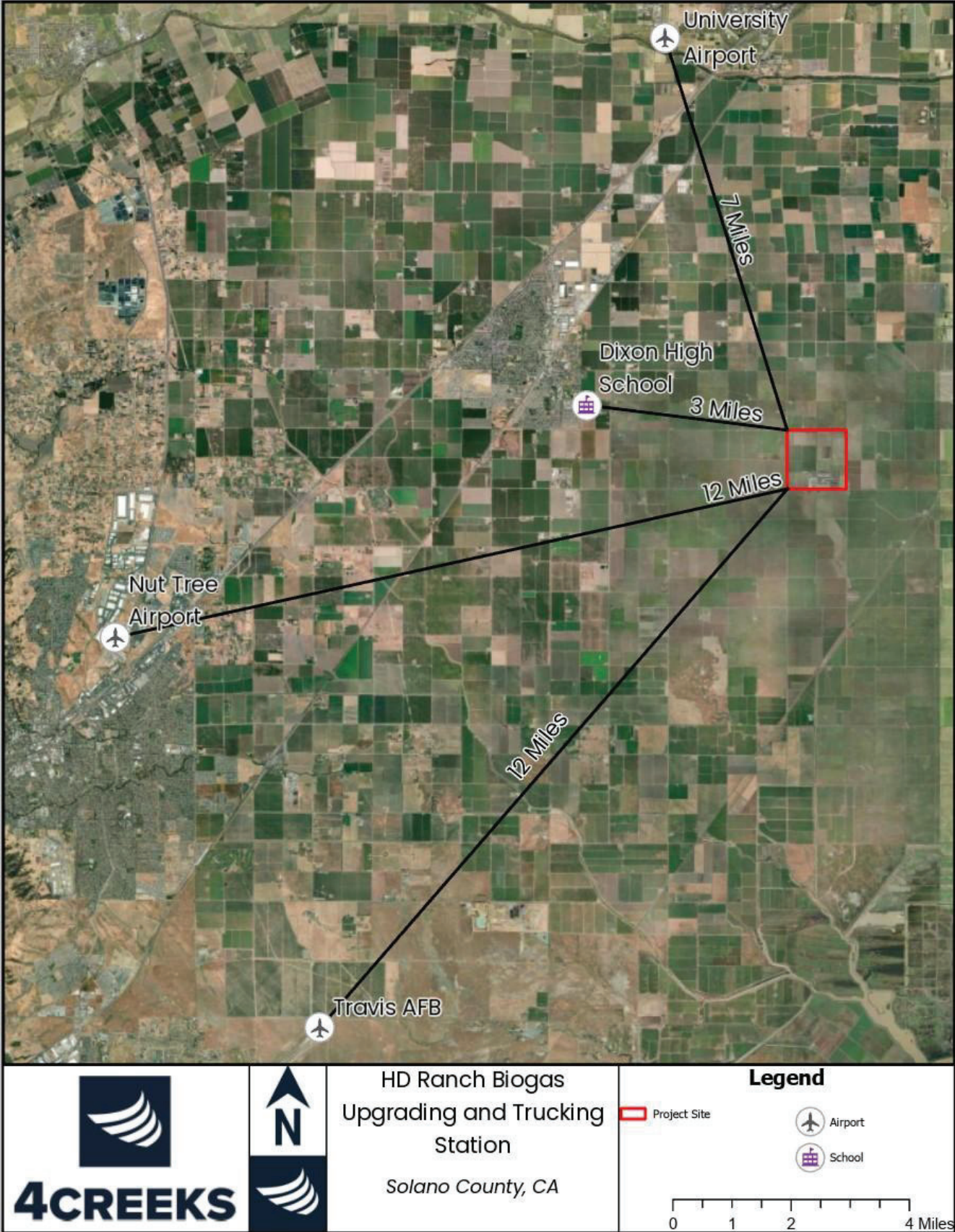


Figure 2-6: Distance to Schools and Airports

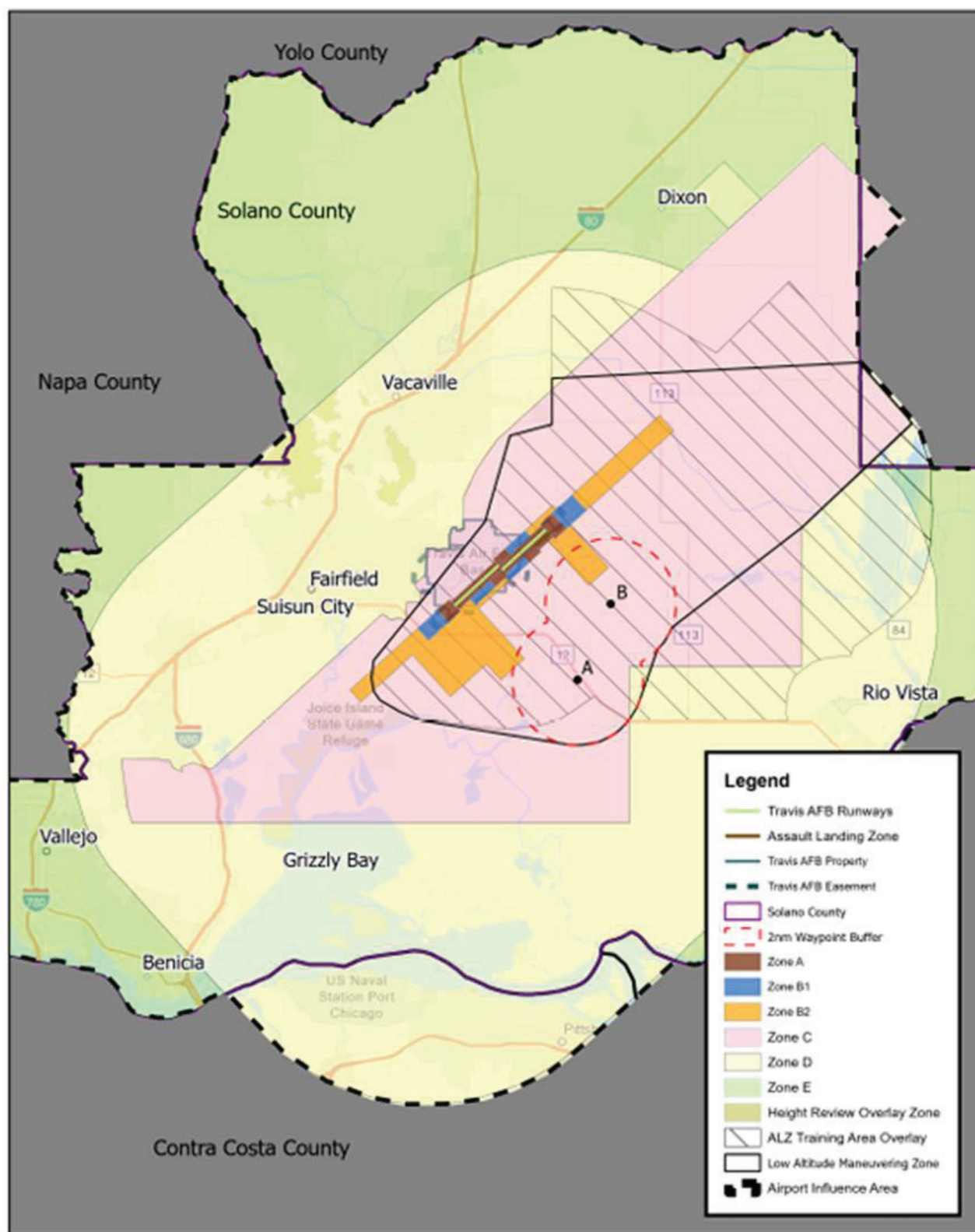


Figure 1
Compatibility Zones

Figure 2-7: Travis AFB Compatibility Zones

Discussion

a) Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less than Significant Impact: The California Health and Safety Code defines a hazardous material as any substance that, due to its quantity, concentration, or chemical characteristics, poses a significant actual or potential hazard to human health or the environment if released. This includes fuels, oils, solvents, compressed gases, and other industrial chemicals.

During construction, the Project may involve the use of diesel fuel, lubricants, paints, solvents, and other common construction-related hazardous materials. These materials would be transported, handled, and stored in accordance with applicable Federal, state, and local regulations, including the Hazardous Materials Transportation Act, the Resource Conservation and Recovery Act (RCRA), and California Code of Regulations, Title 8 and Title 22. The use of construction Best Management Practices (BMPs), such as spill prevention and secondary containment, will minimize the potential for accidental releases.

Following construction, the Project would involve limited quantities of hazardous materials during normal operations. These include digestate byproducts, occasional use of maintenance fuels and oils, and biogas handling associated with the anaerobic digester and gas upgrading system. However, the facility will be designed to contain and manage digestate and gas safely, and all equipment will comply with applicable hazardous materials storage, reporting, and containment regulations. The Solano County Department of Resource Management, Environmental Health Services Division, serves as the Certified Unified Program Agency (CUPA) responsible for regulating hazardous materials in the County.

No chemicals are introduced or produced by this Project. Both the wastewater handling and biogas collection and conditioning processes are designed as closed systems, with emergency overflows and vents to ensure proper wastewater management and site safety. The Project addresses potential emissions such as H₂S, which is removed during the conditioning process. Other substances, including ammonia, nitrous oxide, nitrogen leaching, non-methane volatile organic compounds, and formaldehyde, are not generated or introduced by the project. The system is designed to capture and process biogas that would otherwise be released into the atmosphere, thereby reducing environmental impact. According to the CERS regulations, there are no chemicals of reportable quantities that are produced by the digester projects. Each digester is registered to the CERS program once it becomes operational. A new HMBP will be prepared for the digester operation separate from the dairy and submitted once the digester is operational.

Methane gas is collected, processed, and loaded via filling panel into the truck-mounted tanks to be hauled off-site. Similar projects have been constructed throughout the Central Valley and non-applicability has been confirmed.

A standby generator located on-site may be periodically refueled for emergency use. This would occur infrequently and in compliance with CUPA-approved procedures.

Overall, the Project would not involve substantial quantities of hazardous materials that could pose a significant risk to the public or environment. Compliance with all relevant regulations and implementation of standard BMPs would reduce potential impacts to **Less than Significant**.

b) Would the Project 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?

Less than Significant Impact with Mitigation: The Project involves the construction and operation of an anaerobic digester system, gas upgrading equipment, digestate handling facilities, and related infrastructure within an existing dairy operation. While certain components of the Project involve the storage and processing of organic material and biogas, the system will be engineered with containment, monitoring, and safety controls to prevent upset conditions or accidental releases.

The biogas system will be enclosed and designed to meet all applicable safety and emissions standards, including those required by the California Air Resources Board (CARB), Cal/OSHA, and the California Building and Fire Codes. Equipment will include pressure relief systems, shutoff valves, and leak detection mechanisms to reduce the risk of explosion or gas release. Digestate storage will be managed in contained, lined structures to prevent overflows or groundwater contamination.

There will be no large-scale storage of highly toxic or reactive materials on-site. Hazardous materials such as fuel for the emergency generator will be stored in approved containers with secondary containment. The Site will be securely fenced and access limited to trained personnel. The Project will not include public access or high-density human occupancy.

Due to the nature of the materials, regulatory compliance, and built-in safety features, reasonably foreseeable accident conditions are unlikely to result in significant environmental or public health impacts. Therefore, the potential for hazardous materials release would be **Less than Significant with Mitigation**.

HAZ-1: Worker Training Prior to construction, all construction-site workers will be trained to recognize and respond to spills as mandated by the required plans, including which authorities to contact. The crews will be supplied with, and trained in, the use of containment devices and spill kits which contain at a minimum sorbent booms and pads, personal protective equipment and detailed emergency response guidance. The workers will also be trained in the proper response to a small incidental spill and the proper procedures in the event of a spill or landfill

gas leak as the proper containment and disposal procedures. Records of all training will be sent to the County at the end of each Project construction phase along with a report detailing the training plans

HAZ-2: Maintain Equipment Prior to entry on the construction-site, and periodically during construction, all construction equipment will be inspected for line breakage and leakage. Any equipment found to be chronically or continuously leaking will be either immediately removed off site or repaired either in place or within the equipment service areas.

HAZ-3: Equipment Service Areas The Applicant shall designate at least one Equipment Service Area prior to the beginning of construction. The Equipment Service Area shall have a corrosion-resistant secondary containment system installed around the facility. The secondary containment system shall meet the following requirements (at a minimum):

- All hazardous materials (including fuel) must be stored either within the Equipment Service Area, or within their own secondary containment systems.
- The system must be impervious, cover the entire Equipment Service Area, and free of cracks or gaps.
- All primary containers shall be elevated above the surface of the secondary containment area.
- The secondary containment systems shall have sufficient capacity to contain at least 15 percent of the total volume of the primary containers or 110 percent of the volume of the largest container, whichever is greater.
- Precipitation or run-on must be prevented from entering the secondary containment system, unless the system has sufficient capacity to contain any run-on in addition to the volume capacity requirement.
- All waste (such as spills, leaks, or run-on) that accumulates in the secondary containment area must be removed and disposed of as soon as possible.

HAZ-4: Refueling Practices Absorbent material such as secondary containment, pads, or drip pans will be placed underneath all vehicles and equipment during equipment refueling or maintenance. Refueling shall be performed within equipment service areas, parking areas, and gas and oil storage areas whenever possible. Any refueling activity on the site must also be conducted at least 100 feet (30.5 meters) from all designated drainages or areas of native vegetation. Any and all fluids drained from equipment will be collected in leak-proof containers and disposed of at an appropriate recycling facility if possible. If no recycling facility is available, an appropriate disposal facility may be used

As discussed above, construction of the proposed Project would involve the routine transport, use, or disposal of hazardous materials, and would require implementation of mitigation measures to reduce related risks to less than significant levels. Mitigation Measure HAZ-1 would ensure that all workers on the proposed Project were knowledgeable about hazardous waste requirements and possessed the proper training to respond to small incidental spills which may occur during construction activities.

Measures HAZ-2, HAZ-3, and HAZ-4 serve to strengthen the existing regulatory requirements by further removing potential spill sources and enhancing on-site spill containment capabilities. Although construction of the proposed Project would routinely use small quantities of hazardous materials, with implementation of Mitigation Measures HAZ-1, HAZ-2, HAZ-3, and HAZ-4, Project-related construction impacts would be **less than significant**

c) Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

The HD Ranch Project would not emit hazardous air emissions or handle acutely hazardous materials or waste in a manner that would pose a risk to sensitive receptors. The Project involves the processing of organic materials through an anaerobic digester system, which is fully enclosed and regulated to prevent hazardous emissions. Any materials used for maintenance, such as generator fuel or minor solvents, would be stored in small quantities and in compliance with applicable hazardous materials handling standards.

According to 14 CCR §17896.9, all dairy in-vessel digestion operations are required to submit an EA notification. However, by definition this Project is not categorized as an “in-vessel digestion operation.” According to CalRecycle’s definition of a Dairy In-Vessel Digestion Operation in, this is a dairy that receives imported solid waste and feedstock for the purpose of co-digestion, with manure in an in-vessel digester. 14 CCR §17896.2 this Project does not receive imported solid waste, nor does it utilize feedstock for the purpose of co-digestion, making our project exempt from this requirement. The digester lagoon has been designed to a maximum volume of 51,000 cubic yards, expecting a maximum daily input of 1,700 cubic yards. There is no material stored or stockpiled to feed the digester. All material to be processed through the digester consists of manured wastewater from dairy operations. An Odor Impact Minimization Plan has been developed and provided in the county permit portal. This plan, prepared for HD Ranch, outlines standard operating procedures to mitigate potential odor impacts from livestock handling, manure collection, treatment, storage, and land application. The plan emphasizes reasonable efforts to protect nearby receptors and includes the following key components:

A. Manure Collection Areas

- Corrals and calf hutch areas will be cleaned and scraped at least every 90 days to minimize odors.
- Animals will be maintained as dry as practicable using corral and hutch shades, with site runoff diverted to the wastewater retention pond within 72 hours of rain events to prevent ponding.

B. Manure Treatment and Application

- Moisture levels in stockpiled manure will be minimized during storage, with manure exported off-site immediately after scraping when feasible; stockpiles will be placed on graded areas that divert wastewater away from the piles to retention ponds.
- Well irrigation water will be mixed with wastewater during application at rates specified in the Nutrient Management Plan to reduce odors and ensure appropriate nutrient content.
- Process water containing ammonia will be applied to minimize air exposure.
- Manure spills will be cleaned immediately upon occurrence.
- The wastewater retention pond will be maintained to prevent solids buildup, thereby minimizing odor levels.
- Export of dry manure or wastewater application will be avoided during windy conditions.
- Wastewater will be applied uniformly in thin layers to facilitate rapid drying.

C. General Measures

- Dust suppression techniques will be implemented to prevent the release of fugitive dust carrying odorous compounds.
- Upon receiving odor complaints from neighbors, facility operators will respond promptly and address the issue.

D. Record Keeping

- A complaint register will be maintained on-site, documenting each complaint (including recipient and date), actions taken to identify the cause, remedial actions implemented, results achieved, and any additional measures to prevent recurrences.
- The register will be available for review by Solano County Code Compliance personnel upon request.

The plan also incorporates an Odor Management Monitoring Plan, requiring monthly inspections of unpaved corrals, calf hutches, lagoons, manure stockpiles, land application areas, and site boundaries, with increased frequency during conditions conducive to odor release (dry weather or high temperatures).

Additionally, the Project Site is located approximately 4 miles southeast of the nearest school, which is well beyond the one-quarter mile threshold of concern under CEQA. Therefore, the Project would not pose a hazard to schools due to emissions or material handling activities, and **No Impact** would occur.

d) Would the Project 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?

No Impact: The Project Site is not listed as a hazardous materials site under Government Code Section 65962.5 and is not included on a list compiled by the Department of Toxic Substances Control. According to the cleanup sites database provided on the EnviroStor database through the DTSC, no sites need remediation within the vicinity of the Project. Therefore, it can be concluded that there would be **No Impact**.

e) 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?

Less than Significant Impact: The HD Ranch Project Site is located approximately 8 miles southeast of the nearest public airport, which is University Airport in Davis, and 12 miles from Travis Airbase and is located in the Travis Airport Combability Plan Zone C. . For areas outside of the Bird Strike Hazard Zone but within the Outer Perimeter, any new or expanded land use that has the potential to attract the movement of wildlife that could cause bird strikes are required to prepare a wildlife hazards assessment (WHA).

There are no public-use or private airports within two miles of the Project Site. Additionally, the Project does not include any structures intended for residential use or long-term human occupancy, and no tall structures (e.g., towers or antennas) are proposed that could pose an airspace obstruction or increase wildlife strike hazards. The Project will not expose workers or nearby residents to excessive noise or aviation-related safety hazards. Therefore, **Less Than Significant Impact** would occur.

f) Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact: The HD Ranch Project would not interfere with any adopted emergency response or evacuation plan. The Project Site is accessed from Midway Road, a rural road with low traffic volumes, and the Project does not propose road closures, lane reductions, or long-term obstructions. Project construction and operations would not hinder emergency vehicle access, and site plans will be reviewed by the Dixon Fire Protection District to ensure compliance with emergency access and fire safety standards. As such, the Project would not impair emergency response or evacuation efforts, and **No Impact** would occur.

g) Would the Project expose people or structures, either directly or indirectly, to significant risk of loss, injury or death involving wildland fires?

No Impact: The Project Site is located in an agricultural area surrounded by irrigated croplands and active dairy infrastructure. According to the California Department of Forestry and Fire Protection (CAL FIRE) Fire Hazard Severity Zone Map, the Project Site is not located in or near a Very High Fire Hazard Severity Zone. The Site is also not adjacent to wildland vegetation or

unmanaged open space that would pose a significant wildfire risk. The Project does not include housing or large-scale structures and would not increase the number of people at risk in a fire-prone area. Therefore, **No Impact** related to wildland fire exposure would occur.

X.HYDROLOGY AND WATER QUALITY

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

Environmental Setting

Surface Water

The HD Ranch Project Site is located within the Lower Sacramento Watershed, which drains into the Sacramento–San Joaquin Delta. The Project area is relatively flat and situated within an active agricultural zone, characterized by farmland, irrigation channels, and drainage ditches. There are no rivers, perennial streams, or natural surface water bodies on or adjacent to the Project Site. According to the National Wetlands Inventory (NWI), there are no wetlands or Federally mapped waters of the U.S. within the Project footprint. The nearest mapped surface water feature is an agricultural drainage canal, located more than 0.5 miles from the Project boundary.

Groundwater

The Project Site lies within the Solano Subbasin of the Sacramento Valley Groundwater Basin, which is managed under the Sustainable Groundwater Management Act (SGMA). Groundwater in the area is primarily used for agricultural purposes. The Solano Subbasin is overseen by multiple Groundwater Sustainability Agencies (GSAs), including the State Department of Water Resources and Solano Irrigation District GSA among others. The Project would not involve the installation of new wells or increased groundwater pumping, as water use would be limited and sourced from existing on-site agricultural infrastructure.

The water source for the digester project is wastewater generated from the existing dairy facility operations. It will utilize existing wells in operation and not change the amount of water used on the facility.

Stormwater Drainage

Stormwater runoff at the Project Site will be retained and managed on-site. As part of the Project design, a gravel access road composed of 6 inches of ¾-inch aggregate base will serve as a pervious surface for infiltration. The surrounding pad area will be graded with a minimum 2% slope toward the gravel access road to ensure that stormwater is captured and does not leave the site. This stormwater approach is consistent with Solano County Public Works requirements and helps reduce runoff and erosion potential. Management of stormwater runoff is part of the Waste Discharge Requirements General Order R5–2013–0122. Stormwater will be managed according to these CV–RWQCB standards.

Stormwater will be managed according to these CV–RWQCB standards. The Proposed project has been designed to capture and divert all stormwater from the new system to the existing wastewater retention ponds for onsite storage. A Waste Management Plan has been prepared and approved by the Regional Water Board, confirming that the facility has adequate capacity to store the additional rainfall runoff.

Regulatory Setting

Clean Water Act

The Clean Water Act (CWA) is enforced by the U.S. EPA and was developed in 1972 to regulate discharges of pollutants into the waters of the United States. The Act made it unlawful to discharge any pollutant from a point source into navigable waters unless a National Pollution Discharge Elimination System (NPDES) Permit is obtained.

National Flood Insurance Act

The Federal Emergency Management Agency (FEMA) is tasked with responding to, planning for, recovering from, and mitigating disasters. The Federal Insurance and Mitigation Administration within FEMA is responsible for administering the National Flood Insurance Program (NFIP) and administering programs that aid with mitigating future damages from natural hazards.

California Water Quality Porter–Cologne Act

California's primary statute leading water quality and water pollution concerns with respect to both surface waters and groundwater is the Porter–Cologne Water Quality Control Act of 1970 (Porter–Cologne Act). The Porter–Cologne Act grants the State Water Resource Control Board (SWRCB) and each of the nine Regional Water Quality Boards (RWQCB) power to protect water quality and further develop the Clean Water Act within California. The applicable RWQCB for the proposed Project is the Central Valley RWQCB.

Solano County General Plan

- **Policy LU.P-14:** Establish rural residential development in a manner that preserves rural character and scenic qualities and protects sensitive resources including agricultural lands, creeks, native trees, open spaces, and views.
- **Policy LU.P-28:** Locate and develop industrial uses in a manner that does not conflict with adjacent and surrounding agricultural activities and protects water quality and marshland and wetland habitats.
- **Policy AG.P-8:** Maintain water resource quality and quantity for the irrigation of productive farmland so as to prevent the loss of agriculture related to competition from urban water consumption internal or external to the county.
- **Policy AG.P-9:** Promote efficient management and use of agricultural water resources.
 - *Program AG.I-21:* Promote and assist farmer and rancher participation in Federal and State voluntary incentive programs aimed at improving wildlife habitat, wetlands, and environmental quality (e.g., Natural Resources Conservation Service Wildlife Habitat Incentives Program, Wetlands Reserve Program, Environmental Quality Incentives Program) Concentrate efforts in areas where the Agricultural Reserve Overlay and Resource Conservation Overlay coincide.

- *Program AG.I-22:* Promote sustainable agricultural activities and practices that support and enhance the natural environment. These activities should minimize impacts on soil quality and erosion potential, water quantity and quality, energy use, air quality, and natural habitats. Sustainable agricultural practices should be addressed in the County's proposed Climate Action Plan to address climate change effects.
- **Policy RS.P-68:** Protect existing open spaces, natural habitat, floodplains, and wetland areas that serve as groundwater recharge areas.
- **Policy RS.P-69:** Preserve and maintain watershed areas characterized by slope instability, undevelopable steep slopes, high soil erosion potential, and extreme fire hazards in agricultural use. Watershed areas lacking water and public services should also be kept in agricultural use.
- **Policy RS.P-70:** Protect land surrounding valuable water sources, evaluate watersheds, and preserve open space lands to protect and improve groundwater quality, reduce polluted surface runoff, and minimize erosion.
- **Policy RS.P-73:** Use watershed planning approaches to resolve water quality problems. Use a comprehensive stormwater management program to limit the quantity and increase the water quality of runoff flowing to the county's streams and rivers.
- **Policy RS.P-74:** Identify naturally occurring and human-caused contaminants in groundwater in new development projects and develop methods to limit and control contaminants. Work with RWQCB to educate the public on evaluating the quality of groundwater.
- **Policy RS.P-75:** Require and provide incentives for site plan elements (such as permeable pavement, swales, and filter strips) that limit runoff and increase infiltration and groundwater recharge.
 - *Program RS.I-66I:* Establish development standards that maximize retention of runoff and regulate development to avoid pollution of storm water, water bodies, and groundwater.
 - *Program RS.I-70:* Require site plan elements to limit runoff from new development. These measures might include reduced pavement or site coverage, permeable pavement, vegetation that retains and filters stormwater, and/or drainage features. Limit the construction of extensive impermeable surfaces and promote the use of permeable materials for surfaces such as driveways, streets, parking lots, and sidewalks.
- **Policy PF.P-11:** Promote and model practices to improve the efficiency of water use, including the use of water-efficient landscaping, beneficial reuse of treated wastewater, rainwater harvesting, and water conserving appliances and plumbing fixtures.
- **Policy PF.P-21:** Sewer services for development within the unincorporated area may be provided through private individual on-site sewage disposal systems, or centralized sewage treatment systems permitted and managed by a public agency utilizing the best systems available that meet tertiary treatment or higher standards.

- **Policy PF.P-22:** Ensure that new and existing septic systems and sewage treatment systems do not negatively affect groundwater quality.
- **Policy PF.P-33:** Require development projects to minimize pollution of stormwater, water bodies that receive runoff, and groundwater, and to maximize groundwater recharge potential by:
 - implementing planning and engineering design standards that use low-impact development techniques and approaches to maintain and mimic the natural hydrologic regime;
 - using “infiltration” style low-impact development technologies; and
 - following stormwater best management practices during and after construction, in accordance with relevant state-required stormwater permits.
- **Policy HS.P-6:** Require new developments to incorporate devices capable of detaining the stormwater runoff caused by a 100-year storm event or to contribute to regional solutions to improve flood control, drainage, and water recharge.
- **Policy HS.P-5:** Advocate integrating drainage and flood control systems to recharge groundwater supplies and/or enhancement of ecosystems including the use of green infrastructure.

Discussion

a) Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less than Significant: The HD Ranch Project involves the construction and operation of an anaerobic digester and gas upgrading system within an existing dairy facility. While the Project will introduce new structures, equipment pads, piping, and potentially other impervious surfaces, these changes will occur within a previously disturbed and operational agricultural area.

During construction, there is potential for minor sediment runoff or accidental release of fuels or lubricants. However, the Project will be required to implement a Stormwater Pollution Prevention Plan (SWPPP) and follow Best Management Practices (BMPs) in accordance with the Construction General Permit issued by the State Water Resources Control Board. These measures will ensure protection of nearby surface and groundwater resources.

During operations, the Project will handle organic material, biogas, and digestate. All liquid and solid byproducts will be stored and managed in contained and lined systems, with no direct discharges to surface water. The Project will comply with applicable waste discharge requirements (WDRs) issued by the Central Valley Regional Water Quality Control Board for dairies and digester operations. These WDRs regulate storage, nutrient management, and land application of digestate to ensure groundwater protection.

The Site's relatively flat topography, existing drainage controls, and regulatory oversight will minimize the risk of runoff, erosion, or groundwater degradation. Therefore, the Project would not violate water quality standards or waste discharge requirements and impacts to water quality would be **Less than Significant**.

b) Would the Project substantially decrease groundwater supplies or interfere with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?

Less than Significant Impact: The HD Ranch Project is located within the Solano Subbasin of the Sacramento Valley Groundwater Basin, which is subject to sustainable groundwater management under the Sustainable Groundwater Management Act (SGMA). The Project would be constructed within an existing dairy facility and would not result in major changes to land use or water demand that would significantly affect groundwater supply.

During construction, minimal amounts of water may be used for dust suppression and concrete mixing. This temporary use is not expected to have a measurable impact on local groundwater levels. A Grading Permit application will be submitted for this project, once substantial design has been completed.

During operation, the Project would not require a new or expanded water supply. The proposed anaerobic digester has been designed based upon an estimated average of 340,000 gallons of water generated by the dairy facility per day. This is calculated, understanding that water usage varies per season, as more water is used in the summer than winter for animal and milk cooling. This is the same estimated amount of water generated by the facility prior to the proposed project. No additional water use is required or generated by the proposed project. Any water needed for the anaerobic digestion process will be sourced from existing on-site infrastructure already used for dairy operations. The Project will not require new water sources nor increase the water demand. The addition of digesters and gas upgrading equipment would not increase water demand.

While the Project will add some impervious surfaces, such as equipment pads and access roads, these improvements would occur within a disturbed area that already contains paved and compacted surfaces. The Project footprint is small relative to the overall parcel, and its contribution to long-term changes in recharge potential would be negligible.

Therefore, the Project would not substantially deplete groundwater supplies or interfere with groundwater recharge in a way that would impede sustainable groundwater management. Impacts would be **Less than Significant**.

c) Would the Project substantially alter the existing drainage pattern of the Site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner, which would:

i. Result in substantial erosion or siltation on- or off-site?

Less Than Significant: The Project Site is generally flat and has been previously disturbed by long-term dairy operations. No streams, rivers, or natural drainages are present on-site. While construction activities may involve minor ground disturbance that could temporarily expose soils, the Project would implement construction BMPs, including erosion and sediment control measures required under a SWPPP. A Grading Permit application will be submitted for this project, once substantial design has been completed. These measures would minimize the potential for erosion or siltation during construction. After construction, the Site will be stabilized with compacted pads and limited hardscape, resulting in a **Less than Significant Impact**.

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

Less Than Significant: The Project would introduce some impervious surfaces, such as concrete pads for the anaerobic digester and gas upgrading units, small structures, and internal access improvements. However, these surfaces would be limited, relative to the full dairy facility. Existing site topography and on-site drainage systems (e.g., graded slopes, collection areas) would be maintained or modified as needed to ensure proper stormwater containment. No significant changes to Site drainage patterns are proposed, and no off-site flooding is anticipated. Impacts would be **Less than Significant**.

iii. 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?

Less than Significant: The Project would not connect to any municipal storm drain system and instead would manage stormwater on-site using existing and new containment and grading features. Polluted runoff from digestate storage or equipment areas would be prevented through proper containment design and compliance with Central Valley Regional Water Quality Control Board permit requirements. Management of stormwater runoff is part of the Waste Discharge Requirements General Order R5-2013-0122. Stormwater will be managed according to these CV-RWQCB standards. As detailed in the approved Waste Management Plan, the facility's existing wastewater retention ponds provide adequate capacity for additional rainfall runoff, ensuring no exceedance of drainage features. The increase in impervious areas is minor, and the Site will not generate runoff volumes that would exceed the capacity of planned or existing stormwater management features. Therefore, the Project would not result in substantial polluted runoff or drainage system exceedance, and impacts would be **Less than Significant**.

iv. Impede or redirect flood flows?

Less than Significant: According to the FEMA Flood Map, the Project Site is located within Flood Zone A, which is subject to a 1% annual chance of flooding (100-year flood). Zone A areas are special flood hazard areas where base flood elevations (BFEs) have not been established.

While the Project would introduce impervious surfaces such as concrete equipment pads and access improvements, these would be constructed within the footprint of an existing dairy facility and would not significantly alter the overall elevation or topography of the site. However, because the Site lies within a designated flood hazard area, there is potential to impede or redirect flood flows if grading or structures are not properly managed.

To reduce potential impacts, floodplain development practices and design measures, such as elevating equipment above base flood levels, implementing engineered site drainage, and complying with Solano County floodplain development standards, shall be incorporated. Specifically, the top-of-pad elevation for structures and equipment must be located either 3 feet above the adjacent grade elevation or 1 foot above the base flood elevation established by a registered engineer or surveyor, in accordance with Solano County Code, Chapter 12, Article V, Section 12.2-50. Prior to issuing the building permit, a pre-construction elevation certificate will be required to establish the minimum top-of-pad elevation, with a post-construction elevation certificate submitted for verification. A Preliminary Elevation Certificate will be completed and submitted with the Building Permit application for the construction of this project. The referenced floodplain requirements will be followed in the detailed design of the project and reflected in the Building Permit Application, with the post-construction elevation certification provided in accordance with Solano County Code. These measures will be reviewed and approved by the County prior to construction as part of standard permitting.

With implementation of these design measures, the Project would not substantially impede or redirect flood flows, and the impact would be **Less than Significant**.

d) Would the Project, in flood hazard, tsunami, or seiche zones, risk the release of pollutants due to Project inundation?

No Impact: The proposed Project is located inland and not near an ocean or large body of water; therefore, a tsunami would not affect it. The proposed Project is in a relatively flat area and would not be impacted by inundation related to mudflow. Since the Project is in an area that is not susceptible to inundation, the Project would not risk the release of pollutants due to Project inundation. As such, there is **no impact**.

e) Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact: The HD Ranch Project is located within the Solano Subbasin of the Sacramento Valley Groundwater Basin, which is managed under a Groundwater Sustainability Plan (GSP) prepared in accordance with the Sustainable Groundwater Management Act (SGMA). The Solano Subbasin GSP was adopted by the Solano Subbasin Groundwater Sustainability Agencies and outlines strategies for ensuring the long-term sustainability of groundwater use in the region.

The Project would be constructed within the boundary of an existing dairy and would not introduce new or increased groundwater extraction. Water used for anaerobic digestion and other Project-related operations would be sourced from existing on-site water supplies already permitted for agricultural use. The Project also complies with applicable Basin Plan objectives established by the Central Valley Regional Water Quality Control Board, which regulates water quality standards for surface and groundwater.

Because the Project would not result in new water demands or generate discharges that would conflict with adopted groundwater or water quality management plans, it would not obstruct the implementation of any applicable plan, and **No Impact** would occur.

XI. LAND USE AND PLANNING

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

Environmental Setting

The Project is located in unincorporated Solano County, northeast of the intersection of Midway Road and Sikes Road, within a rural agricultural area near the City of Dixon. The Project Site is part of an active dairy facility and is zoned Exclusive Agriculture (A-40) under the Solano County Zoning Ordinance. Surrounding land uses consist primarily of agricultural fields, dairy infrastructure, and scattered rural residences. The proposed anaerobic digester and associated improvements are an allowable land use with a Conditional Use Permit to support the existing dairy operations.

Regulatory Setting

Solano County Code

Land use in the Project area is regulated by Solano County through its adopted General Plan and Zoning Ordinance. The Project Site is zoned Exclusive Agriculture (A-40), which is intended to preserve agricultural lands, and support uses compatible with long-term farming activities. The A-40 zoning district allows for certain agricultural-supporting facilities, such as anaerobic digesters and utility infrastructure, subject to approval of a Minor Use Permit. The Project's use is consistent with the zoning code's provisions for agricultural enhancement and waste-to-energy systems.

Solano County General Plan

Under the Solano County General Plan, the Project Site is designated as Agriculture, which supports a wide range of agricultural uses and limited compatible infrastructure. The General Plan includes goals and policies that encourage sustainable agricultural practices, protect productive farmland, and support renewable energy generation from agricultural operations. The proposed anaerobic digester facility is consistent with these objectives as it supports waste reduction, renewable energy production, and continued agricultural use of the land.

Discussion

a) Would the Project physically divide an established community?

No Impact: The HD Ranch Project is located within a rural, agricultural area of unincorporated Solano County and is situated entirely within the boundaries of an existing dairy facility. The surrounding area consists of agricultural land, farm infrastructure, and scattered rural residences. The Project does not involve the construction of roads, fences, or other barriers that would restrict access or alter connectivity between existing land uses. Therefore, the Project would not physically divide an established community, and **No Impact** would occur.

b) Would the Project 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?

Less than Significant Impact: The Project Site is designated as Agriculture under the Solano County General Plan and zoned Exclusive Agriculture (A-40) under the County's Zoning Ordinance. The proposed anaerobic digester and related infrastructure are considered an allowable use in the zoning district with a Conditional Use Permit, that support waste management, nutrient recovery, and renewable energy generation within an active dairy operation. These types of facilities are allowed in the A-40 zone with approval of a Minor Use Permit.

The Project is also consistent with multiple Solano County General Plan goals and policies that encourage agricultural sustainability, resource efficiency, and the use of renewable technologies in rural areas. As such, the Project would not conflict with any applicable land use plans or policies adopted to avoid or mitigate environmental effects. Impacts would therefore be **Less than Significant**.

XII. MINERAL RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally – important mineral resource recovery Site delineated on a local general plan, specific plan or other lands use plan?	☐	☐	☐	☒

Environmental Setting

The HD Ranch Project Site is located in a rural area of unincorporated Solano County, which is predominantly used for agriculture and livestock operations. The Site itself is within an active dairy facility and does not contain any known mineral resource zones. According to the Solano County General Plan and the California Geological Survey, there are no designated mineral resource areas or mining operations on or adjacent to the Project Site. Historically, Solano County has limited mining activity, and no active or historic mines are located near the Project Area.

Regulatory Setting

California State Surface Mining and Reclamation Act

The California State Surface Mining and Reclamation Act was adopted in 1975 to regulate surface mining, prevent adverse environmental impacts, and preserve the state's mineral resources. The California Department of Conservation's Division of Mine Reclamation enforces the Act.

Discussion

a) Would the Project 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?

No Impact: The HD Ranch Project Site is not located in an area with known or designated mineral resources of regional or statewide significance. The site is not identified in the Solano County General Plan or by the California Geological Survey as a mineral resource zone. The Project does not involve excavation or land disturbance in areas where mineral extraction is

planned or likely. Therefore, the Project would not result in the loss of availability of any known mineral resource, and **No Impact** would occur.

b) Would the Project result in the loss of availability of a locally – important mineral resource recovery Site delineated on a local general plan, specific plan or other lands use plan?

No Impact: The Project Site is not identified as a locally important mineral resource recovery site in any adopted land use plan, including the Solano County General Plan. The surrounding area is used primarily for agriculture and does not support any known mineral extraction activities. Implementation of the Project would not affect mineral resource recovery potential in Solano County. Therefore, **No Impact** would occur.

XIII. NOISE

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

Environmental Setting

The predominant sources of noise in the vicinity of the HD Ranch Project Site are associated with ongoing agricultural operations, including livestock activities, farm machinery, and equipment used in the existing dairy facility. Additional background noise is generated by vehicular traffic along Midway Road and other nearby rural routes. The area is sparsely developed, and ambient noise levels are generally low to moderate, typical of rural agricultural environments. There are no commercial airports located within two miles of the Project Site.

Noise is commonly defined as unwanted or disruptive sound, while sound itself is a fluctuation in air pressure detectable by the human ear. These pressure variations, when occurring at a frequency of 20 to 20,000 times per second, are perceived as audible sound and are measured in Hertz (Hz). The loudness or intensity of sound is measured in decibels (dB).

Ambient noise refers to the background sound in an area, which in the Project vicinity is dominated by agricultural and traffic-related activities. Construction activities typically increase ambient noise levels temporarily, especially during grading, equipment operation, or installation of mechanical systems.

Vibration is the transmission of energy through the ground, often caused by heavy equipment, vehicles, or industrial machinery. Vibration levels can vary depending on soil composition, distance to sensitive structures, and the intensity of the source activity.

Sensitive Receptors

Sensitive receptors are land uses that are particularly vulnerable to noise and vibration impacts. These include residences, schools, hospitals, nursing homes, and libraries. The Project Site is located in a rural area with no sensitive receptors located immediately adjacent to the proposed development footprint. The closest rural residence is located approximately 2,300 feet north of the proposed Project improvements, which provides a buffer that reduces the potential for direct noise impacts.

Regulatory Setting

Solano County Noise Standards

The Solano County General Plan includes policies and guidelines related to noise. The General Plan presents a Noise and Land Use Compatibility Table (Table HS-3), which identifies acceptable noise levels for various land uses. For instance, residential areas are considered "normally acceptable" at noise levels up to 60 dB Ldn and "conditionally acceptable" up to 70 dB Ldn.

Additionally, the General Plan includes policies aimed at minimizing noise impacts from new developments and protecting noise-sensitive land uses. These policies guide land use decisions and development standards to ensure compatibility with existing and projected noise environments.

Discussion

a) Would the Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less than Significant Impact: Construction of the HD Ranch Project may result in short-term, temporary increases in ambient noise levels due to the use of heavy equipment for grading, excavation, and installation of anaerobic digestion and gas upgrading infrastructure. However, these impacts would be limited to daytime hours and would occur in a rural, agricultural setting where existing ambient noise levels are influenced by ongoing farm operations.

Per the Solano County General Plan, residential uses are considered compatible with ambient noise levels up to 60 dB Ldn, and agricultural areas are typically subject to higher acceptable thresholds due to the nature of farming activities. No sensitive receptors are located immediately adjacent to the Project Site. The nearest rural residence is located approximately 2,300 feet north

of the proposed work area, and construction will be conducted during standard daytime working hours, consistent with Solano County expectations for minimizing nuisance noise.

Operational noise impacts would be minimal. The Project involves enclosed equipment with limited moving parts and no daily human activity on-site that would generate ongoing noise. An emergency backup generator would be installed to maintain digester operations during power outages. This generator would only operate intermittently and during emergencies. Under standard local policies, emergency-use generators are exempt from noise limits during their use in power loss events.

Given the rural context, limited duration of construction, and negligible operational noise levels, the Project is not expected to exceed applicable noise standards, and impacts would be **Less than Significant**.

b) Would the Project result in generation of excessive ground-borne vibration or groundborne noise levels?

Less than Significant Impact: Project operations would not involve equipment or processes typically associated with excessive ground-borne vibration or ground-borne noise. However, temporary vibration may occur during construction activities, particularly during grading and site preparation using equipment such as bulldozers and compactors.

The primary source of construction vibration is expected to be from bulldozers, which typically generate peak particle velocity (PPV) of approximately 0.089 inches per second at a distance of 25 feet, corresponding to an approximate vibration level of 87 VdB, based on the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (2018).

There are no adopted Solano County thresholds for ground-borne vibration. However, for comparison, the FTA identifies 0.12 inches per second PPV as the threshold at which non-engineered, fragile buildings may begin to experience cosmetic damage. There are no buildings or sensitive structures within 25 feet of the construction area, and the nearest off-site structure is located more than 1,000 feet from the Project Site boundary.

Vibration from construction equipment would be temporary, infrequent, and localized, and would not be sustained at levels that could result in structural damage or pose risks to receptors in the surrounding area. Therefore, vibration-related impacts would be **Less than Significant**.

c) For a Project located within the vicinity of a private airstrip or, an airport land use plan or, where such a plan has not been adopted, within two miles of public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?

Less Than Significant Impact: The HD Ranch Project Site is located in a rural agricultural area. It is located within Zone C of Travis Air Base. airport land use compatibility plan.

The nearest public-use airport is University Airport, located approximately 8 miles north of the Project Site in Davis, California. There are no public or public-use airports within two miles of the Project Site, and no private airstrips are in close proximity.

The Project does not include new housing or permanent occupancy and would not introduce sensitive receptors into an area affected by airport noise. Additionally, operations associated with the anaerobic digester and supporting infrastructure will be intermittent and attended only by maintenance personnel, further reducing any exposure risk.

As such, the Project would not increase wildlife activity in the area or expose people to excessive noise levels associated with airports, and **Less Than Significant Impact** would occur.

XIV. POPULATION AND HOUSING

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Environmental Setting

According to the United States Census Bureau, the estimated population of Solano County in 2022 was approximately 453,491, showing modest growth from the 2010 Census, which recorded a population of 413,344. Population growth in Solano County is influenced by its proximity to major employment centers in the San Francisco Bay Area, the availability of affordable housing, and the capacity of local infrastructure and public services.

Most of the county's population is concentrated in urban areas such as Fairfield, Vallejo, Vacaville, and Dixon, while unincorporated areas, including the vicinity of the HD Ranch Project, remain sparsely populated and primarily agricultural. The Project is located in a rural, non-residential area and does not include any housing or infrastructure that would induce population growth.

Regulatory Setting

The Solano County General Plan and Zoning Ordinance regulate land use and population density throughout the county. These documents establish density limits, minimum lot sizes, and allowable land uses that directly affect population growth and housing development. The Project Site is zoned Exclusive Agriculture (A-40), which restricts residential density to preserve farmland and discourage urban encroachment.

The Housing Element of the Solano County General Plan outlines policies related to housing availability, affordability, and growth management. It promotes compact development within

existing communities while preserving agricultural land and rural character in unincorporated areas. The Housing Element also supports long-term planning to accommodate future population growth in a manner that aligns with infrastructure and environmental constraints.

Discussion

a) Would the Project induce substantial unplanned population growth in an area, either directly (for example, by new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact: The HD Ranch Project involves the installation of an anaerobic digester and associated infrastructure at an existing dairy facility in a rural portion of unincorporated Solano County. The Project does not include the development of housing or businesses and would not require the extension of new public roads, water lines, or sewer systems that might encourage unplanned growth. Operational staffing needs will be minimal and limited to occasional maintenance or monitoring personnel who are expected to reside within the surrounding region. Therefore, the Project would not induce direct or indirect population growth, and **No Impact** would occur.

b) Would the Project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact: The Project Site is part of an active agricultural operation and does not contain any existing housing or permanent residential structures. The Project would not displace people or require the removal or replacement of any housing. Therefore, the Project would not result in the displacement of individuals or residences, and **No Impact** would occur.

XV. PUBLIC SERVICES

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable serve ratios, response times of other performance objectives for any of the public services:				
i. Fire protection?	☐	☐	☒	☐
ii. Police protection?	☐	☐	☒	☐
iii. Schools?	☐	☐	☐	☒
iv. Parks?	☐	☐	☐	☒
v. Other public facilities?	☐	☐	☐	☒

Environmental Setting

Fire: Fire protection services for the HD Ranch Project are provided by the Dixon Fire Protection District, which serves the unincorporated areas surrounding the City of Dixon. The nearest fire station is located at 205 Ford Way, Dixon, CA, approximately 5 miles northwest of the Project Site. The District responds to a variety of emergency calls, including structure fires, wildland and grass fires, medical emergencies, vehicle accidents, and hazardous materials incidents. Fire protection services in rural areas are supported by mutual aid agreements with neighboring agencies, including Solano County and CAL FIRE during peak fire season.

As part of project review the County consulted with the Dixon Fire Department. As a condition of approval, site access will be improved to meet the Fire Department's requirement for a road that will handle the load of a fire truck and a 20-foot turnaround. Additionally, the road will require turnouts due to the length of the road, allowing the safe passing of vehicles, and emergency trucks.

Police: Law enforcement services for the Project Site are provided by the Solano County Sheriff's Office, which is responsible for unincorporated areas of the County. The nearest sheriff's

substation is located in Dixon. The California Highway Patrol (CHP) provides traffic enforcement and emergency response along nearby regional roadways.

Schools: The Project is located in a rural area with no schools immediately adjacent to the Site. The nearest public school is Dixon High School, located approximately 8 miles northwest of the Project Site in the City of Dixon. Other schools in the area are concentrated within the city limits of Dixon and Vacaville.

Parks: The Project Site is situated on privately owned agricultural land and is not adjacent to any public parks or recreational facilities. The nearest parks are located within the City of Dixon and are not within proximity to the Project Area.

a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable serve ratios, response times of other performance objectives for any of the public services:

i. Fire protection?

Less than Significant Impact: Fire protection for the HD Ranch Project Site is provided by the Dixon Fire Protection District, with the nearest fire station located approximately 6.5 miles northwest in the City of Dixon. The Project does not include residential or high-occupancy structures and will be used intermittently for agricultural waste processing. The risk of fire ignition is minimal due to the enclosed nature of the anaerobic digestion system and compliance with applicable fire safety regulations. Existing fire protection services are sufficient to respond to occasional calls related to equipment malfunction or minor incidents. Therefore, the Project would not require new or expanded fire protection facilities, and the impact would be **Less than Significant**.

ii. Police protection?

Less than Significant Impact: Law enforcement services are provided by the Solano County Sheriff's Office, which patrols the unincorporated area where the Project is located. The Project would not be continuously staffed or open to the public, and activities would be limited to maintenance and monitoring by trained personnel. Occasional property checks or responses to security-related incidents (e.g., trespassing, vandalism) may occur, but existing police services are adequate to address such low-frequency events. Therefore, impacts to police services would be **Less than Significant**.

iii. Schools?

No Impact: The Project does not include residential development and would not increase the local population or student enrollment within any school district. Therefore, the Project would not create a demand for new or expanded school facilities, and **No Impact** would occur.

iv. **Parks?**

No Impact: Because the Project would not generate new housing or population growth, it would not increase the use of or need for local or regional park facilities. The Project would not result in a demand for recreational amenities, and **No Impact** would occur.

v. **Other public facilities?**

No Impact: The Project would not increase demand for libraries, hospitals, solid waste facilities, or other public infrastructure or services. The limited operational footprint and lack of permanent employees or housing means the Project would not contribute to increased use of public facilities, and **No Impact** would occur.

XVI.RECREATION

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Environmental Setting

The HD Ranch Project Site is located in a rural, agricultural area of unincorporated Solano County. The Project does not involve residential development or introduce population growth that would place additional demand on recreational resources.

Discussion

- a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**

No Impact: The HD Ranch Project does not include housing or generate any new population, and it would not attract visitors or increase recreational activity in the area. The Project will be operated by a small number of personnel on an intermittent basis and does not involve public access or community service facilities. Therefore, the Project would not increase the use of neighborhood or regional parks, and **No Impact** would occur.

- b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?**

No Impact: The Project does not propose recreational facilities and does not require the construction or expansion of such facilities. Since the Project does not induce population

growth, it would not create demand for parks or recreational amenities. As a result, **No Impact** would occur.

XVII. TRANSPORTATION

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

Environmental Setting

Vehicular Access: The HD Ranch Project Site would be accessed via an existing on-site agricultural road located within a larger operational dairy facility. A new gravel access road, approximately 165 feet in length, would connect the Project's fenced utility compound to the internal circulation network on the property. A 20-foot-wide gate would be installed at both ends of the access road to control entry—one at the internal facility road and another at the edge of the utility compound. The Project has can be accessed through Midway Road, a rural public roadway that connects to the regional highway network. All trucks entering and exiting the site will meet standard requirements (no oversize/overweight loads).

Transportation Facilities: The Project is located approximately 2 miles east of Interstate 80 and is accessible via Midway Road and Sikes Road, which are two-lane rural roads serving local agricultural traffic. The Solano Transportation Authority (STA) serves as the Regional Transportation Planning Agency (RTPA). STA is responsible for long-range transportation planning, funding coordination, and implementation of regional transportation goals under the Solano Comprehensive Transportation Plan.

Regulatory Setting

CEQA Guidelines Section 15064.3, Subdivision (b): Criteria for Analyzing Transportation Impacts

- (1) Land Use Projects. Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, Projects within one-half mile of either an existing major transit stop or a stop along an existing high-quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the Project area compared to existing conditions should be considered to have a less than significant transportation impact.
- (2) Transportation Projects. Transportation Projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. For roadway capacity Projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, a lead agency may tier from that analysis as provided in Section 15152.
- (3) Qualitative Analysis. If existing models or methods are not available to estimate the vehicle miles traveled for the particular Project being considered, a lead agency may analyze the Project's vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many Projects, a qualitative analysis of construction traffic may be appropriate.
- (4) Methodology. A lead agency has discretion to choose the most appropriate methodology to evaluate a Project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a Project's vehicle miles traveled and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the Project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section.

Discussion

a) Would the Project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

Less than Significant Impact: The HD Ranch Project is located in a rural, agricultural area of unincorporated Solano County and would be accessed via Midway Road and internal private roads within the existing dairy facility. The Project does not include housing, commercial development, or public facilities, and it would not generate a significant increase in vehicle trips.

During construction, a temporary increase in truck traffic would occur for delivery of materials and equipment, but this activity would be short-term and confined to the construction phase.

Once operational, the Project would generate only occasional maintenance vehicle trips, which would have a negligible effect on local traffic conditions. All trucks entering and exiting the site will meet standard requirements (no oversize/overweight loads).

The Project is consistent with the Solano County General Plan Circulation Element and would not conflict with existing policies or adopted plans related to the County's circulation system, including those addressing bicycle, pedestrian, or transit facilities. The rural location is not served by public transit or active transportation infrastructure, and the Project would not interfere with existing or planned facilities.

Therefore, the Project would not conflict with any applicable transportation plans or policies, and the impact would be **Less than Significant**.

b) Would the Project conflict or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b)?

Less than Significant Impact: CEQA Guidelines Section 15064.3(b), adopted under Senate Bill (SB) 743, requires that transportation impacts be evaluated based on vehicle miles traveled (VMT) rather than level of service (LOS). Under these guidelines, a project may have a significant transportation impact if it generates substantial VMT beyond applicable thresholds set by the lead agency.

The Solano County General Plan and associated CEQA procedures do not currently adopt formal VMT significance thresholds for rural, non-residential projects. However, according to the State Office of Planning and Research (OPR) Technical Advisory (2018), land use projects that generate fewer than 110 vehicle trips per day can generally be presumed to have a less than significant VMT impact.

The HD Ranch Project would not include housing or commercial services. During construction, vehicle trips would be temporary and limited in duration, consisting primarily of worker commute trips with no hauling activity and negligible vendor trips. Based on the Project CalEEMod outputs (Appendix A, Attachment C), one-way worker trips would, at the peak, be 20.0 trips per day during paving (approximately 40 round trips). The construction would be temporary and with no dedicated on-site employees beyond the temporary construction workforce. Once operational, the facility would generate an average of 1 truck trip per day for biogas transport (a maximum of 7 trips per week, or approximately 2 one-way trips per day) and require 1–2 on-site employees for regular staffing (approximately 2–4 round trips per day), for a total of 5 trips per weekday.

As a result, the Project would generate well below the OPR's 110 daily trip threshold and would not cause a measurable increase in regional vehicle miles traveled.

Therefore, the Project would not conflict with CEQA Guidelines Section 15064.3(b), and the impact would be **Less than Significant**.

c) Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Impact: The HD Ranch Project does not propose any new public roads or alterations to existing roadway geometry. Vehicular access would be provided via an internal gravel access road connecting the digester compound to existing private roads on the dairy property. The Project would not introduce incompatible land uses, and its agricultural and utility-support functions are consistent with existing operations in the area. No sharp curves, dangerous intersections, or new roadway connections to public streets are proposed. Therefore, the Project would not create hazardous design features or traffic conflicts, and **No Impact** would occur.

d) Would the Project result in inadequate emergency access?

No Impact: The Project will be designed to meet all Solano County Public Works and California Fire Code standards for emergency vehicle access. The internal gravel road will provide a minimum 20-foot-wide clear access path, with gates at both ends to facilitate emergency entry and exit. This internal road will provide access to Midway Road, the nearest public road. The existing pathway has an all-weather surface road from Midway Road to the existing dairy, but the Project will improve the road as necessary as required under the conditions of approval.

The Project does not block any existing access routes or public rights-of-way and would not alter regional emergency response capabilities. The Dixon Fire Protection District will review the site plan during permitting to confirm compliance with all access and safety requirements. Therefore, the Project would not result in inadequate emergency access, and **No Impact** would occur.

XVIII. TRIBAL CULTURAL RESOURCES

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

Northwest Information Center Record Search Results for the HD Ranch Project: On March 21, 2025, an archival records search was conducted at the Northwest Information Center (NWIC) to support the proposed HD Ranch Project. The search encompassed the entire Area of Potential Effect (APE) and a 0.5-mile radius around it, referred to as the Cultural Study Area. The information sources included previous surveys and cultural resource files, the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), the Office of Historic Preservation (OHP) Archaeological Determination of Eligibility, the OHP Directory of Properties in the Historic Property Data File, historical topographic maps, and historical aerial photographs.

The search identified no recorded cultural resources within the Cultural Study Area. However, ten cultural resource studies have been completed within the 0.5-mile radius, as documented in the NWIC records (see Table 1 in the Phase I Cultural Resources Assessment). No cultural resources were recorded within the Project area or the 0.5-mile radius based on the NWIC search results.

Pedestrian Survey: An intensive pedestrian survey was conducted by Soar Environmental Consulting, Inc. on March 27–28, 2025, covering the entire Project area. The survey was performed by Heather Froshour, Senior Archaeologist, and involved systematic inspection of the 146-acre Project Site to identify any surface archaeological resources. No cultural resources, including prehistoric or historic artifacts, features, or sites, were observed during the survey. The Project area, primarily used for dairy operations and agricultural activities, showed no evidence of intact cultural deposits or features.

Sacred Lands File (SLF) Search: As part of the cultural resources assessment, Soar Environmental Consulting, Inc. requested a Sacred Lands File (SLF) search from the Native American Heritage Commission (NAHC) on March 21, 2025. The SLF search results, received on March 26, 2025, were negative, indicating no known sacred lands or tribal cultural resources within the Project area. The NAHC provided a consultation list of eight individuals representing four California Native American tribal groups traditionally and culturally affiliated with the Project area. Solano County, as the Lead Agency, sent outreach letters to these tribal representatives. As indicated above, tribal consultation including a site visit was conducted on January 16, 2026. Recommended mitigation has been included in the project, including preconstruction construction worker training (Mitigation Measure CULT-1).

Regulatory Setting

Historical Resources: Historical resources are defined by CEQA as resources that are listed in or eligible for the California Register of Historical Resources, resources that are listed in a local historical resource register, or resources that are otherwise determined to be historical under California Public Resources Code Section 21084.1 or California Code of Regulations Section 15064.5. Under these definitions, Historical Resources can include archaeological resources, Tribal cultural resources, and Paleontological Resources.

Archaeological Resources: As stated above, archaeological resources may be considered historical resources. If they do not meet the qualifications under the California Public Resources Code 21084.1 or California Code of Regulations Section 15064.5, they are instead determined to be “unique” as defined by the CEQA Statute Section 21083.2. A unique archaeological resource is an artifact, object, or Site that: (1) contains information (for which there is a demonstrable public interest) needed to answer important scientific research questions; (2) has a special and particular quality, such as being the oldest of its type or the best available example of its

type; or (3) is directly associated with a scientifically recognized important prehistoric or historical event or person.

Tribal Cultural Resource (TCR): Tribal Cultural Resources can include Site features, places, cultural landscapes, sacred places, or objects which are of cultural value to a Tribe. It is either listed on or eligible for the CA Historic Register or a local historic register or determined by the lead agency to be treated as TCR.

Paleontological Resources: For this section, “paleontological resources” refers to the fossilized plant and animal remains of prehistoric species. Fossilized remains, such as bones, teeth, shells, and leaves, are found in geologic deposits (i.e., rock formations). Paleontological resources generally include the geologic formations and localities in which the fossils are collected. Paleontological Resources are a limited scientific and educational resources valued for the information they yield about the history of the earth and its ecology.

Native American Reserve (NAR): This designation recognizes tribal trust and reservation lands managed by a Native American Tribe under the United States Department of the Interior’s Bureau of Indian Affairs over which the County has no land use jurisdiction. The County encourages the adoption of tribal management plans for these areas that consider compatibility and impacts upon adjacent area facilities and plans.

National Historic Preservation Act: The National Historic Preservation Act was adopted in 1966 to preserve historical and archeological Sites in the United States. The Act created the National Register of Historic Places, the list of National Historic Landmarks, and the State Historic Preservation offices.

Health and Safety Code, Section 7050.5: Section 7050.5 of the California Health and Safety Code requires that construction or excavation be stopped near discovered human remains until the county coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the California Native American Heritage Commission (NAHC). CEQA Guidelines (Public Resources Code Section 5097) specify the procedures to be followed in case of the discovery of human remains on non-Federal land. The disposition of Native American burials falls within the jurisdiction of the NAHC.

Solano County General Plan:

The Solano County General Plan contains the following policies and implementation programs related to tribal cultural resources.

- **Policy RS P-38:** Identify and preserve important prehistoric and historic structures, features, and communities.

- **Policy RS P-40:** Consult with Native American governments to identify and consider Native American cultural places in land use planning.
 - **RS.I-25:** Require cultural resources inventories for all new development Projects in areas identified with medium or high potential for archaeological or cultural resources. Where a preliminary Site survey finds medium to high potential for substantial archaeological remains, the County shall require a mitigation plan to protect the resource before issuance of permits. Mitigation may include:
 - Having a qualified archaeologist present during initial grading or trenching (monitoring).
 - Redesign of the Project to avoid archaeological resources (this is considered the strongest tool for preserving archaeological resources).
 - Capping the Site with a layer of fill.
 - Excavation and removal of the archaeological resources and curation in an appropriate facility under the direction of a qualified archaeologist.
 - Alert applicants for permits within early settlement areas to the potential sensitivity. If significant archaeological resources are discovered during construction or grading activities, such activities shall cease in the immediate area of the find until a qualified archaeologist can determine the significance of the resource and recommend alternative mitigation.
 - .

Discussion

a) Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a Site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

Less Than Significant Impact with Mitigation: The Project involves construction activities, including earthwork, concrete pouring, pipe laying, and excavation for a covered anaerobic digester and a new wastewater pond, resulting in approximately 191,000 square feet (4.4 acres) of ground disturbance within an existing dairy facility. The Phase I Cultural Resources Assessment (CRA), conducted by Soar Environmental Consulting, Inc., included a records search at the Northwest Information Center (NWIC), a Sacred Lands File (SLF) search with the Native American Heritage Commission (NAHC), and an intensive pedestrian survey of the 146-acre Project Site on March 27-28, 2025. No tribal cultural resources, as defined by PRC §21074, were identified within the Project area or the 0.5-mile Cultural Study Area. The SLF search was negative, and no responses indicating tribal cultural resources were received from the eight tribal representatives contacted by Solano County, the Lead Agency, as of June 9, 2025.

However, the Project's ground-disturbing activities, particularly the 20-foot-deep excavation for the anaerobic digester, could potentially uncover unanticipated tribal cultural resources beneath the ground surface. Implementation of Mitigation Measures CUL-1, CUL-2 and CUL-3 will ensure that impacts on tribal cultural resources listed or eligible for listing in the CRHR or local registers remain **Less than Significant with Mitigation Incorporated**.

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

Less Than Significant Impact with Mitigation: No tribal cultural resources are currently known within the Project Site, based on the NWIC records search, SLF search, pedestrian survey, and tribal consultation conducted per AB 52 requirements. The Project Site's history of dairy operations and agricultural use suggests a low likelihood of intact tribal cultural resources, but the potential for unanticipated discoveries during ground-disturbing activities cannot be ruled out. Solano County, as the Lead Agency, has not identified any resources as significant tribal cultural resources per PRC §5024.1(c) based on available evidence. Should unanticipated tribal cultural resources be discovered, Mitigation Measures CUL-1, CUL-2 and CUL-2 will ensure that impacts are evaluated and mitigated in consultation with culturally affiliated tribes, keeping impacts **Less than Significant with Mitigation Incorporated**.

XIX. UTILITIES AND SERVICE SYSTEMS

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

Environmental Setting**Wastewater**

The HD Ranch Project is located on an active dairy facility in unincorporated Solano County. The Project involves the installation of an anaerobic digester and associated infrastructure and

does not include residential, commercial, or public facilities that would require connection to a municipal sewer system. No restrooms or occupied structures are proposed. As a result, the Project would not require wastewater treatment services or the installation of a septic system.

Solid Waste

Solid waste services in unincorporated Solano County are managed through contracts with private haulers and regulated by the Solano County Department of Resource Management. Waste generated during construction of the Project (e.g., packaging, debris, and non-recyclable materials) will be minimal and properly disposed of at permitted solid waste facilities such as the Recology Hay Road Landfill, located approximately 15 miles southeast of the site. The Hay Road Landfill has adequate remaining capacity and is permitted to accept a variety of construction and industrial waste types. Operational waste from the Project is expected to be negligible.

Water

Water required for the Project during construction (e.g., for dust suppression or concrete mixing) would be sourced from existing on-site agricultural water infrastructure. The Project would not include potable water service or any features requiring permanent water supply. During operation, the digester system will use recycled process water from the dairy, and no new water wells or connections to a municipal system will be needed.

Stormwater

Stormwater runoff from the Project area will be managed on-site through minor grading and drainage improvements. The Project includes a gravel access road with a 6-inch layer of $\frac{3}{4}$ -inch aggregate base, designed to facilitate percolation. The surrounding pad will be graded at a minimum slope of 2% toward this gravel area to ensure stormwater containment within the Project footprint. The Project will comply with Solano County stormwater management requirements and implement best management practices (BMPs) during construction to minimize erosion and off-site discharge.

Electric Power

Electricity will be provided by Pacific Gas and Electric Company (PG&E). A new underground electrical line will be extended from an existing overhead power line within the dairy property to the Project's equipment compound. The line will be placed in a 178-foot Schedule 80 PVC conduit, which will run beneath the proposed access road to connect to a PG&E step-down transformer.

Natural Gas

The HD Ranch Project will not require natural gas service. All equipment will operate using electric power or biogas generated on-site.

Discussion

a) Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relation of which could cause significant environmental effects?

Less than Significant Impact: The HD Ranch Project would not require connections to municipal water, wastewater, or natural gas systems. Water needs during construction would be met using existing on-site agricultural water infrastructure, and the anaerobic digester would utilize process water already in circulation at the dairy. No potable water or sewer service is required.

Electric power would be supplied by PG&E via a new underground conduit extending from an existing overhead line on-site. This extension would run through a predefined utility easement and would not require the development of new off-site electrical facilities. Installation of the conduit and transformer would be limited in scale and contained entirely within the disturbed footprint of the Project Site.

Telecommunications connections, such as fiber optic lines, would also be routed through the same utility easement and installed concurrently with the electrical conduit, further reducing environmental disturbance.

Stormwater would be managed on-site through surface grading and percolation into a gravel pad, and no new off-site stormwater infrastructure would be required.

The Project would not result in the displacement or relocation of existing utility infrastructure, nor would it necessitate the construction of large-scale new utility facilities that could cause significant environmental effects. Therefore, impacts related to utility infrastructure would be **Less than Significant**.

b) Would the Project have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years?

No Impact: The HD Ranch Project would not require a potable water connection or new water supply. Water used during construction (e.g., for dust control or equipment cleaning) would be sourced from existing on-site agricultural water infrastructure. During operation, the anaerobic digester system would use process water recycled from dairy operations, and no domestic water use is proposed. Because the Project would rely solely on existing on-site resources and would not generate new long-term demand, there would be **No Impact** on regional or municipal water supply availability, even during dry or multiple dry years.

c) Would the Project 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?

No Impact: The Project does not propose any residential or commercial uses that would generate domestic wastewater and does not require connection to a municipal wastewater treatment facility. All operational activities would occur within the existing dairy infrastructure, which includes waste handling and treatment systems already permitted and managed on-site. Since the Project would not contribute additional flows to a public wastewater treatment system, it would not affect treatment capacity or the commitments of any service provider. Therefore, **No Impact** would occur.

d) Would the Project 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?

Less than Significant Impact: The HD Ranch Project would generate a minimal amount of solid waste during the construction phase, primarily from equipment packaging, construction materials, and site preparation. Once operational, the Project would produce negligible ongoing waste.

Solid waste generated during construction would be collected and transported by a licensed local hauler to a permitted regional facility. The landfills in Solano County have adequate remaining capacity and are permitted to accept construction-related waste.

Given the small scale of waste generation and the availability of local solid waste infrastructure, the Project would not exceed the capacity of local disposal systems or interfere with Solano County's waste diversion goals. Therefore, impacts related to solid waste generation would be **Less than Significant**.

e) Would the Project comply with Federal, state, and local management and reduction statutes and regulations related to solid waste?

No Impact: The Project would comply with all applicable Federal, state, and local laws and regulations governing solid waste handling, recycling, and disposal, including California's Integrated Waste Management Act and CalRecycle regulations. Any solid waste generated during construction would be sorted and disposed of according to Solano County waste management policies, and materials would be diverted from landfill when feasible.

Because the Project would not generate significant solid waste and would comply with applicable solid waste regulations and reduction programs, **No Impact** would occur.

XX. WILDFIRE

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

Environmental Setting

There are no State Responsibility Areas (SRAs) within the vicinity of the Project Site, and the Project Site is not categorized as a "Moderate," "High," or "Very High" Fire Hazard Severity Zone (FHSZ) by CalFire. This CEQA topic only applies to areas within an SRA or a Very High FHSZ.

Regulatory Setting

Fire Hazard Severity Zones: Geographical areas designated under California Public Resources Codes Sections 4201 through 4204 and classified as Very High, High, or Moderate in State Responsibility Areas or as Local Agency Very High Fire Hazard Severity Zones designated under California Government Code, Sections 51175 through 51189.

Discussion

If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

No Impact: The Project would not substantially impair an adopted emergency response or evacuation plan. The Project will be reviewed by the Solano County to ensure that Project does not impair emergency response or emergency evacuation. The proposed Project Site is also not located within an SRA or a Very High FHSZ. There is **No Impact**.

b) Due to slope, prevailing winds, and other factors, would the Project exacerbate wildfire risks, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

No Impact: The Project is located on a flat area at little risk of fire. The proposed Project Site is also not located within an SRA or a Very High FHSZ. There is **No Impact**.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Less than Significant Impact: The Project's construction involves the construction of a covered anaerobic digester and supporting infrastructure. Once substantial design is completed, the design package will be submitted to the City of Dixon Fire Department for review and approval. All improvements would be subject to County standards and Fire Chief approval. The proposed Project would not exacerbate fire risk, and the impact would be **Less than Significant**.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire instability, or drainage changes?

No Impact: The Project Site is not located in an area designated as a Fire Hazard Severity Zone and the lands associated with the Project Site are relatively flat. Therefore, the Project would not be susceptible to downslope or downstream flooding or landslides because of post-fire instability or drainage changes. There is **No Impact**.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Does the Project have the potential substantially to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are considerable when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects)?	☐	☐	☒	☐
c) Does the Project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Discussion

- a) Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?**

Less than Significant Impact with Mitigation: The Initial Study/Mitigated Negative Declaration for the HD Ranch Project identified potential significant impacts to Cultural Resources and Tribal Cultural Resources due to ground-disturbing activities associated with the construction of the anaerobic digester and supporting infrastructure. However, the implementation of Mitigation Measures CUL-1 and CUL-2, as outlined in the Cultural Resources and Tribal Cultural Resources sections, would reduce these impacts to less than significant levels. Potential significant impacts to biological resources were identified and mitigation BIO-1 Swainson's Hawk, Burrowing Owl and Nesting Bird Survey is included to reduce the impact to a less than significant level. The Project Site is within an existing dairy facility with minimal natural vegetation and no sensitive habitats. Therefore, with mitigation incorporated, the Project would not substantially degrade the environment or eliminate important historical or prehistoric resources, resulting in a **Less than Significant Impact with Mitigation**.

- b) Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are considerable when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects)?**

Less than Significant Impact: Pursuant to CEQA Guidelines Section 15064(h), the Lead Agency must evaluate whether the Project's cumulative impacts are significant when considered alongside past, current, and probable future projects. The HD Ranch Project, which involves the construction and operation of an anaerobic digester within an existing dairy facility, is consistent with the Solano County General Plan and agricultural zoning. The Project's incremental contributions to environmental impacts, such as air quality, traffic, or land use, are minimal due to its small footprint (approximately 4.4 acres), low operational traffic (one to seven truck trips per week), and compatibility with surrounding agricultural uses. The Project does not induce population growth or lead to indirect impacts such as increased housing demand or significant increases in traffic or air pollutants. Therefore, the Project's cumulative impacts are **Less than Significant**.

- c) Does the Project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?**

Less Than Significant Impact: The environmental analyses in this Initial Study indicate that the HD Ranch Project would not cause substantial adverse effects on human beings, either directly or indirectly. Potential impacts related to air quality, noise, hazards, and other environmental factors were evaluated and found to be less than significant, either inherently or with the incorporation of mitigation measures (e.g., CUL-1 and CUL-2 for cultural and tribal resources). The Project's design, including compliance with Regional Water Quality Control Board standards, Yolo-Solano Air Quality Management District regulations, and Solano County requirements, ensures that operational and construction activities pose minimal risk to public health or safety. Therefore, impacts to human beings are **Less than Significant**.

XXII.Supporting Information and Sources

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4. **Solano County Code.** Available at: <https://www.codepublishing.com/CA/SolanoCounty/>

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5. **Caltrans State Scenic Highways.** Available at: <https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaq>

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15. **California Endangered Species Act.** Available at: <https://wildlife.ca.gov/Conservation/CESA>
16. **USFWS Environmental Conservation Online System.** Available at: <https://ecos.fws.gov/ecp/report/table/critical-habitat.html>

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34. **California Building Code.** Available at: <https://www.dgs.ca.gov/BSC/Codes>
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37. **FTA Transit Noise and Vibration Impact Assessment.** Available at: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf

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SECTION 3: List of Preparers

Project Title: HD Ranch

List of Preparers

4-Creeks Inc.

- David Duda, AICP, GISP
- Nate Antepencko, Associate Planner

Persons and Agencies Consulted

The following individuals and agencies contributed to this Initial Study/Mitigated Negative Declaration:

Solano County

- Associate Planner Travis Kroger
- Kathy Pease, AICP Planning Consultant, Management Advisory Services

Soar Environmental Consulting

- Casey Stewman, Senior Biologist

Acronyms

AAQS	Ambient Air Quality Standards
AB	Assembly Bill
APCD	Air Pollution Control District
AQMD	Air Quality Management District
ARB	Air Resources Board
BMP	Best Management Practices
CARB	California Air Resources Board
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CRHR	California Register of Historical Resources
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	Carbon Monoxide
DOC	California Department of Conservation
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EIA	Energy Information Administration
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FMMP	Farmland Mapping and Monitoring Program
HCS	Hierarchical Cell Structure
HSC	Health and Safety Code
ISMND	Initial Study Mitigated Negative Declaration
LOS	Level of Service
MCL	Maximum Contaminant Level
MEIR	Master Environmental Impact Report
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NOI	Notice of Intent
NRHP	National Register of Historic Places
NPDES	National Pollutant Discharge Elimination System
OS	Open Space
O3	Ozone
PM10	Particulate Matter less than 10 microns
PM2.5	Particulate Matter less than 2.5 microns
PRC	Public Resources Code
ROW	Right-of-Way
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SJVAPCD	San Joaquin Valley Air Pollution Control District

SWPPP	Storm Water Pollution Prevention Plan
TAC	Toxic Air Contaminant
TCR	Tribal Cultural Resource
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
USDOT	United States Department of Transportation

SECTION 4: Appendices

Project Title: HD Ranch

A. Biological Resources Assessment

B. Air Quality Analysis