Community and Economic Development
Planning Division

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PLANNING COMMISSION DATE: **July 6, 2021**

AGENDA ITEM: **#5**

CUP	**2021-004**	**To install dairy digester, underground pipeline to transport biogas to central hub.**
APN	**#025-100-020, -022, -023, -024, -025, -026 and -027**	**Applicant: Mass Energy Works, Inc.** **Owner: Troost, JMJ**
CEQA	**2021-10**	**Mitigated Negative Declaration**

REQUEST:

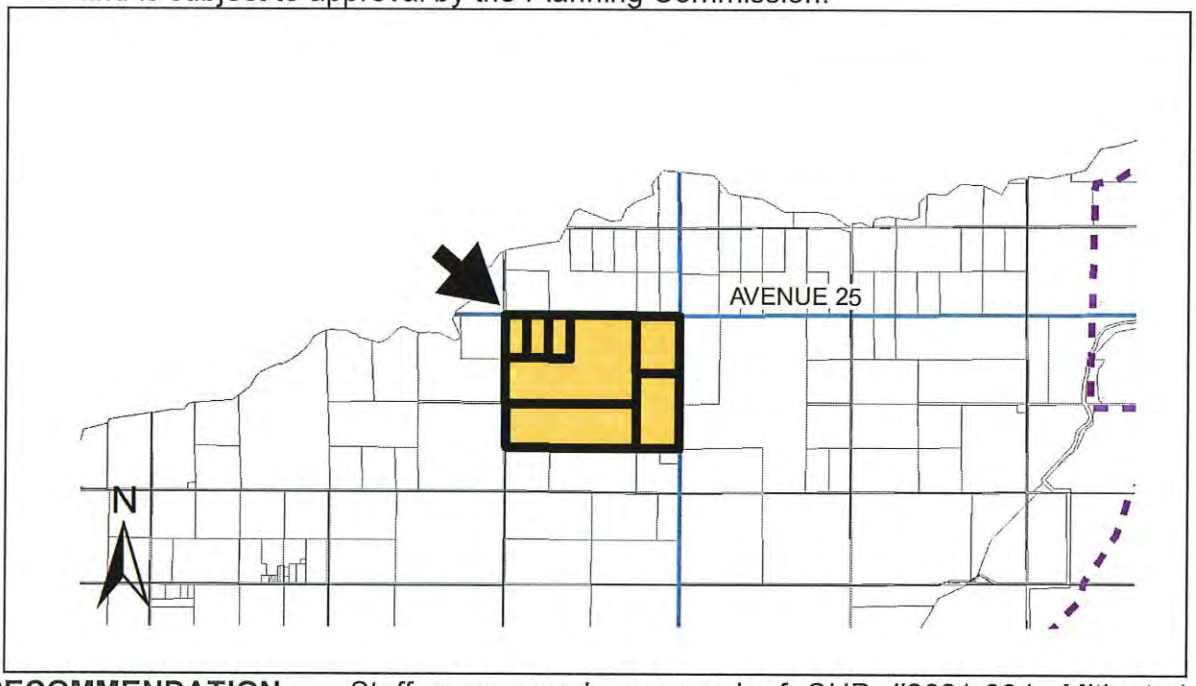
To install a double-lined wastewater pond which will be covered and used as an anaerobic lagoon digester to capture methane; to install low-pressure (7-20psi), underground biogas pipeline on private property for transmission of biogas to a centralized cleanup hub facility.

LOCATION:

The subject property is located southeast Corner of Avenue 25 and Road 8 (no situs and 8503 Avenue 24 ½) Chowchilla.

ENVIRONMENTAL ASSESSMENT:

A Mitigated Negative Declaration (MND #2021-10) (Exhibit M) has been prepared and is subject to approval by the Planning Commission.



RECOMMENDATION: Staff recommends approval of CUP #2021-004, Mitigated Negative Declaration #2021-10, Findings of Fact and associated Mitigation Monitoring Program.

CUP #2021-004
STAFF REPORT **July 6, 2021**

GENERAL PLAN DESIGNATION (Exhibit A)**:**

SITE: AE (Agricultural Exclusive)

SURROUNDING: AE (Agricultural Exclusive)

ZONING (Exhibit B)**:**

SITE: ARE-40 (Agricultural, Rural, Exclusive – 40 Acre) District

SURROUNDING: ARE-40 (Agricultural, Rural, Exclusive – 40 Acre) District; ARE-20 (Agricultural Rural Exclusive – 20 Acre) District

LAND USE:

SITE: Dairy

SURROUNDING: Agricultural

SIZE OF PROPERTY: 471.87 acres

ACCESS (Exhibit A)**:** Access to the site is via Road 9

BACKGROUND AND PRIOR ACTIONS:

Rezone CZ #92-67 from ARE-20 to ARE-40 was approved in 1992.

Conditional Use Permit #2014-006 was approved by the Planning Commission on July 1, 2014 to recognize the dairy and allow the expansion of the facility.

PROJECT DESCRIPTION:

To install a double-lined, Tier 1 wastewater pond which will be covered and used as an anaerobic lagoon digester to capture methane; to install low-pressure (7-20psi), underground biogas pipeline on private property for transmission of biogas to a centralized cleanup hub facility (permitted separately through Merced County), where the gas will be further cleaned and injected into a natural gas pipeline.

The project will install biogas equipment on an adjacent pad that will remove H_2S (hydrogen sulfide) impurities from the biogas. The resultant gas will be connected to an existing pre-approved pipeline to a project in Merced which has been approved by conditional use permit in Merced under their procedures.

ORDINANCES/POLICIES:

Policy 6.28.040 A of the Madera County Code defines Agricultural activity as an operation or facility, or appurtenances thereof includes, but is not limited to, the cultivation and tillage of the soil, dairying, the raising of livestock, or any practices performed, in conjunction with such operations including preparation for market, delivery to storage or to market, or to carriers for transportation to market.

Policy 6.28.050 A of the Madera County Code states: No agricultural activity, operation or facility, or appurtenances thereof, conducted or maintained for commercial purposes, and in a manner consistent with proper and accepted customs and standards, as established and followed by similar agricultural operations in the same locality, shall be or become a nuisance, private or public, due to any changed condition in or about the locality, after the same has been in operation for more than one year if it was not a nuisance at the time it began.

Section 9.58 of the Madera County Code outlines the County's noise regulations.

Chapter 18.58 of the Madera County Zoning Ordinance outlines the permitted uses within the ARE-40 (Agricultural, Rural, Exclusive – 40 Acre) District.

Section 18.85 of the Madera County Zoning Ordinance outlines the Dairy Standards for the County.

Section 18.92 of the Madera County Zoning Ordinance outlines the procedures for obtaining Conditional Use Permits.

Part 1 of the Madera County General Plan outlines the AE (Agricultural Exclusive) designation.

Section 5A of the Madera County General Plan outlines the Agricultural goals of the County.

Section 7 of the Madera County General Plan outlines the Noise Ordinance of the County.

ANALYSIS:

The applicant is requesting to install a double-lined, Tier 1 wastewater pond which will be covered and used as an anaerobic lagoon digester to capture methane; to install low-pressure (7-20psi), underground biogas pipeline on private property for transmission of biogas to a centralized cleanup hub facility (permitted separately in Merced County), where the gas will be further cleaned and injected into a natural gas pipeline.

The project will install biogas equipment on an adjacent pad that will remove H_2S (hydrogen sulfide) impurities from the biogas. The resultant gas will be connected to an existing pre-approved pipeline to a project in Merced.

The subject parcel is located within a rural, agricultural area where the majority of parcels range from approximately 40 acres to more than 600 acres in size. The parcel is zoned ARE-40 (Agricultural, Rural, Exclusive – 40 Acre) District and has a general plan designation of AE (Agricultural Exclusive). Surrounding parcels are similarly zoned and have similar general plan designations.

The ARE-40 (Agricultural, Rural, Exclusive – 40 Acre) District allows for agricultural uses and single-family residences by right, as well as dairies with a Conditional Use Permit. While the specific use, a dairy digester, is considered a component of a dairy, the connecting to a pipeline to ship the resultant biogas off to energy infrastructure requires a conditional use permit. The applicant wishes to connect to a private pipeline system to send the resultant biogas to a PG&E infrastructure point.

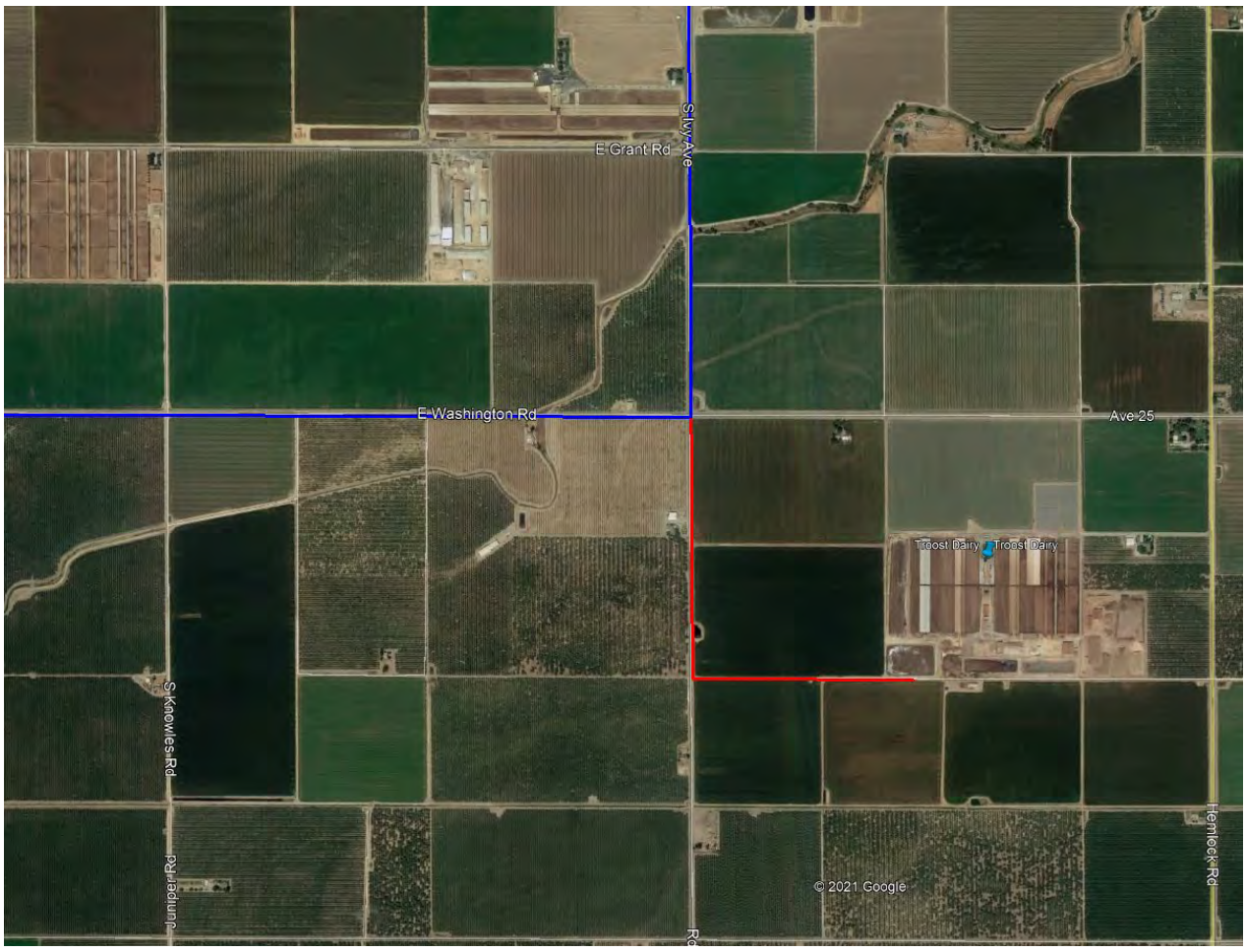
The general plan designation of Agricultural Exclusive (AE) allows for limited agricultural support service uses (e.g., barns, animal feed facilities, silos, stables, fruit stands and feed stores), agriculturally oriented services (e.g. wineries, cotton gins), timber production, mineral extraction, airstrips, public and commercial refuse disposal sites, recreational uses, public and quasi-public uses, and similar and compatible uses.

The project sponsor for the overall project has applied for a Conditional Use Permit through Merced County to construct and operate a dairy biogas collection and biomethane injection project in the unincorporated area of Merced. They are applying for conditional use permits in Madera County to construct dairy digesters that would feed into a pipeline system through which to feed the Merced facility.

The biogas would be produced by individual dairy digesters at ambient temperatures and just slightly above ambient pressure. From the digester, the biogas would be piped through a filter and condensation trap to remove any particulates and condensation. Next, it would be pulled through a condenser to lower the temperature of the gas to condense out additional moisture and dry the gas for sending down the gathering pipelines. After condensation, a biogas blower would pressurize the gas to no more than 20 pounds per square inch (psi) prior to treatment through a media-based hydrogen sulfide (H_sS) scrubber to lower the hydrogen sulfide below levels hazardous to human health. After the scrubber, the gas would be sent down the gathering pipelines to the upgrading facility.

The biogas upgrading facility will be located in Merced. The facility removes impurities, moisture, and gas constituents that are not suitable for injection into a PG&E or other utility pipeline. This process would transform biogas to biomethane, which is indistinguishable from conventual natural gas. The final step would include a compressor to reach the injection pressure needed to enter either a PG&E or private utility regional pipeline.

The project proposes to install low-pressure biogas gathering lines, which would move the biogas from each participating dairy to the central upgrading facility. The gathering pipelines would range from 4 inches to 24 inches and would be buried at least 48 inches below grade and marked with tracer wire. The pipeline would be located within easements within privately owned agricultural properties or within public rights of way (ROW) (Exhibit D). Pipeline routes would be restored to their original condition and uses after installation of the pipelines. The pipeline leading to the Merced facility is shown below.



Dairy digesters have been an increasing trend over the last few years for dairy facilities to reduce odor emissions and to generate on-site electricity from a renewable resource. Over the last year or two, projects have expanded to coordinate multiple dairies in collecting biogas and transferring it to electricity generating infrastructure. The proposed project in this case will extend from the existing digester through a pipeline system to a collection point to provide biogas for PG&E to produce electricity for off-site infrastructure. The conditioning facility in this case is located in Merced County. The Merced County facility has been approved by that jurisdiction.

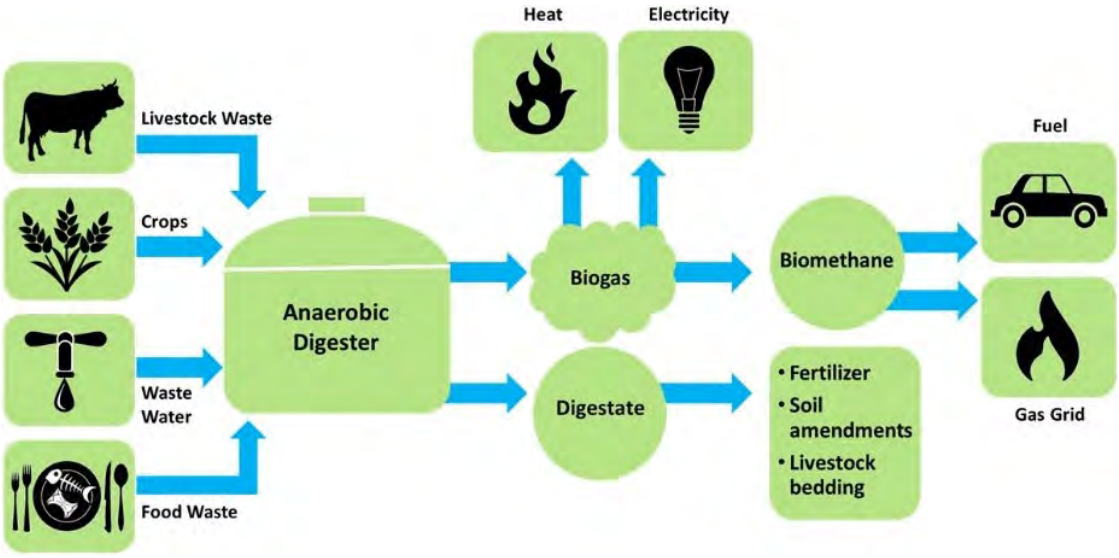
An anaerobic digester refers to an airtight vessel where anaerobic bacteria (those that thrive in the absence of oxygen) are used to digest (decompose or breakdown) an organic, carbon based, solid waste slurry, such as cow manure or food wastes, into smaller molecular weight compounds with lower residual odor. The anaerobic bacteria generate both methane (CH_4, also called natural gas) and carbon dioxide (CO_2) gases in near equal volume as they digest the waste material. In modern anaerobic digesters, this biogas is captured and is used for energy recovery, typically in an internal combustion engine coupled to an electric generator. During the subsequent combustion, the methane is converted to carbon dioxide, releasing energy to drive the engine or provide heat for other uses. The process is widely used as a source of renewable energy.

The anaerobic digester will capture methane from decomposing manure sourced from the dairy facility and then converted to electricity which will be sold to an off-site electrical provider. Anaerobic digestion is a process by which microorganisms break down biodegradable material in the absence of oxygen. The process is a three-step procedure. First is the decomposition of plant or animal matter, this step breaks down the organic material to usable sized molecules such as sugar. The second step is the conversion of decomposed matter to organic acids. Lastly, those acids are converted to methane gas. The biogas generated from the site will eventually be turned in to electricity which will then be sold to the power grid.

In 2003, the US consumed 147 trillion BTU (British Thermal Units – a unit of measure of the amount of energy required to heat one pound of water by one-degree Fahrenheit) of energy from landfill gas, which equated to 0.6% of the total US natural gas consumption. When biogas is used, many advantages arise. As an example, in the US, utilization of biogas could generate enough electricity to meet up to three percent of the electrical expenditures.

Biogas typically refers to a gas produced by the biological breakdown of organic matter in the absence of oxygen. Organic waste such as dead plant and animal material, animal feces, and kitchen waste can be converted to a gaseous fuel called biogas. It comprises primarily methane and carbon dioxide and may have small amounts of hydrogen sulfide and moisture. The process is a three-step procedure.

First is the decomposition of plant or animal matter, this step breaks down the organic material to usable sized molecules such as sugar. The second step is the conversion of decomposed matter to organic acids. Lastly, those acids are converted to methane gas.



The U.S. Energy Information Administration estimates that in 2018 about 270 billion cubic feet of landfill gas was collected at about 352 US landfills and burned to generate about 11 billion kilowatt-hours (kWh) of electricity, or about 0.3% of total US utility-scale electricity generation in 2018. The same agency estimates that also in 2018, about 29 large dairies and livestock operations in the United States produced a total of about 266 million kilowatt-hours (kWh) (or 0.3 billion kilowatt-hours (kWh)) of electricity from biogas.

As an example of this type of system, a hog farm in Tulare, hog manure is slurried and sent to a Hypalon-covered lagoon for biogas generation. The collected biogas fuels a 70-kilowatt engine-generator and a 100-kilowatt engine-generator. The electricity generated on the farm is able to meet monthly electric and heat energy demand.

The project is on parcels that are enrolled in the Williamson Act. The use will not significantly displace or impair current or reasonably foreseeable agricultural operations on the parcel. This is just to expand the current operations. Uses that significantly displace agricultural operations on the subject parcel may be deemed compatible if they relate directly to the production of commercial agricultural

products on the subject parcel, including activities such as harvesting, processing, or shipping.

The Dairy Standards apply to opening a new dairy or expansion of an existing dairy within the County identified as a confined animal feeding operation (CAFO) under State and Federal Law. Existing small or medium CAFOs are regulated by the Regional Water Quality Control Board (RWQCB). While this project is an existing dairy, the Standards are applicable to the amended Conditional Use Permit. The Standards cover all aspects of dairy operations, from traffic to vector and odor control. Conditions as noted under the Planning Department, Environmental Health and Road Department incorporate conditions found in the Standards.

The generation and storage of manure, manure-water, animal feed and other organic materials at dairies present the possibility of increased vector activities. Mosquito and fly infestations can be observed at dairies, particularly at manure separation pits and lagoons that have not been properly maintained, and poorly managed feed areas. The determination of whether there are cumulatively significant vector impacts is made by an analysis of the existing impacts in the area and whether or not the incremental contribution of vectors from the proposed project will result in a cumulatively significant impact. University of California Extension Specialists believes that a one-half mile separation between dairies and residences is sufficient to avoid a fly problem.

Access will be via Road 9, south of its intersection with Avenue 25. The closest traffic counts done by the Madera County Transportation Commission (MCTC) in 2016 centers around Avenue 25 at its intersection with Road 9, which is at the project site. Per the MCTC, there were 368 east bound and 361 west bound trips on Avenue 25 east of Road 9. There will be a minor increase of traffic in the area for the duration of construction of the site.

Conditional Use Permit Analysis

An administrative method of providing relief from the strict terms of a comprehensive zoning ordinance is a conditional use permit. Unlike the variance procedure, the Planning and Zoning Law is silent with respect to the proper criteria to evaluate whether a CUP should be issued. The CUP is well recognized by zoning administrators and the courts as a necessary and proper method to provide flexibility and alleviate hardship. The granting of use permits is a quasi-judicial administrative function. Use permits run with the land (*County of Imperial v. McDougal*, 19 Cal. 3d 505, 510 (1977)). Jurisdictions cannot condition a use permit on its' transfer (*Anza Parking Corp. v. City of Burlingame* 195 Cal. App. 3d 855, 860 (1987)). This basically means that if the facility were to be sold to a new owner, that new owner would have to abide by the conditions in place at time of sale. If the Conditional Use Permit were amended (increase in footprint of the site, new

amenities, etc.), then new conditions can be applied dependent on what is being amended. The original conditions would remain in place and enforceable.

The Conditional Use Permit allows the jurisdiction to allow uses that are not typically seen on proposed sites with a series of conditions that would reduce (or eliminate) any potential impacts related to the project. In addition, should an applicant fail to adhere to any of the conditions of approval, having the CUP in place gives the County more leverage to enforce the conditions. This can include up to, and including, revocation of the CUP for failure to adhere to conditions. The county does not necessarily jump right to revocation hearings but goes through the steps of working with the applicant to come into compliance first. If failure to comply continues, then Staff has the standing to bring the CUP to a public hearing before the Planning Commission and to request revocation.

The project was circulated to County Departments and outside regulatory agencies for comments and conditions. This included the San Joaquin Valley Air Pollution Control District, Regional Water Quality Control, and Sheriff's Department. Pursuant to Public Resource Code (PRC) §21080.3.1(d), the project was also circulated to requesting tribes, including Table Mountain Rancheria, Dumna Wo Wah, Picayune Rancheria of Chuckchansi Tribe and the Chowchilla Yokuts Tribe. This circulation allows for local native tribes the opportunity to indicate if they wish to be further consulted on the project, request various different levels of archaeological studies on site prior to continuing with the processing of the project or starting of constructing, or decline further consultation. No comments were received in return.

If this project is approved, the applicant will need to submit a check, made out to the County of Madera, in the amount of $2,530.25 to cover the Notice of Determination (CEQA) filing at the Madera County Clerks' office. The amount covers the $2,480.25 Department of Fish and Wildlife fee that took effect January 1, 2021 and the County Clerk $50.00 filing fee. In lieu of the Fish and Wildlife fee, the applicant may choose to contact the Fresno office of the Department of Fish and Wildlife to apply for a fee waiver. The County Clerk Fee, Department of Fish and Wildlife Fee (or waiver if approved) is due within five days of approval of this permit at the Planning Commission.

FINDINGS OF FACT:

The following findings of fact must be made by the Planning Commission to make a finding of approval of the project. Should the Planning Commission vote to approve the project, Staff recommends that the Planning Commission concur with the following in light of the proposed conditions of approval.

1. *The proposed project does not violate the spirit or intent of the Zoning Ordinance*.

The parcel is zoned ARE-40 (Agricultural, Rural, Exclusive). The dairy itself already has a conditional use permit that recognizes that use in that zone district. Normally a dairy digester would be considered incidental to the use and would not necessarily require a CUP, but due to the end result of the project (energy production), an amendment to the use permit is required. The additional facilities also being proposed are being included in the CUP as a matter of convenience in that the applicant would not need to apply for additional CUP's and therefore saving money and time. Therefore, the use as proposed does not violate the spirit or intent of the Zoning Ordinance.

2. *The proposed project is not contrary to the public health, safety, or general welfare*.

   The project is not contrary to the health, safety or welfare of the public as the dairy itself is regulated in such matters at the local and state levels.

3. *The proposed project is not hazardous, harmful, noxious, offensive, or a nuisance because of noise, dust, smoke, odor, glare, or similar, factors.*

   The project must adhere to the conditions of approval as well as mitigation measures. While there are odors, some dust, some noise and related factors associated with dairies, by the fact that they are built and operated far from populated areas, the overall impacts are minimized. The dairies are also regulated by local level environmental health and agricultural commission departments as well as state level air and water regulatory agencies. The proposed project is also seen as beneficial as it is designed to reduce greenhouse gas emissions and potentially the odors associated with a typical dairy, so that any potentially existing health issues will be even further reduced as a result of the project.

4. *The proposed project will not for any reason cause a substantial, adverse effect upon the property values and general desirability of the surrounding properties.*

   The facility has been operating as a dairy for decades without any effect on local land values or desirability. The facility has been a factor in the region's economy for the same amount of time.

WILLIAMSON ACT:

The property is subject to a Williamson Act Contract. The use will not significantly displace or impair current or reasonably foreseeable agricultural operations on the parcel. This is just to expand the current operations. Uses that significantly displace agricultural operations on the subject parcel may be deemed compatible if

they relate directly to the production of commercial agricultural products on the subject parcel, including activities such as harvesting, processing, or shipping.

GENERAL PLAN CONSISTENCY:

The General Plan designation for the property is AE (Agricultural Exclusive) Designation which allows for agricultural oriented businesses. The property is zoned ARE-40 (Agricultural, Rural, Exclusive – 40 Acre) District which allows for dairies with a Conditional Use Permit. The Zoning and General Plan designations are compatible with the proposed use.

RECOMMENDATION:

The analysis provided in this report supports approval of the Conditional Use Permit (CUP #2021-004), Mitigated Negative Declaration (MND #2021-10), Findings of Fact and Monitoring Plan.

CONDITIONS

See attached.

ATTACHMENTS:

1. Exhibit A, General Plan Map
2. Exhibit B, Zoning Map
3. Exhibit C, Assessor's Map
4. Exhibit D, Expanded Site Plan
5. Exhibit D-1, Site Plan Map
6. Exhibit D-2, Digester Profile
7. Exhibit E, Aerial Map
8. Exhibit F, Topographical Map
9. Exhibit G, Operational Statement
10. Exhibit H, Odor and Dead Animal Management Plan
11. Exhibit I, Pest and Vector Management Plan
12. Exhibit J, Environmental Health Comments
13. Exhibit K, Fire Marshall Comments
14. Exhibit L, Initial Study
15. Exhibit M, Mitigated Negative Declaration #2021-10

CONDITIONS OF APPROVAL

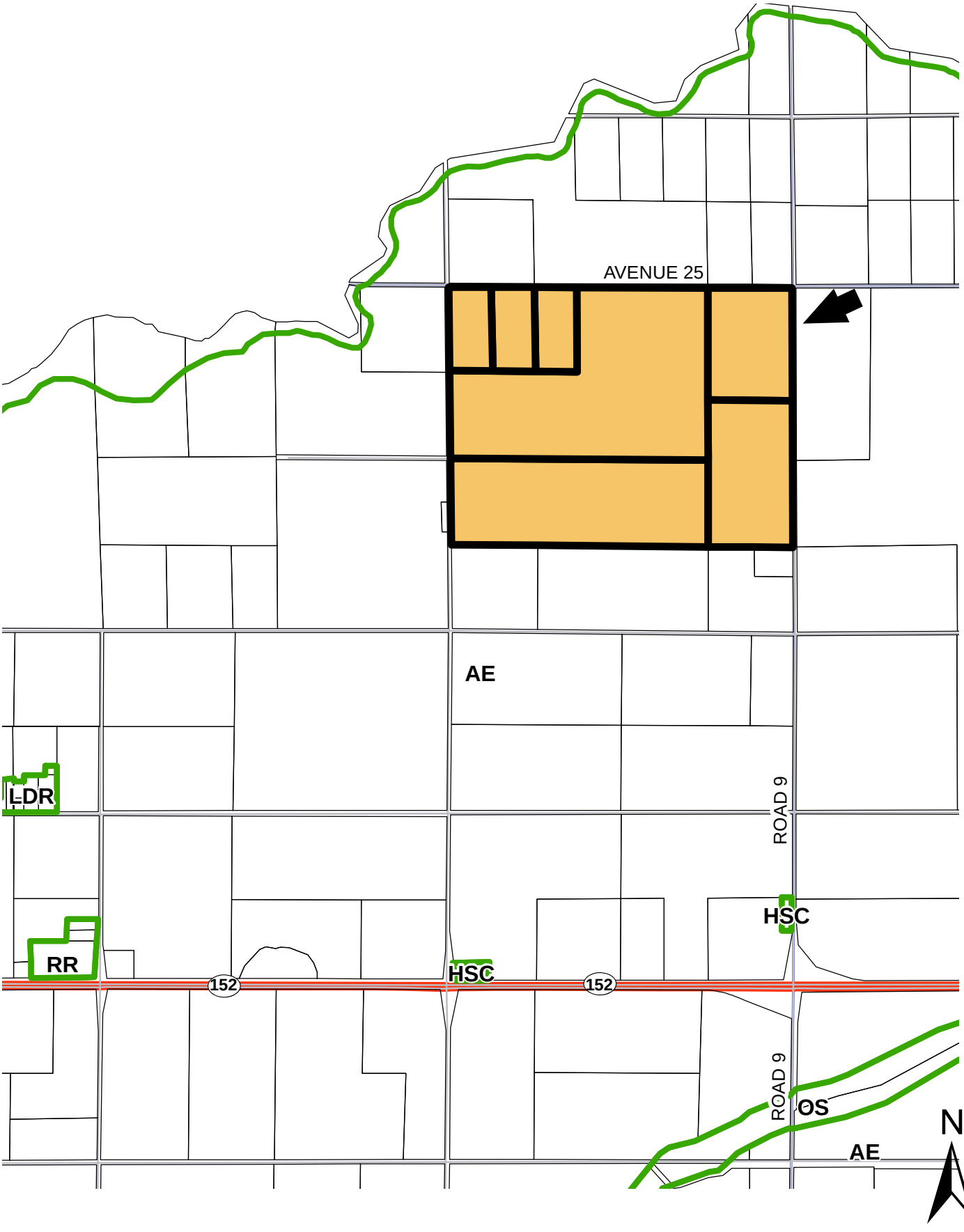
PROJECT NAME:	CUP #2021-004 - Maas Energy
PROJECT LOCATION:	On the southeast Corner of Avenue 25 and Road 8 (no situs and 8503 Avenue 24 1/2) Chowchilla
PROJECT DESCRIPTION:	construction of dairy digester and pipeline for trnasmission of biogass
APPLICANT:	Jeff Troost
CONTACT PERSON/TELEPHONE NUMBER:	559-223-3091

No.	Condition	Department/Agency	Verification of Compliance		
			Initials	Date	Remarks
Environmental Health					
	The facilities must comply with their Report of Waste Discharge (RWD) requirements under the Regional Water Quality Control Board (RWQCB).				
	The facility must comply with their San Joaquin Valley Air Pollution Control Board (SJVAPCD) permit.				
	Provide/Update Pest (vector) Management Plan. The Pest (vector) Management Plan must go into detail of how each known vector will be identified, tracked, eliminated or significantly reduced and how this program will be implemented. This Pest Management Plan must be provided for review and approval by this department prior to approving of this CUP to ensure that vector(s) are handled on site to effectively prevent them or at a minimum significantly reduce them from becoming an off-site nuisance.				
	Provide/Update Odor and Dust Management Plans. The Management Plans must go into detail in describing how odor and dust control will be managed and implemented. The Odor and Dust Management Plans must be provided for review and approval by this department prior to approval of this CUP to ensure that each known dairy nuisance(s) are handled on site to effectively prevent them from moving off-site creating a nuisance				
	The construction and then ongoing operation must be done in a manner that shall not allow any type of public nuisance(s) to occur including but not limited to the following nuisance(s); Dust, Odor(s), Noise(s), Lighting, Vector(s) or Litter. This must be accomplished under accepted and approved Best Management Practices (BMP) and as required by the County General Plan, County Ordinances and any other related State and/or Federal jurisdiction.				
Fire					

No.	Condition	Department/Agency	Verification of Compliance		
			Initials	Date	Remarks
	Prior to the issuance of any Building Permits the project shall be reviewed for conformance with all adopted codes.				
Planning					
	The project shall operate in accordance with the operational statement and plans submitted for this project except as modified by the conditions of approval of this conditional use permit and associated mitigation measures as required for this project.				
	All driveways and parking associated with this project are to be constructed and maintained in a manner to provide for a dust free environment.				
	Facility noise levels shall conform to Madera County Noise Ordinance standards.				
	All lighting shall be hooded and directed away from adjoining parcels and roadways.				
	Applicant shall implement appropriate vector control measures.				
	Applicant shall implement a dead animal control plan.				
	Applicant shall implement odor control measures as they relate to the Dairy Standards.				
	Applicant shall implement all requirements from the Waste Management Plan and Certified Nutrient Management Plan as applicable to the dairy facility.				
	Applicant to adhere to Nutrient Management Plan application and sampling protocols (NMP).				
	Applicant to maintain all storage ponds in such a manner as to prevent odors, breeding of mosquitos, damage from burrowing animals, damage from equipment, erosion, settlement, excess weeds, algae and vegetatiion (WMP).				
	Any levee system associated with this dairy shall be maintained in similar manner as storage ponds mentioned in condition #10.				
Public Works - Engineering					
Public Works - Roads					

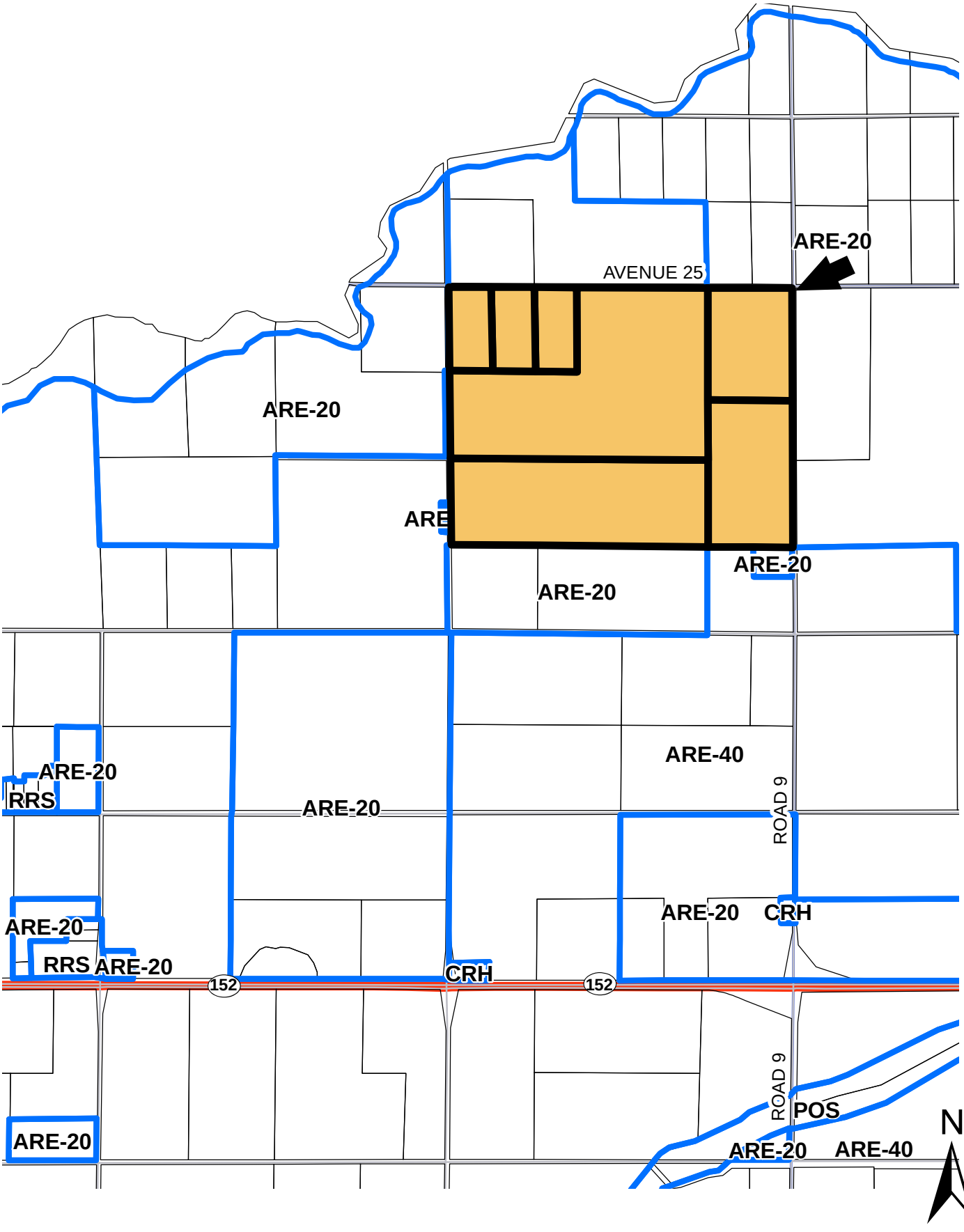
No.	Condition	Department/Agency	Verification of Compliance		
			Initials	Date	Remarks

EXHIBIT A



GENERAL PLAN MAP

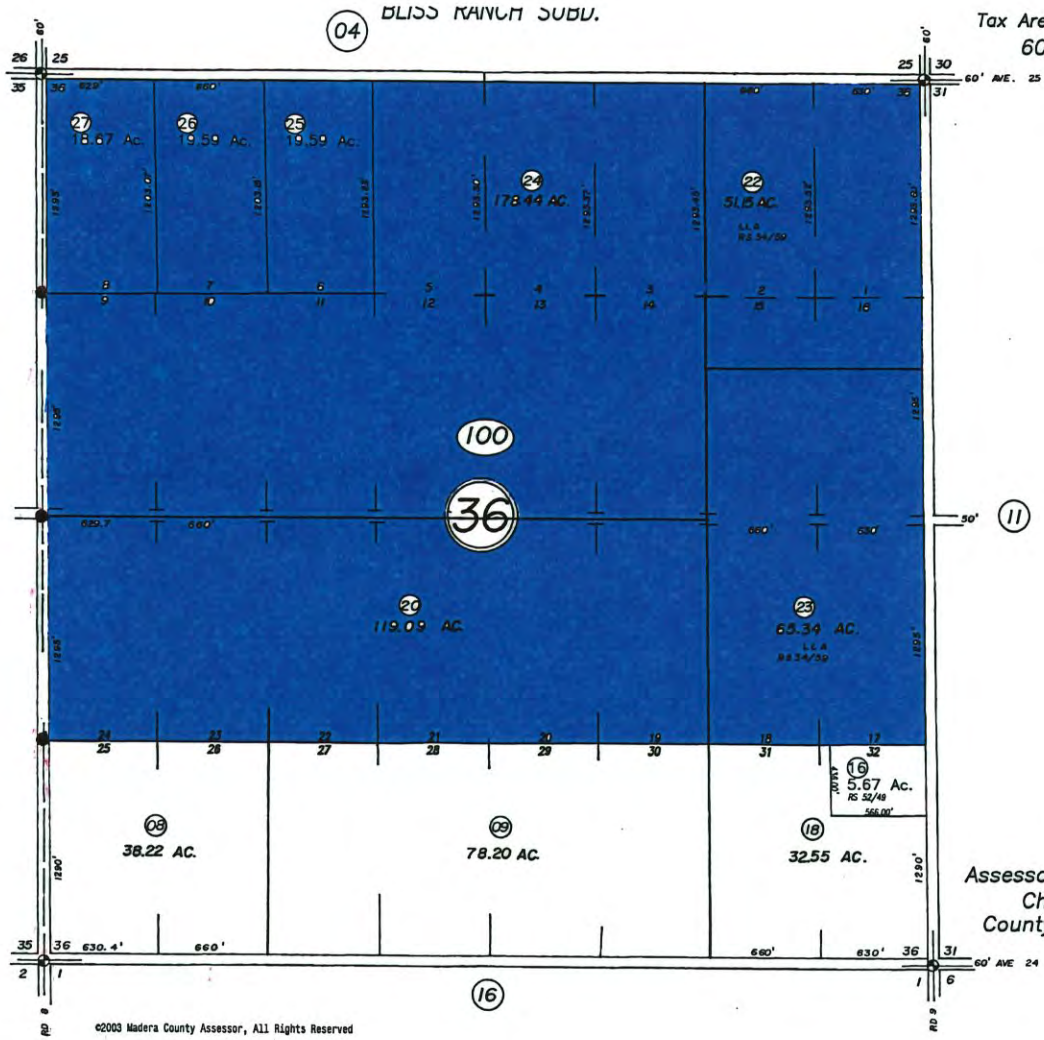
EXHIBIT B



ZONING MAP

ASSESSOR'S MAP

EXHIBIT C



NOTE: This map is for assessment purposes only and is not for the intent of interpreting legal boundary rights, zoning regulations and/or legality of land division laws.

04041-0-24 BLH

Assessor's Map No. 25-10
Chowchilla Outside
County of Madera, Calif.
1954

EXHIBIT D

Legend

(P) PROPOSED (E) EXISTING

APN BOUNDARY

PREVIOUSLY PERMITTED BIOGAS PIPELINE

PROPOSED BIOGAS PIPELINE (PRIVATE ROW)

DAIRY ENTRANCES

MAAS ENERGY WORKS

Firm Address
3711 Meadow View Dr.
Suite 100
Redding, CA, 96002

Project Name and Address
J Troost Dairy
24662 Road 9,
Chowchilla, California 93610

Scale Bar
0 600' 1200'
1" 2"

Drawn By	Date	Drawing Version
Kelli Eusted	1/21/21	1.00
Sheet Size	Sheet #	Sheet Name
11" x 17"	1 of 2	S-1

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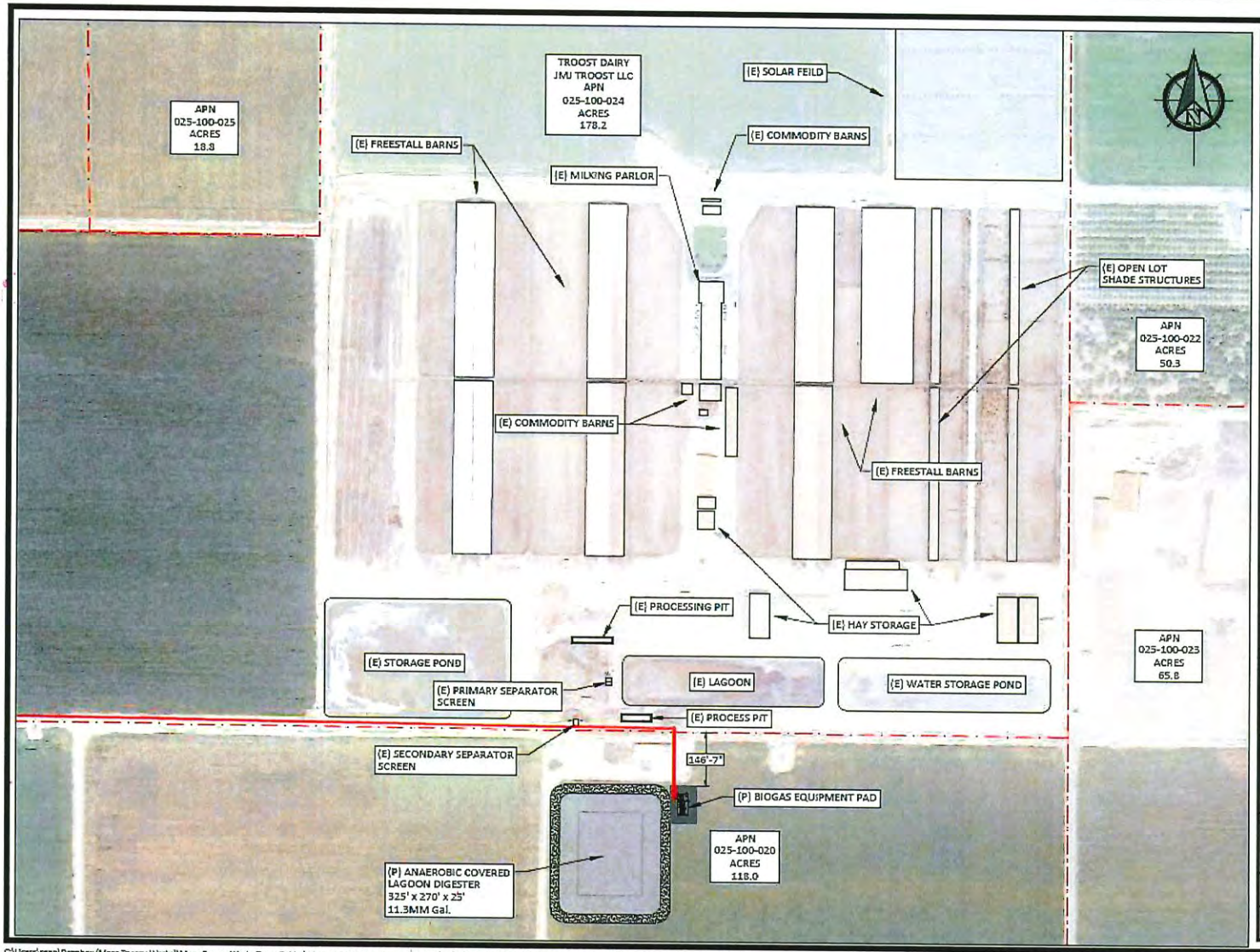
SITE PLAN



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(P) PROPOSED (E) EXISTING

APN BOUNDARY

PROPOSED BIOGAS PIPELINE (PRIVATE ROW)

MAAS ENERGY WORKS

Firm Address
3711 Meadow View Dr.
Suite 100
Redding, CA, 96002

Project Name and Address
J Troost Dairy
24662 Road 9,
Chowchilla, California 93610

Scale Bar
0 250' 500'
1" 2"

Drawn By	Date	Drawing Version
Kelli Eusted	2/18/21	1.00
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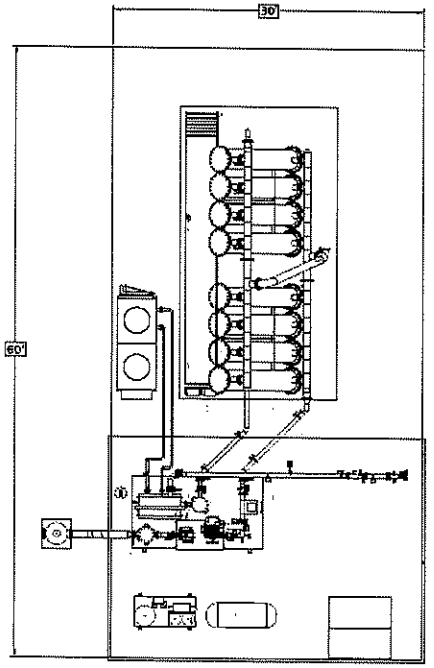
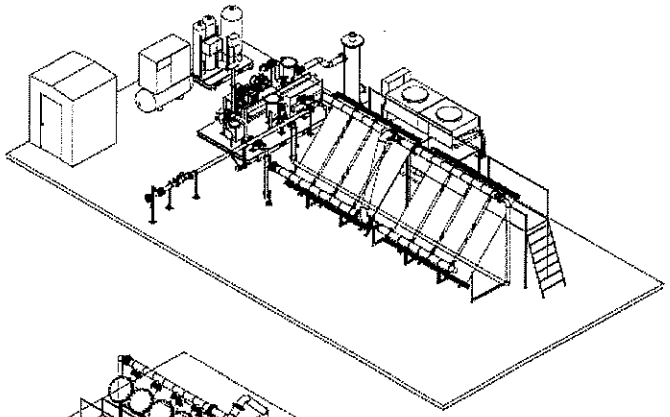
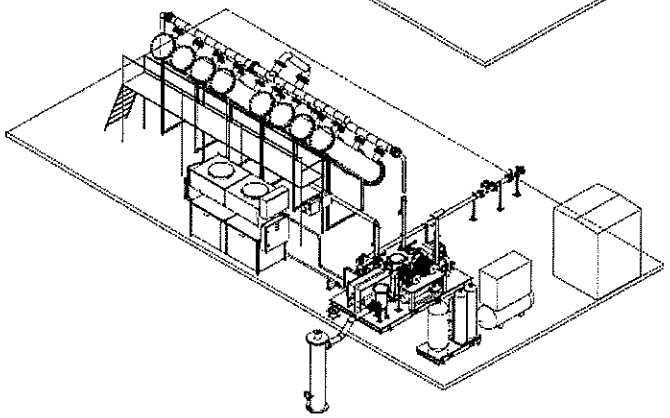
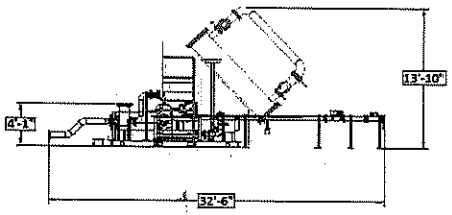
EXHIBIT D-1

EQUIPMENT PAD PLAN









BIOGAS CLEANUP EQUIPMENT PAD

Legend

MAAS ENERGY WORKS

Firm Address
3711 Meadow View Dr.
Suite 100
Redding, CA, 96002

Project Name and Address
J Troost Dairy
24662 Road 9,
Chowchilla, California 93610

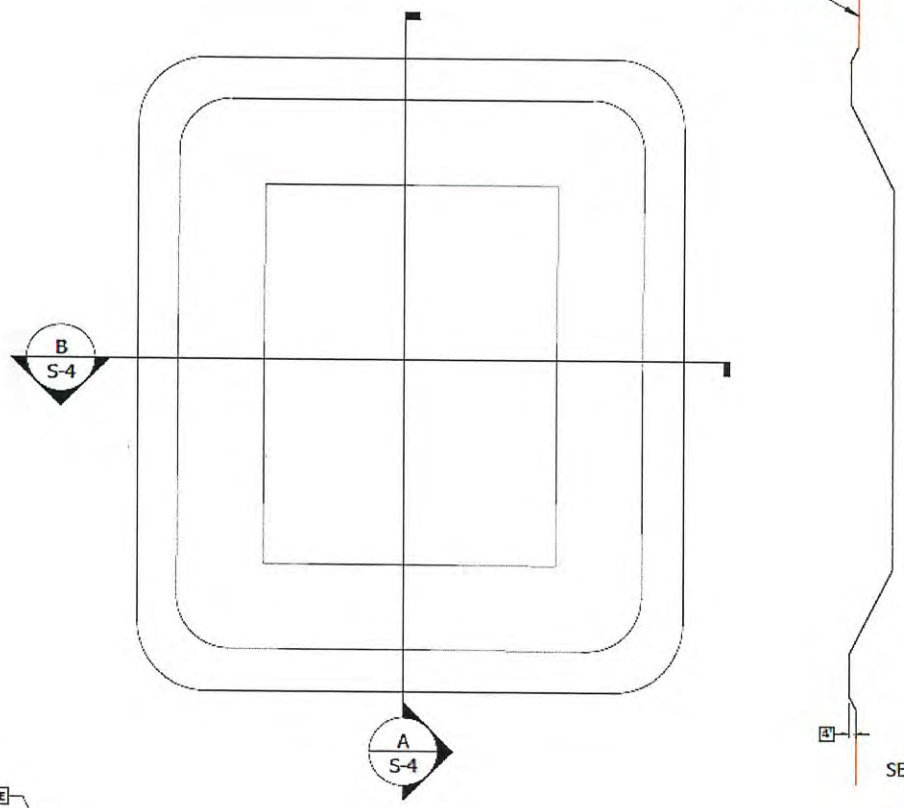
Scale Bar
0 3/32" 3/16"
1" 2"

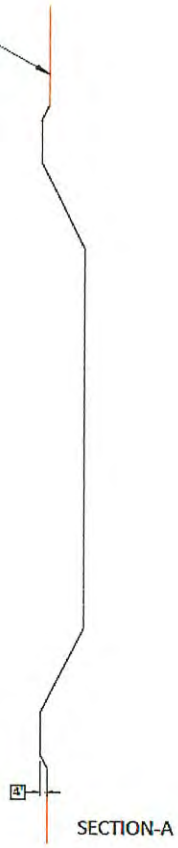
Drawn By	Date	Drawing Version
Kelli Basted	2/18/21	1.00
Sheet Size	Sheet #	Sheet Name
11" x 17"	3 of 4	S-3

C:\Users\Dean\Dropbox (Maas Energy Works)\Maas Energy Works Team Folder\Merced South Cluster - New Organization\J. Troost Dairy\Drawing\Cad Master File\J Troost Dairy(Permitting) 11x17.dwg

EXHIBIT D-2

DIGESTER PROFILE





SECTION-A

SECTION-B

DIGESTER PROFILE

Legend

MAAS ENERGY WORKS

Firm Address
3711 Meadow View Dr.
Suite 100
Redding, CA, 96002

Project Name and Address
J Troost Dairy
24662 Road 9,
Chowchilla, California 93610

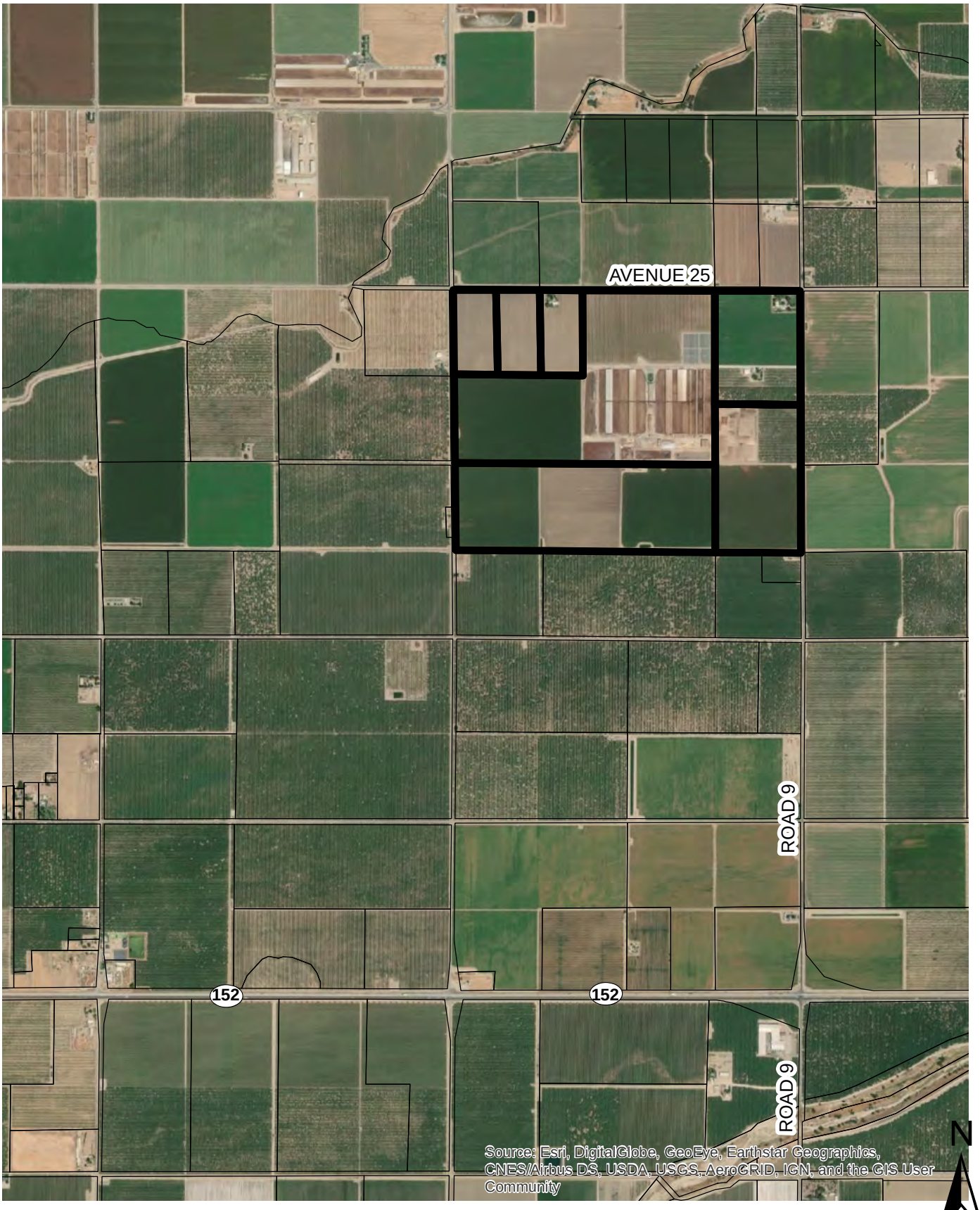
Scale Bar
0 1/64" 1/32"
1' 2'

Drawn By	Date	Drawing Version
Kelli Eusted	2/18/21	1.00
Sheet Size	Sheet #	Sheet Name
11" x 17"	4 of 4	S-4

C:\Users\kean\Dropbox (Maas Energy Works)\Maas Energy Works Team Folder\Merced South Cluster - New Organization\J Troost Dairy\Drawings\Cad Master File\J Troost Dairy(Permitting) 11x17.dwg

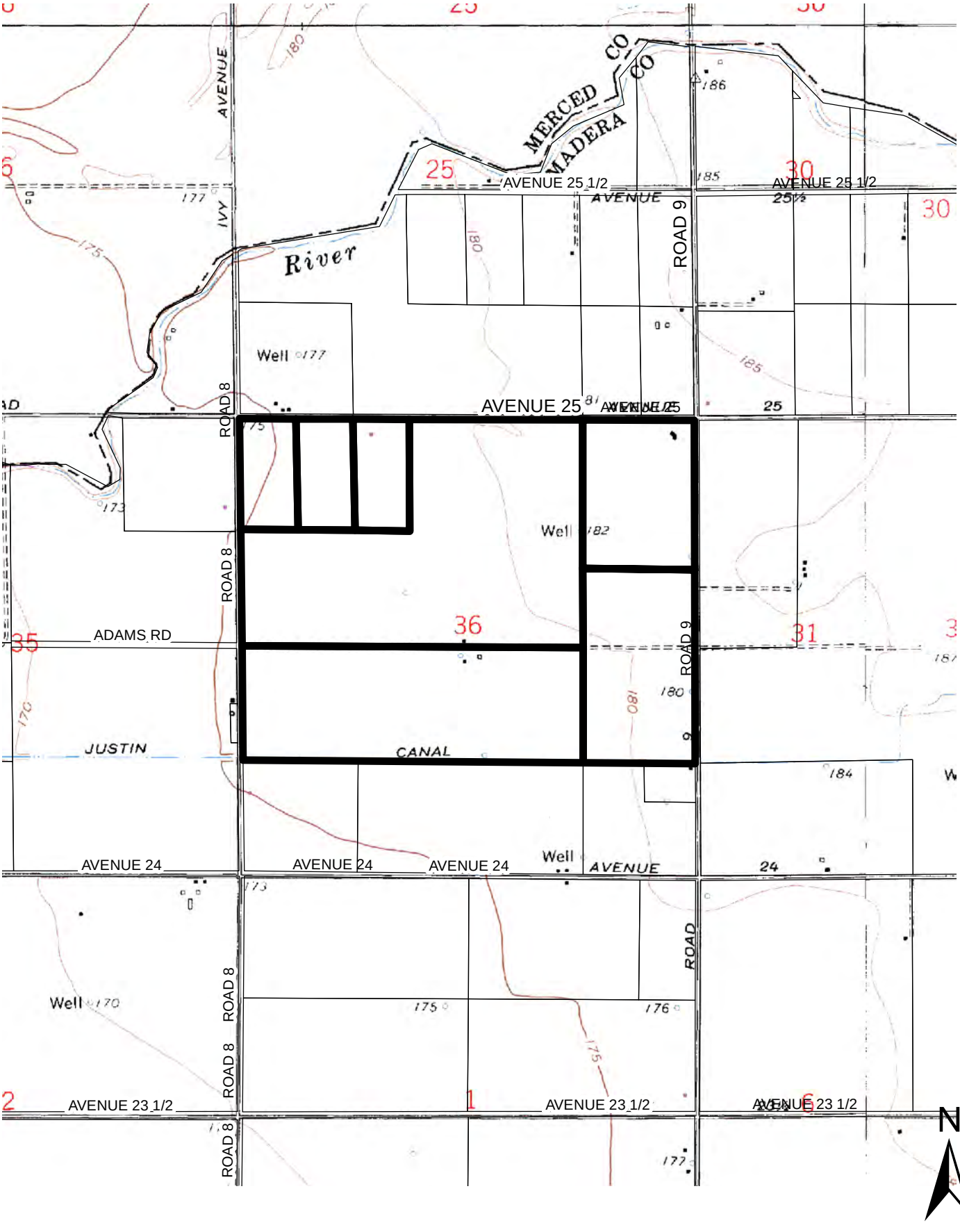
EXHIBIT D-3

EXHIBIT E



AERIAL MAP

EXHIBIT F



TOPOGRAPHICAL MAP

EXHIBIT G

Community and Economic Development
Planning Division

Matthew Treber
Director

- 200 W 4th Street
- Suite 3100
- Madera, CA 93637
- (559) 675-7821
- FAX (559) 675-6573
- TDD (559) 675-8970
- mc_planning@madera-county.com

OPERATIONAL/ENVIRONMENTAL STATEMENT CHECKLIST

It is important that the operational/environmental statement provides for a complete understanding of your project proposal. Please be as detailed as possible.

1. Please provide the following information:
   Assessor's Parcel Number: 025-100-024 and 025-100-027
   Applicant's Name: Jeff Troost
   Address: Contact Applicant's Agent (Maas Energy Works, Inc.): 3711 Meadow View Dr. #100, Redding, CA, 96002
   Phone Number: Contact Applicant's Agent (Maas Energy Works, Inc.): (530) 410-0859

2. Describe the nature of your proposal/operation.
   The project proposes to install a new anaerobic covered lagoon digester that will capture methane/biogas, biogas equipment and associated pad and an underground, low pressure HDPE biogas pipeline. The equipment will remove H2S impurities from the gas. The pipeline will connect to previously-permitted pipeline that will carry the biogas to a conditioning facility in Merced County.

3. What is the existing use of the property?
   The existing use of the facility is a dairy farm and crop land. Existing routine operations of the dairy will not be affected by this project.

4. What products will be produced by the operation? Will they be produced onsite or at some other location? Are these products to be sold onsite?
   This operation will capture raw biogas from manure. This biogas will be cleaned up and injected into the PG&E pipeline at the conditioning facility site.
   No products will be sold onsite.

5. What are the proposed operational time limits?
   Months (if seasonal): The facility will operate 365 days a year
   Days per week:
   Hours (from____to _): Total Hours per day: 24 hours per day

6. How many customers or visitors are expected?
   Average number per day: The project will not generate any customer or visitors on site.
   Maximum number per day: This facility will be open 24/7, but will not be open to the public. All visits will require prior approval.
   What hours will customers/visitors be there? N/A

7. How many employees will there be?
   Current: The proposed project currently has 0 employees.
   Future: One Operations Technician (employed by the Project Developer) is anticipated to be at the project site daily for routine inspection and maintenance.
   Hours they work: The Operations Technician's working hours are 8AM-5PM and on call. The employee will work part time hours at the proposed project.
   Do any live onsite? If so, in what capacity (i.e. caretaker)? No staff will live onsite.

8. What equipment, materials, or supplies will be used and how will they be stored? If appropriate, provide pictures or brochures.

This project proposes the addition of an anaerobic covered lagoon digester, which is a double lined, Tier 1 pond, and a concrete biogas equipment pad.
The pad will hold equipment for H2S scrubbing, moisture removal, and injection of the biogas into the underground pipeline.

9. Will there be any service and delivery vehicles? Once operational, one truck will visit daily for routine inspection and meintenance.

Number: 1

Type: Pickup truck

Frequency: 1/day

10. Number of parking spaces for employees, customers, and service/delivery vehicles. Type of surfacing on parking area.

The dairy property has sufficient parking for employees, visitors, etc.. The parking spaces are concrete or dirt and are unpaved and unmarked throughout the dairy.

11. How will access be provided to the property/project? (street name)

This facility is accessible by Road 8 (to the West of the facility) and Avenue 25 (to the North of the facility)

12. Estimate the number and type (i.e. cars or trucks) of vehicular trips per day that will be generated by the proposed development.

During construction of the proposed project, the Average Daily Trips (ADT) is estimated to be 5. Post construction, the project site will have only 1 ADT.
These trips will consist mostly of pickup trucks.

13. Describe any proposed advertising, inlcuding size, appearance, and placement.

There will be no advertising at this facility.

14. Will existing buildings be used or will new buildings be constructed? Indicate which building(s) or portion(s) of will be utilized and describe the type of construction materials, height, color, etc. Provide floor plan and elevations, if applicable.

No buildings are included in the project scope. See attached site plans for existing (E) structures and proposed (P) construction.
Proposed construction includes: a digester, a biogas equipment pad and underground pipe.

15. Is there any landscaping or fencing proposed? Describe type and location.

No landscaping or fencing is proposed.

16. What are the surrounding land uses to the north, south, east and west property boundaries?

Surrounding land uses to the North, South, East, and West are all cropland.

17. Will this operation or equipment used, generate noise above other existing parcels in the area?

The proposed project, as an ancillary eddition to an existing dairy farm, will generate no additional noise above the existing surrounding parcels.

18. On a daily or annual basis, estimate how much water will be used by the proposed development, and how is water to be supplied to the proposed development (please be specific).

This facility will utilize an average of 5,000 GPD for the first 6 weeks (during construction). Afterwards, water usage will be around 200 GPD.

19. On a daily or weekly basis, how much wastewater will be generated by the proposed project and how will it be disposed of?

N/A The project will utilize existing wastewater and will not generate additional wastewater.

20. On a daily or weekly basis, how much solid waste (garbage) will be generated by the proposed project and how will it be disposed of?

The dairy will have blower oil stored in quantities not to exceed 10 gallons per month and trucked off site and disposed monthly.

Solid waste will not exceed more than 100 lbs. a month and will be trucked off site and disposed monthly.

21. Will there be any grading? Tree removal? (please state the purpose, i.e. for building pads, roads, drainage, etc.)

This project will include grading for the creation of the covered wastewater lagoon. Total cubic yards and crop removal are TBD. No tree removal is anticipated.

22. Are there any archeological or historically significant sits located on this property? If so, describe and show location on site plan.

There are no archaeological or historically significant sites located on this property.

23. Locate and show all bodies of water on application plot plan or attached map.

See attached site plan.

24. Show any ravines, gullies, and natural drainage courses on the property on the plot plan.

See attached site plan.

25. Will hazardous materials or waste be produced as part of this project? If so, how will they be shipped or disposed of?

The project will not produce any hazardous waste or materials. The project does involve the processing of biogas which is primarily composed of methane. Methane is non-toxic but handling it can be hazardous. It is naturally flammable at concentrations between 5-15% in the air. The proposed digester will trap and then process methane that would previously have been released into the atmosphere. The dairy will also have blower oil stored in quantities not to exceed 10 gallons per month and trucked off site and disposed.

26. Will your proposal require use of any public services or facilities? (i.e. schools, parks, fire and police protection or special districts?)

This proposed facility will not require use of any public services or facilities.

27. How do you see this development impacting the surrounding area?

This development will have minimal impacts on the surrounding area. It will not obstruct vistas, create unnecessary light or noise pollution, and will likely reduce odors, as the cover on the lagoon will trap odors that would otherwise have been released into the air.

28. How do you see this development impacting schools, parks, fire and police protection or special districts?

This development will not affect schools, parks, fire, police, or special districts.

29. If your proposal is for commercial or industrial development, please complete the following; Proposed Use(s): N/A

Square feet of building area(s): N/A

Total number of employees: N/A

Building Heights: N/A

30. If your proposal is for a land division(s), show any slopes over 10% on the map or on an attached map.

N/A

EXHIBIT H

4CREEKS

MADERA COUNTY PLANNING DEPARTMENT

ODOR & DEAD ANIMAL MANAGEMENT PLANS

TROOST DAIRY EXPANSION

(C.U.P. 2014-006)

24868 Road 9
Chowchilla, CA 93610

AUGUST 2014

324 S. SANTA FE, SUITE A
VISALIA, CA 93292

881 W. MORTON AVE
PORTERVILLE, CA 93291

1. Odor Management Plan

Troost Dairy will make reasonable efforts to reduce the potential for odor impacts to any nearby receptors. The following are the standard operating procedures for livestock handling, and manure collection, treatment, storage, and land application:

A. Manure Collection Areas
- The corrals and calf hutch areas will be cleaned out and scraped a minimum of every 90 days to minimize odors.
- The animals at the facility will be kept dry as feasible by corral shades and calf hutch shades. In addition, the facility is maintained to divert any run-off to the wastewater retention pond within 72 hours of a rain event to minimize any ponding on-site that could produce odors.

B. Manure Treatment and Application
- Minimize the moisture levels in stockpile manure during storage. If possible, the manure will be exported off-site at the time it is scraped. The stockpiled manure will be stored on graded areas that divert the wastewater from the piles away from the manure to the wastewater retention ponds.
- Well Irrigation water will be mixed with wastewater at the time of application, per rates identified in the Nutrient Management Plan, to minimize odors and maintain appropriate nutrient content in the effluent.
- Apply process water containing ammonia so that it minimizes exposure to air.
- Clean up manure spills at time of each occurrence
- Maintain wastewater retention pond to prevent solids build-up to minimize odor levels
- Avoid exporting any dry manure or applying wastewater during windy conditions
- Apply wastewater uniformly in a thin layer so that it will dry quickly.

C. General
- Implement dust suppression measures to prevent the release of odorous compound-carrying fugitive dust
- During project operations, Troost shall respond to neighbors who have odor complaints from odors generated at the facility and take prompt action to address the complaint.

D. Record Keeping
- Troost Dairy will keep a complaint register at the facility. The register shall include each complaint received, who received the complaint, and the date of the complaint (See Attachment 1). In addition, the documentation will indicate what action was taken to determine the cause of the odor, action taken to resolve the odor problem, the results of the action, and whether additional action is required to eliminate the problem from re-occurring (See Attachment 2). The complaint register shall be available to the Code Compliance personnel upon request.

Any amendments to the Odor Management Plan shall be submitted to the Madera County Planning Department for approval.

2. Dead Animal Management Plan

Dead animals will be removed from the facility and taken to a rendering plant within 72 hours, or by the end of the first working day after a holiday weekend. See Attachments for receipt and proof of such service. Burial or otherwise disposing of carcasses on site shall not be done unless by order of the Health Officer, Agricultural Commissioner, or other authority authorized to make such an order. A location has been set aside for personnel to place the fallen animal carcasses until the service arrives.

Service:	Central Valley Hide, Inc.
Phone #:	(323) 266-4942

Record keeping shall be kept at the facility including the number of dead animals by date, the date and method of their removal, and the location to where the dead animals were taken (See Attachment 3). The documentation shall be made available to Code Compliance personnel upon their request.

The disposal of dead animals at the facility is prohibited except when federal, state, or local officials declare a State of Emergency and where all other options for disposal have been pursued and failed and the onsite disposal complies with all state and local policies for disposal of dead animals.

Attachment 1
Odor Complaint Register

Date of Complaint	Complaint Recipient	Action Taken To Determine Cause of Odor Complaint	Action Taken To Resolve The Odor Problem	Results of the Action	Additional Action, If Any, Required To Eliminate The Odor Problem From Re-Occuring

Attachment 2
Odor Management Monitoring Plan

Frequency: Minimum On A Monthly Basis
When Potential For Odor Release is High (i.e. Dry Weather, High Temperature)

Inspection Areas: Unpaved Corrals and Calf Hutches, Lagoons and Manure Stockpiles, Land Application Areas, Site Boundaries

Year _____

Month	Date	Are The Open Lot Corrals Being Kept Effectively Dry to Prevent Odors?	Is Manure Being Removed Frequently to Reduce Possible Odors?	Are Manure Storage Areas Being Managed Properly to Prevent Odors?	Are Manure Land Applications Causing Nuisance Conditions Due to Application Methods or Timing?	Initials
January						
February						
March						
April						
May						
June						
July						
August						
September						
October						
November						
December						

Attachment 3
Dead Animal Management Plan Records

Month	Number of Dead Animals Picked Up	Name of Company That Picked Up Dead Animals

CENTRAL VALLEY HIDE, INC.

Plant: 26160 Avenue 23, Madera, Ca. 93638
Ofc: 3768 Bandini Blvd., Los Angeles, Ca. 90058

Dead Stock Pick up Info.

Date: 8/6/2014

Troost Dairy
24662 Road 9
Chowchilla, Ca. 93610

Inv. No. TD- 8614

Re: Pick up of your dead stock product during the mo. of: **Jul-14**

Cows	Calves
13	22

Central Valley Hide, Inc.

EXHIBIT I

4CREEKS

MADERA COUNTY PLANNING DEPARTMENT

PEST & VECTOR MANAGEMENT PLAN

TROOST DAIRY EXPANSION

(C.U.P. 2014-006)

24868 Road 9
Chowchilla, CA 93610

AUGUST 2014

324 S. SANTA FE, SUITE A
VISALIA, CA 93292

881 W. MORTON AVE
PORTERVILLE, CA 93291

Pest and Vector Management Plan

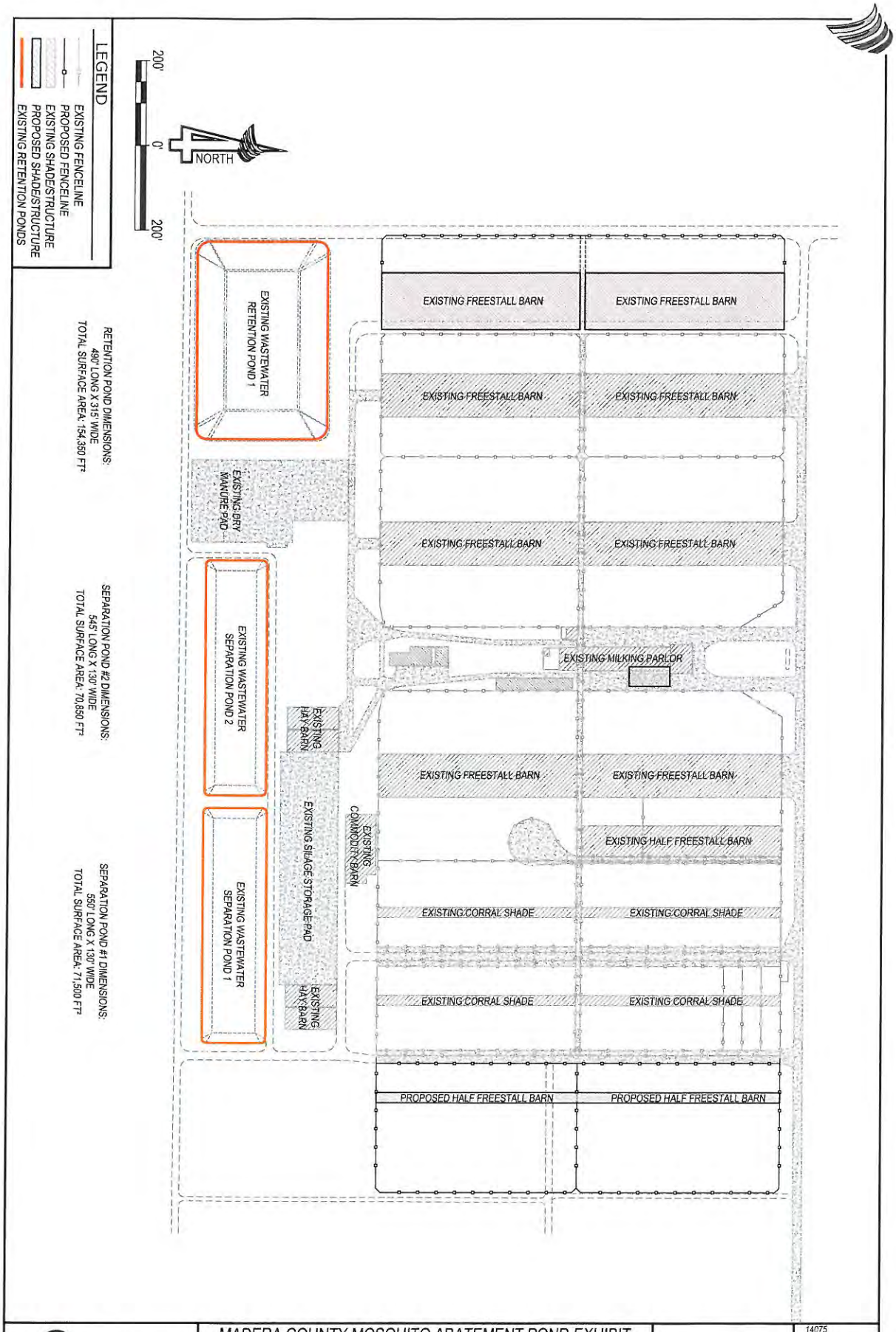
Proper Maintenance of the facility and implementation of good housekeeping practices are the primary tools used to combat vector infestation. The facility will be maintained to ensure good drainage of manured areas, frequent lane scraping, removal of any manure build-up along fences, stanchion curbs, or water troughs, and prompt repair of broken pipes or water troughs. An exhibit of the facility's retention ponds is provided (See Attachment 1).

When the housekeeping items have a limited effect on the pests and vectors, chemicals and biological controls will be implemented. When the chemicals (pesticides) are used, special care shall be taken to select and apply chemicals that are compatible with existing biological controls in place (those that do not kill parasitic wasps). A pest control methods record shall be included, which includes the date pest control was conducted and the pest control methods used (See Attachment 2).

The Madera County Mosquito Abatement District provides additional vector management for the existing pond. Weeds growth shall be inhibited in all the areas in and around the wastewater pond. In addition to vector management at the pond, the rodents will also be managed prevent degradation to the existing pond liner.

Madera County Mosquito Abatement District
Phone #: (559) 662-8880

Record keeping shall consist of documentation kept at the dairy site that includes pest control methods used and the dates of the pest control activities. A complaint register shall also be included, which includes who received the complaint, the date a complaint was received, what and when action was taken to determine the cause of the pest problem, action taken to resolve the problem, and the results action and whether additional action was required to solve the problem (See Attachment 3). The complaint register will be available to the Code Compliance personnel at their request.



4CREEKS
324 S. SANTA FE, STE. A
VISALIA, CA 93292
(559) 802-3052

MADERA COUNTY MOSQUITO ABATEMENT POND EXHIBIT
TROOST DAIRY
MADERA COUNTY

14075	
ATTACHMENT 1	
8/28/14	
1" = 200'	

Attachment 2 Pest Control Methods Record	
Date	**Pest Control Methods Used**

Attachment 3
Pest and Vector Complaint Register

Date of Complaint	Complaint Recipient	Action Taken To Determine Cause of Pest Complaint	Action Taken To Resolve The Pest Problem	Results of the Action	Additional Action, If Any, Required To Eliminate The Pest Problem From Re-Occuring

EXHIBIT J

Community and Economic Development

Environmental Health Division

Dexter Marr
Deputy Director

- 200 W. Fourth St.
- Suite 3100
- Madera, CA 93637
- TEL (559) 661-5191
- FAX (559) 675-6573
- TDD (559) 675-8970

MEMORANDUM

TO: Robert Mansfield

FROM: Dexter Marr, Environmental Health Division

DATE: April 16, 2021

RE: Maas Energy Works, Inc. - Conditional Use Permit - Chowchilla (025-100-020-000)

Comments

TO:Planning Division

FROM:Environmental Health Division

DATE:April 12, 2021

RE:Conditional Use Permit (CUP) #2021-004, Mass Energy Works Inc – Chowchilla, APN: 025-100-02(

Environmental Health Division Comments:

The facilities must comply with their Report of Waste Discharge (RWD) requirements under the Regional Water Quality Control Board (RWQCB).

The facility must comply with their San Joaquin Valley Air Pollution Control Board (SJVAPCD) permit.

Provide/Update Pest (vector) Management Plan. The Pest (vector) Management Plan must go into detail of how each known vector will be identified, tracked, eliminated, or significantly reduced and how this program will be implemented. This Pest Management Plan must be provided for review and approval by this department prior to approving of this CUP to ensure that vector(s) are handled on site to effectively prevent them or at a minimum significantly reduce them from becoming an off-site nuisance.

Provide/Update Odor and Dust Management Plans. The Management Plans must go into detail in describing how odor and dust control will be managed and implemented. The Odor and Dust Management Plans must be provided for review and approval by this department prior to approval of this CUP to ensure that each known dairy nuisance(s) are handled on site to effectively prevent them from moving off-site creating a nuisance.

The construction and then ongoing operation must be done in a manner that shall not allow any type of public nuisance(s) to occur including but not limited to the following nuisance(s); Dust, Odor(s), Noise(s), Lighting, Vector(s) or Litter. This must be accomplished under accepted and approved Best Management Practices (BMP) and as required by the County General Plan, County Ordinances and any other related State and/or Federal jurisdiction.

If there are any questions or comments regarding these conditions/requirements or for please, contact this Division at (559) 675-7823.

EXHIBIT K

Community and Economic Development
Fire Prevention Division

Deborah Mahler, Fire Marshal
Deputy Director

200 W. Fourth St.
Suite 3100
Madera, CA 93637
TEL (559) 661-5191
FAX (559) 675-6573
TDD (559) 675-8970

MEMORANDUM

TO: Robert Mansfield

FROM: Deborah Mahler, Fire Marshal

DATE: April 27, 2021

RE: Maas Energy Works, Inc. - Conditional Use Permit - Chowchilla (025-100-020-000)

Conditions

Prior to the issuance of any Building Permits the project shall be reviewed for conformance with all adopted codes.

County of Madera
California Environmental Quality Act (CEQA)
Initial Study

1. **Project title:** CUP #2021-004 – Maas Energy (Troost Dairy)

2. **Lead agency name and address:** County of Madera
Community and Economic Development Department
200 West 4th Street, Suite 3100
Madera, California 93637

3. **Contact person and phone number:** Robert Mansfield, MURP, AICP, Senior Planner
559-675-7821

Robert.mansfield@maderacounty.com

4. **Project Location & APN:** The subject property is located southeast Corner of Avenue 25 and Road 8 (no situs and 8503 Avenue 24 ½) Chowchilla

APN #: 025-100-020, 025-100-022, 025-100-023, 025-100-024, 025-100-025, 025-100-026 and 025-100-027

5. **Project sponsor's name and address:** Maas Energy Works, Inc.
3711 Mountain View Drive, #100
Redding, CA 96002

JMJ Troost LLC
24662 Road 9
Chowchilla, CA 93610

6. **General Plan Designation:** AE (Agricultural Exclusive)

7. **Zoning:** ARE-40 (Agricultural, Rural, Exclusive – 40 acre) District

8. **Description of project:**

The applicant is requesting to install a double-lined, Tier 1 wastewater pond which will be covered and used as an anaerobic lagoon digester to capture methane; to install low-pressure (7-20psi), underground biogas pipeline on private property for transmission of biogas to a centralized cleanup hub facility (permitted separately through Merced County), where the gas will be further cleaned and injected into a natural gas pipeline.

The project will install biogas equipment on an adjacent pad that will remove H_2S (hydrogen sulfide) impurities from the biogas. The resultant gas will be connected to an existing pre-approved pipeline to a project in Merced which has been approved in Merced.

There are no new employees as a result of this project.

Existing Conditions:

Land use in the surrounding area is predominantly agricultural.

The parcel itself is utilized as a dairy.

9. Surrounding Land Uses and Setting:

Agricultural

10. Other Public Agencies Whose Approval is Required:

None.

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code Section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?
Under AB 52, Tribal Governments that have requested to be notified of any ministerial projects being processed have been notified pursuant to those requirements. (See Section XVIII for additional discussion.).

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

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

DETERMINATION (to be completed by Lead Agency)

On the basis of this initial evaluation:

☐	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
☒	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
☐	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
☐	I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
☐	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signed: _____ Date: May 26, 2021

I. AESTHETICS Except as provided in Public Resources Code Section 21099, would the project:	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 a 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 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?	☐	☐	☒	☐

Responses:

Regional views in the western portion of Madera County are characterized by the broad plains of the Central Valley and Sierra Foothills. Lower-elevation views in the region are generally rural in nature with concentrated pockets of small communities. Higher-elevation views in the region include the edge of the Coast Mountain range to the west, Sierra Nevada range to the east, and the Tehachapi Mountains to the south. The primary scenic resources in the County include the ridgelines and steep slopes of the prominent major relief features, such as the mountain ranges listed above, as well as undeveloped rural areas that have retained their nature and scenic integrity.

Public Resource Code §21099, specifically section (d), looks at infill projects and their impacts to aesthetics of residential, mixed-use residential, or employment center projects.

(a - b) No Impact. There are no designated scenic vistas by the true definition (scene, view, or panorama; it's what one stops to see when one climbs to the top of a mountain or pull off the road at the "scenic view") in the vicinity of the project site.

The closest areas that are being considered as scenic highways by the California Department of Transportation (CALTRANS) are the areas surrounding the Highways 41 and 49 intersection in and north of Oakhurst.

The surrounding area is predominantly agricultural.

A nighttime sky in which stars are readily visible is often considered a valuable scenic/visual resource. In urban areas, views of the nighttime sky are being diminished by "light pollution." Light pollution, as defined by the International Dark-Sky Association, is any adverse effect of artificial light, including sky glow, glare, light trespass, light clutter, decreased visibility at night, and energy waste. Two elements of light pollution may affect city residents: sky glow and light trespass. Sky glow is a result of light fixtures that emit a portion of their light directly upward into the sky where light scatters, creating an orange-yellow glow above a city or town. This light can interfere with views of the nighttime sky and can diminish the number of stars that are visible. Light trespass occurs when poorly shielded or poorly aimed fixtures cast light into unwanted areas, such as neighboring property and homes.

Light pollution is a problem most typically associated with urban areas. Lighting is necessary for nighttime viewing and for security purposes. However, excessive lighting or inappropriately designed lighting fixtures can disturb nearby sensitive land uses through indirect illumination. Land uses which are considered "sensitive" to this unwanted light include residences, hospitals, and care homes.

Daytime sources of glare include reflections off of light-colored surfaces, windows, and metal details on cars traveling on nearby roadways. The amount of glare depends on the intensity and direction of sunlight, which is more acute at sunrise and sunset because the angle of the sun is lower during these times.

(c - d) Less Than Significant Impact. The project encompasses parcels in the area of the southeast corner of Road 9 and Avenue 25 in an agriculturally dominated area of the County.

Developed agricultural facilities are the predominant scenic features in the rural areas of where the project is located. Though these facilities can be seen from roadways, their appearance would a common site in the County.

There is the potential for additional lighting at the site, but the minimal increase will not be a significant impact. Lighting, as a condition of approval, will be required to be hooded and directed down and away from neighboring parcels.

Construction of the facility and pipeline portion of the project would result in a temporary change in the scenic character of area roadways, while equipment and supplies are used. Once completed, all infrastructure would be underground and the visual and scenic character of the project vicinity roadways would be similar to existing conditions.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
II. AGRICULTURAL AND FORESTRY RESOURCES In determining whether agricultural impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.				
Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
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 forest land 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 forest land to non-forest use?	☐	☐	☐	☒

Responses:

Land uses common in the area is predominately agricultural. There are no forests or forest designated land in the area of the project.

(a - e) No Impact. The parcel and surrounding parcels are zoned agriculturally and are used for those purposes as defined by County ordinance. No farmland will be negatively affected directly or indirectly because of this project. There is no forest land, or zoned for forest land, in the vicinity of the project site.

The property involved in this project is considered Unique Farmland, Prime Farmland and Confined Animal Agriculture in the Rural Land Mapping Project of the Farmland Mapping and Monitoring Program of the California Resources Agency. These designations are consistent with the usage for dairies.

The project will not violate the intent of the zoning ordinance in that it is consistent with current and expanding technologies being utilized in agricultural operations. This project is not intended to take over the site from the existing use, but only supplement it and decrease potential air and water environmental impacts. The parcel is zoned ARE-40 (Agricultural, Rural, Exclusive – 40 Acre) which allows for dairies by Conditional Use Permit.

The property is subject to a Williamson Act Contract. The use will not significantly displace or impair current or reasonably foreseeable agricultural operations on the parcel. This is just to expand the current operations. Uses that significantly displace agricultural operations on the subject parcel may be deemed compatible if they relate directly to the production of commercial agricultural products on the subject parcel, including activities such as harvesting, processing, or shipping.

General Information

The California Land Conservation Act of 1965 -- commonly referred to as the Williamson Act -- enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments which are much lower than normal because they are based upon farming and open space uses as opposed to full market value.

The Department of Conservation oversees the Farmland Mapping and Monitoring Program. The Farmland Mapping and Monitoring Program (FMMP) produces maps and statistical data used for analyzing impacts on California's agricultural resources. Agricultural land is rated according to soil quality and irrigation status; the best quality land is called Prime Farmland. The maps are updated every two years with the use of a computer mapping system, aerial imagery, public review, and field reconnaissance. The program's definition of land is below:

PRIME FARMLAND (P): Farmland with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

FARMLAND OF STATEWIDE IMPORTANCE (S): Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

UNIQUE FARMLAND (U): Farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated but may include no irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.

FARMLAND OF LOCAL IMPORTANCE (L): Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.

GRAZING LAND (G): Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum mapping unit for Grazing Land is 40 acres.

URBAN AND BUILT-UP LAND (D): Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, institutional, public administrative purposes, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

OTHER LAND (X): Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

VACANT OR DISTURBED LAND (V): Open field areas that do not qualify as an agricultural category, mineral and oil extraction area, off road vehicle areas, electrical substations, channelized canals, and rural freeway interchanges.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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:				
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?	☐	☐	☒	☐

Responses:

The primary factors that determine air quality are the locations of air pollutant sources and the amounts of pollutants emitted. Meteorological and topographical conditions, however, also are important. Factors such as wind speed and direction, and air temperature gradients interact with physical landscape features to determine the movement and dispersal of criteria air pollutants.

The area comprising Madera County lies within the San Joaquin Valley Air Basin (SJVAB), basically a flat area bordered on the east by the Sierra Nevada Mountains; on the west by the Coast Ranges; and to the south by the Tehachapi Mountains. Airflow in the SJVAB is primarily influenced by marine air that enters through the Carquinez Straits where the San Joaquin-Sacramento Delta empties into the San Francisco Bay. The region's topographic features restrict air movement through and out of the basin. As a result, the SJVAB is highly susceptible to pollutant accumulation over time. Frequent transport of pollutants into the SJVAB from upwind sources also contributes to poor air quality.

Wind speed and direction play an important role in dispersion and transport of air pollutants. During summer periods, winds usually originate from the north end of the San Joaquin Valley and flows in a south-southeasterly direction through the valley, through the Tehachapi pass and into the neighboring Southeast Desert Air Basin. During winter months, winds occasionally originate from the south end of the valley and flow in a north-northwesterly direction. Also, during winter months, the valley experiences light, variable winds, less than 10 miles per hour (mph). Low wind speeds, combined with low inversion layers in the winter, create a climate conducive to high concentrations of certain air pollutants.

The SJVAB has an inland Mediterranean climate that is characterized by warm, dry summers and cooler winters. Summer high temperatures often exceed 100 degrees Fahrenheit, averaging from the low 90s in the northern part of the valley to the high 90s in the south. The daily summer temperature variation can be as high as 30 degrees Fahrenheit. Winters are for the most part mild and humid. Average high temperatures during the winter are in the 50s, while the average daily low temperature is in the 40s.

The vertical dispersion of air pollutants in the valley is limited by the presence of persistent temperature inversions. Air temperatures usually decrease with an increase in altitude. A reversal of this atmospheric state, where the air temperature increases with height, is termed an inversion. Air above and below an inversion does not mix because differences in air density restrict air pollutant dispersal.

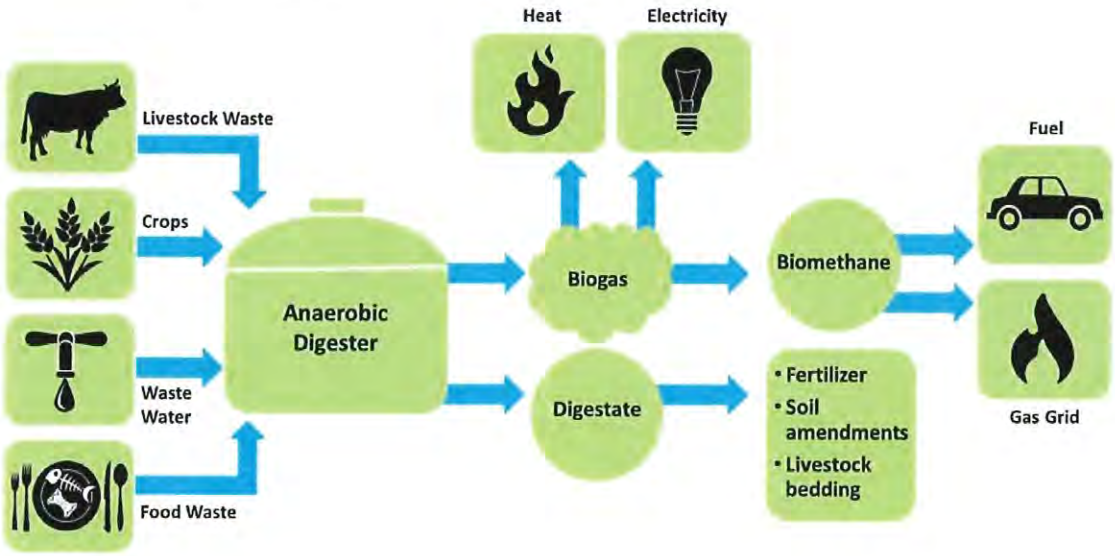
(a - d) Less Than Significant Impact. Construction related emissions are temporary in nature. Graders, loaders, excavators, backhoes, concrete trucks, pumper trucks, water trucks, hauling trucks and dump trucks will be utilized for the duration of the construction phase. While yes, these vehicles could potentially contribute negatively to the area air quality, once again it will be for a short duration in the big picture.

Construction emissions will predominately be related to $PM_{2.5}$ and PM_{10} (Particulate Matter of 2.5 and 10 microns in size respectively) from fugitive emissions. $PM_{2.5}$ and PM_{10} emissions will occur during any earthmoving (grading) activities. There will also be a limited increase in diesel emissions from the heavy equipment associated with the grading and construction activities. These emissions will be temporary in nature for the duration of the construction process.

Dairy digesters have been an increasing trend over the last few years for dairy facilities to reduce odor emissions and to generate on-site electricity from a renewable resource. The proposed project in this case will extend from the existing digester through a pipeline system to a collection point to provide biogas for PG&E to produce electricity for off-site infrastructure.

An anaerobic digester refers to an airtight vessel where anaerobic bacteria (those that thrive in the absence of oxygen) are used to digest (decompose or breakdown) an organic, carbon based, solid waste slurry, such as cow manure or food wastes, into smaller molecular weight compounds with lower residual odor. The anaerobic bacteria generate both methane (CH_4 also called natural gas) and carbon dioxide (CO_2) gases in near equal volume as they digest the waste material. In modern anaerobic digesters, this biogas is captured and is used for energy recovery, typically in an internal combustion engine coupled to an electric generator. During the subsequent combustion, the methane is converted to carbon dioxide, releasing energy to drive the engine or provide heat for other uses. The process is widely used as a source of renewable energy.

The anaerobic digester will capture methane from decomposing manure sourced from the dairy facility and then converted to electricity which will be sold to an off-site electrical provider. Anaerobic digestion is a process by which microorganisms break down biodegradable material in the absence of oxygen. The process is a three-step procedure. First is the decomposition of plant or animal matter, this step breaks down the organic material to usable sized molecules such as sugar. The second step is the conversion of decomposed matter to organic acids. Lastly, those acids are converted to methane gas. The biogas generated from the site will eventually be turned in to electricity which will then be sold to the power grid.



Sensitive receptors are facilities that "house or attract children, the elderly, people with illnesses or others who are especially sensitive to the effects of air pollutants. Hospitals, schools, convalescent facilities and residential areas are examples of sensitive receptors." (GAMAQI, 2002).

The only residences in the immediate vicinity of the project are those found on the dairy, which are for the workers of the facility. There are other agricultural operations and residences in the area but are sufficiently spread out so as not to pose an over concentration of sensitive receptors.

Given the distances between habitation and uses, odors are not substantially concentrated. As the odors spread from their source, they tend to disperse and dilute. While there might be "faint traces" of odors, they are not as concentrated. This is typical of this type of operation.

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 and 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 U.S. 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 direct 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 a native wildlife nursery site?	☐	☐	☒	☐
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?	☐	☐	☐	☒

Responses:

The area where the facility's located includes a large portion of western Madera County. The climate of this region is characterized by hot, dry summers and cool, wet winters. Urban areas are centered within the cities of Madera and Chowchilla, while the remaining portions of the area are characterized as agricultural lands. The San Joaquin River delineates the area boundary to the south and west, while the northern boundary is established by the Chowchilla River. The Fresno River and Chowchilla Canal are other major water bodies in the area.

The evaluation of biological resources includes a programmatic review of vegetation and wildlife habitat, special-status species, and wetland habitats that may meet the criteria for jurisdictional waters of the U.S. which occur or potentially occur in the area. The results of this programmatic evaluation are based upon literature searches and database queries of known and existing data.

The area surrounding the proposed project site has been disturbed through agricultural uses, roads, and residential unit development.

(a) Less Than Significant Impact. While species have been identified as being potentially in the quadrangle of this project, no impacts to those species have been identified because of this project, directly or indirectly. A vernal pool is defined as a contained basin depression lacking a permanent above ground outlet. They contain water for a few months in the spring and early summer. There are no vernal pools or habitats identified on the project site, nor any that would be impacted directly or indirectly because of this project. There are no federally identified wetlands on the project site. The chances of any of the species identified in the area being on this parcel are minimal at best.

There are other species indicated in adjacent quadrangles, but again due to the limited nature of this project and the fact that the land uses of the area have been occurring for countless years, it is less than likely that the proposed use will have any impacts to those species.

Special-status species are those plants and animals that, because of their recognized rarity or vulnerability to various causes of habitat loss or population decline, are recognized in some fashion by federal, state, or other agencies as deserving special consideration. Some of these species receive specific legal protection pursuant to federal or state endangered species legislation. Others lack such legal protection but have been characterized as "sensitive" on the basis of adopted policies and expertise of state resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities, and special districts to meet local conservation objectives.

Special Status Species is a general term that refers to all taxa tracked by the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB), the USFWS IPac, and the CNPS (Resource Agencies), regardless of their legal or protection status. Special Status Species include:

- Plants and animals that are legally protected or proposed for protection under the California Endangered Species Act (CESA) or Federal Endangered Species Act (FESA);
- Plants and animals defined as endangered or rare under the California Environmental Quality Act (CEQA) §15380;
- Animals designated as species of special concern by the U.S. Fish and Wildlife Service (USFWS) or California Department of Fish and Game (CDFG);
- Animals listed as "fully protected" in the Fish and Game Code of California (§3511, §4700, §5050 and §5515); and

- Plants listed in the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Vascular Plants of California.

Vernal pools are temporary pools of water that provide habitats. They are considered to be a distinctive type of wetland usually devoid of fish, and thus allow the safe development of natal amphibian and insect species. Most vernal pools are dry for at least part of the year. There are no indications of vernal pools present on the project site.

While the list below shows a species listed in the quadrangle in which this project is located, this does not necessarily mean that this species is actually located on the project site either in a habitat setting or migrating through. The CNDB only lists species in the quadrangle where the project is located, but this never is an indication of whether these species are or ever were on the project site. The Department of Fish and Wildlife was contacted in the early stages of the project for review and comment on the proposal. They did not provide any feedback as to whether there were any potential impacts on the site.

A review of the Department of Fish and Wildlife's databases for special status species has identified the following species:

Species	Federal Listing	State Listing	Dept. of Fish and Game Listing	CNPS Listing
Swainson's Hawk	None	Threatened	None	None
Mountain Plover	None	None	SSC	None
Tricolored Blackbird	None	Threatened	SSC	None
San Joaquin Kit Fox	Endangered	Threatened	None	None
American Badger	None	None	SSC	None
Blunt Nosed Leopard Lizard	Endangered	Endangered	FP	None
Coast Horned Lizard	None	None	SSC	None
Valley Sacaton Grassland	None	None	None	None
Valley Sink Scrub	None	None	None	None
Heartscale	None	None	None	1B.1
Lesser Saltscale	None	None	None	1B.1
Subtle Orache	None	None	None	1B.2
Palmale-bracted Bird's-beak	Endangered	Endangered	None	1B.1
California Alkali Grass	None	None	None	1B.2

Recurved Larkspur	None	None	None	1B.2

Firebaugh NE Quadrangles

List 1A: Plants presumed extinct

List 1B: Plants Rare, Threatened, or Endangered in California and elsewhere.

List 2: Plants Rare, Threatened, or Endangered in California, but more numerous elsewhere

List 3 Plants which more information is needed – a review list

List 4: Plants of Limited Distributed - a watch list

Ranking

0.1 – Seriously threatened in California (high degree/immediacy of threat)

0.2 – Fairly threatened in California (moderate degree/immediacy of threat)

0.3 – Not very threatened in California (low degree/immediacy of threats or no current threats known)

SSC Species of Special Concern

WL Watch List

Surrounding quadrangles have the same species indicated.

Movement corridors are characterized by the regular movements of one or more species through relatively well-defined landscape features. They are typically associated with ridgelines, wetland complexes, and well-developed riparian habitats.

The area surrounding the parcel site has been developed for agricultural, commercial and residential purposes, so the chances of habitats being present for nesting or migratory species are minimal.

(b & c) No Impact. No impacts have been identified as a result of this project.

(d) Less Than Significant Impact. While there might be some disruption in migration patterns during construction of the facilities, once completed there should be minimal if any impacts as a result of operations.

(e & f) No Impact. No impacts have been identified as a result of this project.

General Information

Effective January 1, 2007, Senate Bill 1535 took effect that has changed de minimis findings procedures. The Senate Bill takes the de minimis findings capabilities out of the Lead Agency hands and puts the process into the hands of the California Department of Fish and Wildlife (formally the California Department of Fish and Game). A Notice of Determination filing fee is due each time a NOD is filed at the jurisdictions Clerk's Office. The authority comes under Senate Bill 1535 (SB 1535) and Department of Fish and Wildlife Code 711.4. Each year the fee is evaluated and has the potential of increasing. For the most up-to-date fees, please refer to: http://www.dfg.ca.gov/habcon/ceqa/ceqa_changes.html.

The Valley Elderberry Longhorn Beetle (VELB) was listed as a threatened species in 1980. Use of the elderberry bush by the beetle, a wood borer, is rarely apparent. Frequently, the only exterior evidence of the elderberry's use by the beetle is an exit hole created by the larva just prior to the pupal stage. According to the USFWWS, the Valley Elderberry Longhorn Beetle habitat is primarily in communities of clustered Elderberry plants located within riparian habitat. The USFWS stated that VELB habitat does not include every Elderberry plant in the Central Valley, such as isolated, individual plants, plants with stems that are less than one inch in basal diameter or plants located in upland habitat.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

Responses:

Cultural resources can be defined as buildings, sites, structures, objects, or places of importance that may have historical, architectural, archaeological, cultural, or scientific importance (including those associated with Native Americans or Native American activities). Preservation of the County's unique cultural heritage should be considered when planning for future development of the area.

California Environmental Quality Act (CEQA) §15064.5 mainly describes historical and archaeological resources that need to be taken into consideration for evaluating impacts from any proposed project. The primary factor is determining if there are any potential resources on site, and this is typically done through consultation of tribal members with knowledge of the site or its surroundings, as well as review of jurisdictional documentation. In some cases, tribal members will request any number of site inspections to determine if there are any Native American resources.

The western area of the County was originally inhabited by the Northern Valley Yokuts. Ethnographic information about this group is sparse due to the early dissemination of the aboriginal populations in the lower San Joaquin Valley.

The Northern Valley Yokuts territory is defined roughly by the crest of the Diablo Range on the west, and the foothills of the Sierra Nevada on the east. The southern boundary is approximately where the San Joaquin River bends northwards, and the northern boundary is roughly halfway between the Calaveras and Mokelumne Rivers.

Principle settlements were located on the tops of low mounds, on or near the banks of larger watercourses. Settlements were composed of single-family dwellings, sweathouses, and ceremonial assembly chambers. Dwellings were small and lightly constructed, semi-subterranean and oval. The public structures were large, and earth covered.

With the development of Spanish Ranchos throughout California, cattle husbandry was prevalent, while dairy farms remained crude and sparse.

(a - c) No Impact. No impacts have been identified as a result of this project. The area surrounding the project site has been developed for agricultural purposes for years with significant ground disturbances as a result (infrastructure, roadways, agricultural uses, etc.).

Most of the archaeological survey work in the County has taken place in the foothills and mountains. This does not mean, however, that no sites exist in the western part of the County, but rather that this area has not been as thoroughly studied. There are slightly more than 2,000 recorded archaeological sites in the county, most of which are located in the foothills and mountains. Recorded prehistoric artifacts include village sites, camp sites, and bedrock milling stations, pictographs, petroglyphs, rock rings, sacred sites, and resource gathering areas. Madera County also contains a significant number of potentially historic sites, including homesteads and ranches, mining and logging sites and associated features (such as small camps, railroad beds, logging chutes, and trash dumps).

Public Resource Code 5021.1(b) defines a historic resource as "any object building, structure, site, area or place which is historically significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California." These resources are of such import, that it is codified in CEQA (PRC §21000) which prohibits actions that "disrupt, or adversely affect a prehistoric or historic archaeological site or a property of historical or cultural significance to a community or ethnic or social groups; or a paleontological site except as part of a scientific study."

Archaeological importance is generally, although not exclusively, a measure of the archaeological research value of a site which meets one or more of the following criteria:

- Is associated with an event or person of recognized significance in California or American history or of recognized scientific importance in prehistory.
- Can provide information which is both of demonstrable public interest and useful in addressing scientifically consequential and reasonable archaeological research questions.
- Has a special or particular quality such as oldest, best example, largest, or last surviving example of its kind.

- Is at least 100 years old and possesses substantial stratigraphic integrity (i.e. it is essentially undisturbed and intact).

- Involves important research questions that historic research has shown can be answered only with archaeological methods.

As a result of AB 52, which requires jurisdictions to notify Tribal Governments that request such outreach, the County alerted Tribal Entities that requested initial review packets.

If any of the tribes did respond and requested additional reviews, consultations or studies of the site prior to further processing of the project, the County would have coordinated contact with the applicant and tribal representatives.

If any resources were found on site, their exact nature and location would not be identified by the County for safety, confidentiality, and respect of the tribal resource. That said, mitigations would be incorporated in conjunction with tribal input as necessary.

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

Responses:

PG&E is the primary provider of energy to the area, and by all accounts has sufficient supplies to support growth within the County.

Construction vehicles and construction worker vehicles utilize fossil fuels. The increased fuel consumption during the construction would be of temporary nature and would not require any additional fuel or energy of any significant value.

(a - b) Less Than Significant Impact. It is anticipated that, at least at the operational level, that there will be a slight increase in energy usage (lighting, energy usage, etc.).

During construction, there will be construction vehicles and equipment being utilized on site. The fuel consumption will be minimal in light of the whole and limited to the time frame around the construction.

Individual vehicle gas mileage varies and are not a direct impact related to this project.

In 2003, the US consumed 147 trillion BTU (British Thermal Units – a unit of measure of the amount of energy required to heat one pound of water by one degree Fahrenheit) of energy from landfill gas, which equated to 0.6% of the total US natural gas consumption. When biogas is used, many advantages arise. As an example, in the US, utilization of biogas could generate enough electricity to meet up to three percent of the electrical expenditures.

The U.S. Energy Information Administration estimates that in 2018 about 270 billion cubic feet of landfill gas was collected at about 352 US landfills and burned to generate about 11 billion kilowatt-hours (kWh) of electricity, or about 0.3% of total US utility-scale electricity generation in 2018. The same agency estimates that also in 2018, about 29 large dairies and livestock operations in the United States produced a total of about 266 million kilowatt-hours (kWh) (or 0.3 billion kilowatt-hours (kWh)) of electricity from biogas.

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 Zone 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 geological unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

Responses:

The regional geology of the area is influenced by the Great Valley, a topographically dominant northwest-trending valley approximately 50 miles wide and 400 miles long that formed between the Coast Range Mountains to the west and the Sierra Nevada Mountains to the east. The Great Valley itself is divided into northern and southern portioned, named the Sacramento and San Joaquin Valleys respectively. The western portion of the county, which consists of the rich alluvial bottom lands of the San Joaquin Valley, is predominately

agricultural. Most of the County's agricultural activities occur here, due to the level topography, prime cultivable soils, and excellent drainage.

Soils in the western (or valley) portion of Madera County can generally be placed in one of three major groups: recent alluvial fans and flop plains, the basin area, and older alluvial fans and terraces. The recent alluvial fans are gently sloping cone-shaped features located primarily along the Chowchilla, Fresno and San Joaquin Rivers. Flood plain soils along the San Joaquin River resulted primarily from flood events now largely controlled by Friant Dam. The basin area is located in the western portion of the valley and is nearly level. The area contains fine soil carried beyond the alluvial fans and deposited in the slower water of the flatlands. The older alluvial fans and terraces are areas that no longer receive flood deposits and have been subject to erosion and weathering in the time since their deposition.

The topography of the site is relatively level

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(a i - iii) Less than Significant Impact. Madera County is divided into two major physiographic and geologic provinces: The Sierra Nevada Range and the Central Valley. The Sierra Nevada physiographic province in the northeastern portion of the county is underlain by metamorphic and igneous rock. It consists mainly of homogenous types of granitic rocks, with several islands of older metamorphic rock. The central and western parts of the county are part of the Central Valley province, underlain by marine and non-marine sedimentary rocks.

The foothill area of the County is essentially a transition zone, containing old alluvial soils that have been dissected by the west-flowing rivers and streams which carry runoff from the Sierra Nevadas.

Seismicity varies greatly between the two major geologic provinces represented in Madera County. The Central Valley is an area of relatively low tectonic activity bordered by mountain ranges on either side. The Sierra Nevada's, partly within Madera County, are the result of movement of tectonic plates which resulted in the creation of the mountain range. The Coast Ranges on the west side of the Central Valley are also a result of these forces, and continued movement of the Pacific and North American tectonic plates continues to elevate the ranges. Most of the seismic hazards in Madera County result from movement along faults associated with the creation of these ranges.

There are no active or potentially active faults of major historic significance within Madera County. The County does not lie within any Alquist Priolo Special Studies Zone for surface faulting or fault creep.

However, there are two significant faults within the larger region that have been and will continue to be, the principal sources of potential seismic activity within Madera County.

San Andreas Fault: The San Andreas Fault lies approximately 45 miles west of the county line. The fault has a long history of activity and is thus a concern in determining activity in the area.

Owens Valley Fault Group: The Owens Valley Fault Group is a complex system containing both active and potentially active faults on the eastern base of the Sierra Nevada Range. This group is located approximately 80 miles east of the County line in Inyo County. This system has historically been the source of seismic activity within the County.

The *Draft Environmental Impact Report* for the state prison project near Fairmead identified faults within a 100-mile radius of the project site. Since Fairmead is centrally located along Highway 99 within the county, this information provides a good indicator of the potential seismic activity which might be felt within the County. Fifteen active faults (including the San Andreas and Owens Valley Fault Group) were identified in the *Preliminary Geotechnical Investigation.* Four of the faults lie along the eastern portion of the Sierra Nevada Range, approximately 75 miles to the northeast of Fairmead. These are the Parker Lake, Hartley Springs, Hilton Creek and Mono Valley Faults. The remaining faults are in the western portion of the San Joaquin Valley, as well as within the Coast Range, approximately 47 miles west of Fairmead. Most of the remaining 11 faults are associated with the San Andreas, Calaveras, Hayward and Rinconada Fault Systems which collectively form the tectonic plate boundary of the Central Valley.

In addition, the Clovis Fault, although not having any historic evidence of activity, is considered to be active within quaternary time (within the past two million years), is considered potentially active. This fault line lies approximately six miles south of the Madera County line in Fresno County. Activity along this fault could potentially generate more seismic activity in Madera County than the San Andreas or Owens Valley fault systems. However, because of the lack of historic activity along the Clovis Fault, there is inadequate evidence for assessing maximum earthquake impacts.

Seismic ground shaking, however, is the primary seismic hazard in Madera County because of the County's seismic setting and its record of historical activity (General Plan Background Element and Program EIR). The project represents no specific threat or hazard from seismic ground shaking, and all new construction will comply with current local and state building codes. Other geologic hazards, such as landslides, lateral spreading, subsidence, and liquefaction have not been known to occur within Madera County.

According to the Madera County General Plan Background Report, groundshaking is the primary seismic hazard in Madera County. The valley portion of Madera County is located on alluvium deposits, which tend to experience greater groundshaking intensities than areas located on hard rock. Therefore, structures located in the valley will tend to suffer greater damage from groundshaking than those located in the foothill and mountain areas.

Liquefaction is a process whereby soil is temporarily transformed to a fluid form during intense and prolonged ground shaking. According to the Madera County General Plan Background Report, although there are areas of Madera County where the water table is at 30 feet or less below the surface, soil types in the area are not conducive to liquefaction because they are either too coarse in texture or too high in clay content; the soil types mitigate against the potential for liquefaction.

While the County has not been affected directly by any known recent earthquakes, there still stands the possibility of being affected by those elsewhere. The 2019 Ridgecrest earthquake (Ridgecrest, CA near China Lake Military Installation) is an example of this. While the quake was centered in proximity to Ridgecrest, Madera County and surrounding communities felt the vibrations.

(a – iv) No Impact. The area is topographically flat, so landslides are not likely.

(b) Less Than Significant Impact. The parcel is subject to potential erosion due to rain events. Due to the topographically flat nature of the project site, the erosion may be minimal. The area surrounding where the venue is on the property is paved, so rainfall will flow off in accordance with the sloping nature of the paved area, no matter how minimal the slope is.

(c - f) No impact. There are no known impacts that will occur as a direct or indirect result of this project.

The Project site and surrounding areas do not contain substantial grade changes. Risk of landslides, lateral spreading, subsidence, liquefaction, and collapse are minimal. The Project does not propose significant alteration of the topography of the site and it does not involve development of structures or facilities that could be affected by expansive soils or expose people to substantial risks to life or property.

No septic tanks or alternative wastewater disposal systems are proposed as a part of this project.

The proposed project is not in an area known for paleontological resources.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
VIII. GREENHOUSE GAS EMISSIONS Would the project:				
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?	☐	☐	☒	☐

Responses:

The Earth's climate has been warming for the past century. It is believed that this warming trend is related to the release of certain gases into the atmosphere. Greenhouse gases (GHG) absorb infrared energy that would otherwise escape from the Earth. As the infrared energy is absorbed, the air surrounding the Earth is heated. An overall warming trend has been recorded since the late 19th century, with the most rapid warming occurring over the past two decades. The 10 warmest years of the last century all occurred within the last 15 years. It appears that the decade of the 1990s was the warmest in human history (National Oceanic and Atmospheric Administration, 2010). Human activities have been attributed to an increase in the atmospheric abundance of greenhouse gases.

The primary factors that determine air quality are the locations of air pollutant sources and the amounts of pollutants emitted. Meteorological and topographical conditions, however, also are important. Factors such as wind speed and direction, and air temperature gradients interact with physical landscape features to determine the movement and dispersal of criteria air pollutants.

The area within Madera County lies within the San Joaquin Valley Air Basin (SJVAB), basically a flat area bordered on the east by the Sierra Nevada Mountains; on the west by the Coast Ranges; and to the south by the Tehachapi Mountains. Airflow in the SJVAB is primarily influenced by marine air that enters through the Carquinez Straits where the San Joaquin-Sacramento Delta empties into the San Francisco Bay. The region's topographic features restrict air movement through and out of the basin. As a result, the SJVAB is highly susceptible to pollutant accumulation over time. Frequent transport of pollutants into the SJVAB from upwind sources also contributes to poor air quality.

Wind speed and direction play an important role in dispersion and transport of air pollutants. During summer periods, winds usually originate from the north end of the San Joaquin Valley and flows in a south-southeasterly direction through the valley, through the Tehachapi pass and into the neighboring Southeast Desert Air Basin. During winter months, winds occasionally originate from the south end of the valley and flow in a north-northwesterly direction. Also, during winter months, the valley experiences light, variable winds, less than 10 miles per hour (mph). Low wind speeds, combined with low inversion layers in the winter, create a climate conducive to high concentrations of certain air pollutants.

The SJVAB has an inland Mediterranean climate that is characterized by warm, dry summers and cooler winters. Summer high temperatures often exceed 100 degrees Fahrenheit, averaging from the low 90s in the northern part of the valley to the high 90s in the south. The daily summer temperature variation can be as high as 30 degrees Fahrenheit. Winters are for the most part mild and humid. Average high temperatures during the winter are in the 50s, while the average daily low temperature is in the 40s.

The vertical dispersion of air pollutants in the valley is limited by the presence of persistent temperature inversions. Air temperatures usually decrease with an increase in altitude. A reversal of this atmospheric state, where the air temperature increases with height, is termed an inversion. Air above and below an inversion does not mix because differences in air density restrict air pollutant dispersal.

Commonly identified greenhouse gases and sources include: Carbon dioxide (CO_2), Methane (CH_4), Nitrous Oxide (N_2O), water vapor, Ozone (O_3), Chlorofluorocarbons (CFC_s), Hydrofluorcarbons (HFC_s), Perfluorocarbons (PFC_s), and Sulfur hexafluoride (SF_6).

Emissions of GHGs contributing to global climate change are largely attributable to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. About three-quarters of human emissions of CO_2 to the global atmosphere during the past 20 years are due to fossil fuel burning. Atmospheric concentrations of CO_2, CH_4, and N_2O have increased 31 percent, 151 percent, and 17 percent respectively since the year 1750 (CEC 2008). GHG emissions are typically expressed in carbon dioxide-equivalents (CO_2e), based on the GHG's Global Warming Potential (GWP). The GWP is dependent on the lifetime, or persistence, of the gas

molecule in the atmosphere. For example, one ton of CH_4 has the same contribution to the greenhouse effect as approximately 21 tons of CO_2. Therefore, CH_4 is a much more potent GHG than CO_2.

The impacts of climate change have yet to fully manifest. A hotter plant is causing the sea level to rise, disease to spread to non-endemic areas, as well as more frequent and severe storms, heat events, and air pollution episodes. Also affected are agricultural production, the water supply, the sustainability of ecosystems, and therefore the economy. The magnitude of these impacts is unknown.

(a - b) Less than Significant Impact. GHG emissions are expected via manure generation as a matter of course of the dairy. However, the digester project has the potential of reducing the release of GHG emissions. This will be accomplished through the capture of the methane produced through decomposition and cycle it through an enclosed system and literally piped to infrastructure that will allow the resultant biogas to be utilized to generate energy. As such, this is considered a renewable energy source.

Greenhouse Gas (GHG) Emissions: The potential effect of greenhouse gas emission on global climate change is an emerging issue that warrants discussion under CEQA. Unlike the pollutants discussed previously that may have regional and local effects, greenhouse gases have the potential to cause global changes in the environment. In addition, greenhouse gas emissions do not directly produce a localized impact but may cause an indirect impact if the local climate is adversely changed by its cumulative contribution to a change in global climate. Individual development projects contribute relatively small amounts of greenhouse gases that when added to other greenhouse gas producing activities around the world would result in an increase in these emissions that have led many to conclude is changing the global climate. However, no threshold has been established for what would constitute a cumulatively considerable increase in greenhouse gases for individual development projects. The State of California has taken several actions that help to address potential global climate change impacts.

Assembly Bill 32 (AB 32), the California Global Warming Solutions Act of 2006, outlines goals for local agencies to follow in order to bring Greenhouse Gas (GHG) emissions to 1990 levels (a 25% overall reduction) by the year 2020. The California Air Resources Board (CARB) holds the responsibility of monitoring and reducing GHG emissions through regulations, market mechanisms and other actions. A Draft Scoping Plan was adopted by CARB in order to provide guidelines and policy for the State to follow in its steps to reduce GHG. According to CARB, the scoping plan's GHG reduction actions include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system.

Following the adoption of AB 32, the California State Legislature adopted Senate Bill 375, which became the first major bill in the United States that would aim to limit climate change by linking directly to "smart growth" land use principles and transportation. It adds incentives for projects which intend to be in-fill, mixed use, affordable and self-contained developments. SB 375 includes the creation of a Sustainable Communities Strategy (SCS) through the local Metropolitan Planning Organizations (MPO) in order to create land use patterns which reduce overall emissions and vehicle miles traveled. Incentives include California Environmental Quality Act streamlining and possible exemptions for projects which fulfill specific criteria.

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 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 a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

Responses:

The western part of Madera County has historically experienced several concerns related to hazardous materials. The dominant land use in the area consists of existing dairies and irrigated agricultural crop production. Additional land uses include agricultural crop processing facilities, grain storage facilities and irrigation water supply canals and reservoirs.

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency, or if it has characteristics defined as hazardous by such an agency. The California Code of Regulations (CCR) defines a hazardous material as a substance that, because of physical or chemical properties, quantity, concentration, or other characteristics, may either (1) cause an increase in mortality or an increase in serious, irreversible, or incapacitating illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of, or otherwise managed (CCR Title 22 Division 4.5 Chapter 10 Article 2 §66260.10).

Hazardous wastes are defined in the same manner. Hazardous wastes are hazardous materials that no longer have practical use, such as substances that have been discarded, discharged, spilled, contaminated or are being stored prior to proper disposal. Hazardous materials and hazardous wastes are classified according to four properties: toxicity, ignitability, corrosively, and reactivity.

The use and management of chemicals, including hazardous materials, within the agricultural areas of the County are dominated by the application of fertilizer and pesticides for crop production. Hazardous materials management in agricultural areas also includes storage and use of hydrocarbon fuel. Diesel fuel is used to power mobile farm equipment (trucks, tractors, combines) and stationary equipment, including irrigation pumps and groundwater well pumps. Gasoline is stored at some facilities. Other hazardous materials used at dairies can include chlorine and other disinfectants, oils and lubricants, and antifreeze.

The greatest wildland fire hazards exist in areas with quickly ignitable, dense understory vegetation, such as grasses, adjacent to slower and hotter burning fuels such as trees. These conditions exist in varying degrees over approximately two-thirds of Madera County, to the north and east of the Madera Canal.

The storage, use, generation, transport and disposal of hazardous materials and waste are highly regulated under federal and state laws and regulations. Laws and regulations established by the USEPA are enforced by the California Environmental Protection Agency (CAL-EPA). CAL-EPA also oversees the unified hazardous waste and hazardous materials management regulatory program. California Health and Safety Code Section 25501 defines a hazardous material as "any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment." Section 25092.6 of the CEQA Statutes requires the Lead Agency to consult the lists compiled pursuant to Government Code Section 65962.5 to determine whether a proposed project and any alternatives are identified as contaminated sites.

(a - b) Less Than Significant with Mitigation Incorporation. The western part of Madera County has historically experienced several concerns related to hazardous materials. Typically, these hazards are in line with agriculturally based operations (fertilizers, pesticides, equipment oils and grease, etc.). The use and management of chemicals, including hazardous materials, within the agricultural areas of the County are dominated by the application of fertilizer and pesticides for crop production.

Construction activities would likely require use of limited quantities of hazardous materials such as fuels for construction equipment, oils, lubricants, and the like. The improper use, storage, handling, transport, or disposal of these materials could result in accidental release. Due to the minimal amounts typically in these vehicles, no real impact is anticipated.

Operationally for this project, there is no anticipation of any new hazardous materials. There are materials that can be considered harmful or hazardous to some degree as a matter of the whole dairy (fuels for vehicles and equipment, oils & grease for engines, pesticides for crops, and the like), but they are minimal in light of the whole.

Handling of hazardous materials is covered by federal and state laws which minimize worker safety risks from both physical and chemical hazards in the workplace. Businesses are required to submit a Hazardous Materials Management Plan with the local CUPA which performs routine inspections to ensure compliance with regulations. Transportation of materials is covered by the Department of Transportation (DOT).

Any hazardous material because of its quantity, concentration, physical or chemical properties, pose a significant present or potential hazard to human health and safety, or the environment the California legislature adopted Article I, Chapter 6.95 of the Health and Safety Code, Sections 25500 to 25520 that requires any business handling or storing a hazardous material or hazardous waste to establish a Business Plan. The information obtained from the completed Business Plans will be provided to emergency response personnel for a better-prepared emergency response due to a release or threatened release of a hazardous material and/or hazardous waste.

Business owners that handle or store a hazardous material or mixtures containing a hazardous material, which has a quantity at any one time during the year, equal to or greater than:

1) A total of 55 gallons,
2) A total of 500 pounds,
3) 200 cubic feet at standard temperature and pressure of compressed gas,
4) Any quantity of Acutely Hazardous Material (AHM).

Assembly Bill AB 2286 requires all business and agencies to report their Hazardous Materials Business Plans to the Certified Unified Program Agency (CUPA) information electronically at http://cers.calepa.ca.gov

(c) Less Than Significant Impact. While the operation is not utilizing materials that could emit odors that could be harmful, it is not within a quarter mile of a school site. Dairies by their very nature have odors one would expect (manure, etc.) that in and of themselves may be annoying to some, they are not necessarily harmful

(d) No Impact. According to the Department of Toxic Substance Control (DTSC), there are no sites on or near this project site that is or was hazardous waste sites.

(e) No Impact. There are no known airstrips within the vicinity of the project and is not located near either of the known established airports within the County (Chowchilla and Madera).

(f, g) No Impact. No impacts identified as a result of this project.

The California Department of Forestry and Fire Protection (Cal-Fire) provides for protection services to most of Madera County.

County services such as fire suppression continue to remain inadequate and seriously underfunded. While not normally an environmental concern, new residential development in the foothills represents a heightened potential for fire risks, risks that the County does not have the resources to counter. While new development is required to maintain a fire safe area around each home site, little if any efforts are extended to the majority of large rural home sites to maintain a fire safe perimeter.

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 substantially degrade surface or groundwater 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 release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

Responses:

The area where the project is proposed consists of an existing dairy facility. Portions of the actual facility are paved. Large portions of the supporting parcels are in agricultural crop rotation.

(a & b) No Impact. No impacts have been identified as a result of this project.

Groundwater provides almost the entire urban and rural water use and about 75 percent of the agricultural water use in the Valley Floor. The remaining water demand is met with surface water. Almost all of the water use in the Foothills and Mountains is from groundwater with only three small water treatment plants relying on surface water from the San Joaquin River and its tributaries.

(c i - iii) Less Than Significant Impact. The area where the project is located is paved, so water runoff is expected. It is not expected that the project will substantially create runoff that exceeds the stormwater drainage capacity nor produced polluted runoff.

The rate and amount of surface runoff from the proposed project would not be substantially increased as a result of the project.

(c – iv) No Impact. No impacts have been identified as a result of this project.

(d) No Impact. A seiche is an occasional and sudden oscillation of the water of a lake, bay or estuary producing fluctuations in the water level and caused by wind, earthquakes or changes in barometric pressure. A tsunami (from the Japanese language, roughly translated as "harbor wave") is an unusually large sea wave produced by seaquake or undersea volcanic eruption. According to the California Division of Mines and Geology, there are no active or potentially active faults of major historic significance within Madera County. Additionally, there are no bodies of water (lakes, etc.) within proximity of the site. Madera County is geographically located in the center of the state, therefore not affected by tsunamis.

(e) No Impact. No impacts identified as a result of this project.

General Information

Groundwater quality contaminants of concern in the Valley Floor include high salinity (total dissolved solids), nitrate, uranium, arsenic, methane gas, iron, manganese, slime production, and dibromochloropropane with the maximum contaminant level exceeded in some areas. Despite the water quality issues noted above, most of the groundwater in the Valley Floor is of suitable quality for irrigation. Groundwater of suitable quality for public consumption has been demonstrated to be present in most of the area at specific depths.

Groundwater quality contaminants of concern in the Foothills and Mountains include manganese, iron, high salinity, hydrogen sulfide gas, uranium, nitrate, arsenic, and methylbutylethylene (MTBE) with the maximum concentration level being exceeded in some areas. Despite these problems, there are substantial amounts of good-quality groundwater in each of the areas evaluated in the Foothills and Mountains. Iron and manganese are commonly removed by treatment. Uranium treatment is being conducted on a well by the Bass Lake Water Company.

A seiche is an occasional and sudden oscillation of the water of a lake, bay or estuary producing fluctuations in the water level and caused by wind, earthquakes or changes in barometric pressure. A tsunami (from the Japanese language, roughly translated as "harbor wave") is an unusually large sea wave produced by seaquake or undersea volcanic eruption. According to the California Division of Mines and Geology, there are no active or potentially active faults of major historic significance within Madera County. As this property is not located near any bodies of water, no impacts are identified.

The flood hazard areas of the County of Madera are subject to periodic inundation which results in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare. These flood losses are caused by uses that are inadequately elevated, floodproofed, or protected from flood damage. The cumulative effect of obstruction in areas of special flood hazards which increase flood height and velocities also contribute to flood loss.

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

Responses:

Surrounding land use is predominately agriculture. The project is located on an existing dairy. The applicant is requesting to install a double-lined, Tier 1 wastewater pond which will be covered and used as an anaerobic lagoon digester to capture methane; to install low-pressure (7-20psi), underground biogas pipeline on private property for transmission of biogas to a centralized cleanup hub facility (permitted separately through Merced County), where the gas will be further cleaned and injected into a natural gas pipeline.

The project will install biogas equipment on an adjacent pad that will remove H_2S (hydrogen sulfide) impurities from the biogas. The resultant gas will be connected to an existing pre-approved pipeline to a project in Merced which has been approved in Merced.

(a - b) No Impact. No impacts identified as a result of this proposed project.

The project in and of itself is not proposing any changes in land use or zoning. The construction and operations do not propose any changes to existing land uses. Nor will it require the removal of any crops or land as a result of the project.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XII. MINERAL RESOURCES Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Responses:

(a - b) No Impact. There are no known minerals in the vicinity of the project site.

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 ordinances, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Responses:

The proposed project is located in an area of western Madera County, or more specifically, the area of the County considered most likely to accommodate future growth in agricultural facilities. The noise sources associated with these types of facilities are mainly agricultural equipment, and vehicles operating on local roadways. Noise levels away from these noise sources can be quite low depending on the amount of nearby human activity.

(a - b) Less than Significant Impact. Operation of the proposed Project would generate low levels of noise from normal operations.

It is not anticipated that the proposed project would generate excessive groundborne vibration or noise level. Operations are anticipated to be similar to those of existing agricultural operations. The project is expected to minimally contribute to groundborne vibration and noise levels in the area.

c) No Impact. This project is not located anywhere near any known airstrips, or near either of the established airports (Chowchilla and Madera).

General Discussion

The Noise Element of the Madera County General Plan (Policy 7.A.5) provides that noise which will be created by new non-transportation noise sources shall be mitigated so as not to exceed the Noise Element noise level standards on lands designated for noise-sensitive uses. However, this policy does not apply to noise levels associated with agricultural operations. All the surrounding properties, while include some residential units, are designated and zoned for agricultural uses. This impact is therefore considered less than significant.

Construction noise typically occurs intermittently and varies depending upon the nature or phase of construction (e.g. demolition/land clearing, grading and excavation, erection). The United States Environmental Protection Agency has found that the average noise levels associated with construction activities typically range from approximately 76 dBA to 84 dBA Leq, with intermittent individual equipment noise levels ranging from approximately 75 dBA to more than 88 dBA for brief periods.

Short Term Noise

Noise from localized point sources (such as construction sites) typically decreases by approximately 6 dBA with each doubling of distance from source to receptor. Given the noise attenuation rate and assuming no noise shielding from either natural or human-made features (e.g., trees, buildings, and fences), outdoor receptors within approximately 400 feet of construction site could experience maximum noise levels of greater than 70 dBA when onsite construction-related noise levels exceed approximately 89 dBA at the project site boundary. Construction activities that occur during the more noise-sensitive eighteen hours could result in increased levels of annoyance and sleep disruption for occupants of nearby existing residential dwellings. As a result, noise-generating construction activities would be considered to have a potentially significant short-term impact. However, with implementation of mitigation measures, this impact would be considered less than significant.

Long Term Noise

Mechanical building equipment (e.g., heating, ventilation and air conditioning systems, and boilers), associated with the proposed structures, could generate noise levels of approximately 90 dBA at 3 feet from the source. However, such mechanical equipment systems are typically shielded from direct public exposure and usually housed on rooftops, within equipment rooms, or within exterior enclosures.

Landscape maintenance equipment, such as leaf blowers and gasoline powered mowers, could result in intermittent noise levels that range from approximately 80 to 100 dBA at 3 feet, respectively. Based on an equipment noise level of 100 dBA, landscape maintenance equipment (assuming a noise attenuation rate of 6 dBA per doubling of distance from the source) may result in exterior noise levels of approximately 75 dBA at 50 feet.

MAXIMUM ALLOWABLE NOISE EXPOSURE FOR
NON-TRANSPORTATION NOISE SOURCES*

		Residential	Commercial	Industrial (L)	Industrial (H)	Agricultural
Residential	AM	50	60	55	60	60
	PM	45	55	50	55	55
Commercial	AM	60	60	60	65	60
	PM	55	55	55	60	55
Industrial (L)	AM	55	60	60	65	60
	PM	50	55	55	60	55
Industrial (H)	AM	60	65	65	70	65
	PM	55	60	60	65	60
Agricultural	AM	60	60	60	65	60
	PM	55	55	55	60	55

*As determined at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards may be applied on the receptor side of noise barriers at the property line.

AM = 7:00 AM to 10:00 PM
PM = 10:00 PM to 7:00 AM
L = Light
H = Heavy

Note: Each of the noise levels specified above shall be lowered by 5 dB for pure tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. These noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).

Vibration perception threshold: The minimum ground or structure-borne vibrational motion necessary to cause a normal person to be aware of the vibration by such direct means as, but not limited to, sensation by touch or visual observation of moving objects. The perception threshold shall be presumed to be a motion velocity of one-tenth (0.1)_inches per second over the range of one to one hundred Hz.

Reaction of People and Damage to Buildings from Continuous Vibration Levels		
Velocity Level, PPV (in/sec)	**Human Reaction**	**Effect on Buildings**
0.006 to 0.019	Threshold of perception; possibility of intrusion	Damage of any type unlikely
0.08	Vibration readily perceptible	Recommended upper level of vibration to which ruins and ancient monuments should be subjected
0.10	Continuous vibration begins to annoy people	Virtually no risk of architectural damage to normal buildings
0.20	Vibration annoying to people in buildings	Risk of architectural damage to normal dwellings such as plastered walls or ceilings
0.4 to 0.6	Vibration considered unpleasant by people subjected to continuous vibrations vibration	Architectural damage and possibly minor structural damage
Source: Whiffen and Leonard 1971		

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XIV. POPULATION AND HOUSING Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and business) 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?	☐	☐	☐	☒

Responses:

There are residences on the property which are for the dairy workers. There are no subdivisions or major population centers in the immediate vicinity.

(a - c) No Impact. No impacts identified as a result of this project.

XV. PUBLIC SERVICES	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 service ratios, response times or other performance objectives for any of the public services:				
i) Fire protection?	☐	☐	☐	☒
ii) Police protection?	☐	☐	☒	☐
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

Responses:

County services such as fire and law enforcement continue to remain inadequate and seriously underfunded. While not normally an environmental concern, new residential development in the foothills represents a heightened potential for fire risks, risks that the County does not have the resources to counter.

(a - i) No Impact. It is not anticipated that there will be any need for additional fire services as it relates to this project.

Madera County Fire Department provides fire protection services to all unincorporated areas of Madera County, which has an estimated 2000 population of 74,734 persons. MCFD provides fire protection services to unincorporated areas of the County. The Fire Department has 17 fire stations, a fleet of 56 apparatus and support vehicles; and 32 career fire suppression personnel and 175 paid call firefighters, and seven support personnel. The Fire Department responds to structure fires, vehicle accidents, medical aide, or any other emergencies. Sever of Madera County's fire stations are staffed 24 hours a day by a full-time career fire captain or fire apparatus engineer, and five of these stations are augmented by paid call firefighters. The remaining 10 fire stations are staffed exclusively by paid call firefighters.

The Madera County Fire Department exists through a contract between Madera County and CalFire (California Department of Forestry and Fire Prevention) and operates six stations for County responses in addition to the state funded CALFIRE stations for state responsibility areas. Under an "Amador Plan" contract, the County also funds the wintertime staffing of four fire seasonal CALFIRE stations. In addition, there are ten paid-call (volunteer) fire companies that operate from their own stations. The administrative, training, purchasing, warehouse, and other functions of the Department operate through a single management team with County Fire Administration.

(a – ii) Less Than Significant Impact. The proposed project in and of itself would not result in any additional demands for police protection with the exception of ancillary need for potential events of vandalism and theft.

Crime and emergency response is provided by the Madera County Sherriff's Department. There will be an incidental need for law enforcement in the events of theft and vandalism on the project site.

County Sherriff's Department personnel are strapped for resources as well. With new development, the potential for criminal activity (including but not limited to: home burglaries, assaults, auto thefts) increases.

Currently, the Madera County's Sherriff's Department provides law enforcement and patrols in the planning area, operating from substations in Oakhurst on Road 425B and the Mountain Government Center in Bass Lake. The Sherriff's Office had no comment for this project.

A Federal Bureau of Investigations 2009 study suggests that there is on average of 2.7 law enforcement officials per 1,000 population for all reporting counties. The number for cities had an average of 1.7 law enforcement officials per 1,000 population.

(a – iii through v) No Impact. No impacts identified as a result of this project.

A project that adds homes and commercial buildings to a community typically increases the need for various municipal services, such as fire and police protection. As the Court of Appeal recently confirmed in *City of Hayward v. Board of Trustees*, that need, though, is not itself an "environmental impact" of the project that the California Environmental Quality Act ("CEQA") requires the project proponent to mitigate.

In *City of Hayward*, a state university prepared an environmental impact report ("EIR") evaluating the environmental effects of its proposed master plan for the expansion of its campus, including two specific building projects, one for student housing and one for a parking structure. It concluded that building out the master plan would result in significant effects on aesthetics, air quality, cultural resources, and traffic, notwithstanding implementation of all feasible mitigation. All other effects, including effects on public services, were found to be insignificant or fully mitigated. The EIR concluded that the increase in campus population would not result in a significant environmental effect regarding fire and emergency medical services provided by the city fire department. It explained that the increased population would call for the addition of 11 firefighters, roughly the equivalent of one fire company, in order to maintain an adequate service ratio of one staff person for 1,000 people and that the facilities to house the added staff would be

achieved by adding a bay to an existing fire station or constructing a new fire station. Noting that construction of such facilities would be subject to review under CEQA, the EIR concluded that since construction of such facilities would affect only a small area (an acre or less) in an urban location, it would not cause significant environmental effects. Based on this analysis, the EIR concluded that no mitigation regarding fire protection services was required.

The City of Hayward, in which the campus is located, sued alleging that the university had failed to comply with CEQA. The city contended that the university first should have concluded that the project would have a significant effect on emergency response times and thus the health and safety of the community, owing to the nonexistence of the additional firefighters and facilities needed to serve the increased population, and then should have assessed possible measures to mitigate that effect, such as hiring additional firefighters and building facilities to house them. The trial court agreed, explaining that it is not the increased demand for fire protection services that must per se be evaluated as an environmental impact, but rather that the lack of adequate fire protection services resulting from the project would have adverse effects on people and property. The university appealed.

The Court of Appeal reversed. With respect to the contention that the campus population increase would delay emergency response times and that would have real effects on the spread of fire and the safety of people and property, the Court responded: "While this may be true, the obligation to provide adequate fire and emergency medical services is the responsibility of the city [under the California Constitution.] The need for additional fire protection services is not an *environmental* impact that CEQA requires a project proponent to mitigate." The Court noted that the EIR analyzes response times and their impact on public safety, "concludes that the project will cause response times to fall to an inadequate level and finds that 11 additional fire fighters will be required to maintain adequate service levels," and "sets forth measures needed to provide adequate emergency services and concludes . . . that those measures will not have a significant effect on the environment." In the Court's view, that sufficed. It explained: "Although there is undoubtedly a cost involved in the provision of additional emergency services, there is no authority upholding the city's view that CEQA shifts financial responsibility for the provision of adequate fire and emergency response services to the project sponsor. The city has a constitutional obligation to provide adequate fire protection services. Assuming the city continues to perform its obligations, there is no basis to conclude that the project will cause a substantial adverse effect on human beings."

The Court found the EIR adequate as well in all other respects, except one, its discussion of the project's effects on two neighboring parks and ordered a writ of mandate to issue accordingly.

The Court's opinion may serve to help stem the practice of some agencies to use CEQA as a mechanism to help fund municipal services by treating projects' needs for such services as environmental impacts and calling on project proponents to mitigate those impacts by paying for municipal services and facilities.

The building construction will be governed by the requisite Building, Life, Safety and Fire Codes applicable at the time of construction. The mitigation tied to this finding is written in such a manner as to leave open as to what year the applicable codes will be enforced at the time of construction. This will ensure that the most current codes are followed instead of being tied to outdated codes.

No impacts are anticipated as a result of this project as it does not relate to any educational programs or increase the surrounding population.

The Madera County General Plan allocates three acres of park available land per 1,000 residents' population.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XVI. RECREATION				
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?	☐	☐	☐	☒

Responses:

(a – b) No Impact. No impacts as a result of this project.

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) Would the project conflict or be inconsistent with 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?	☐	☐	☐	☒

Responses:

State Route 99 (SR 99) is a four-lane freeway that links the County with the entire State and is the eastern boundary of where most of the dairies are located. SR 99 is one of the most important corridors to the economic livelihood of the San Joaquin Valley because it serves as a main shipping line for agricultural products and other commercial goods. SR 99 is also the primary link to Interstate 5, connecting the Valley with Los Angeles and Sacramento metropolitan areas.

Stare Route 145 (SR 145) is a two- and four-lane highway extending north/south from the Fresno County line to the City of Madera, then east/west to its intersection with SR41, SR 145 provides secondary access to Yosemite National Park via SR 41, and provides an important link to both SR 99 and Interstate 5. It runs north/south through an eastern portion of the County where the majority of dairies exist, and is also a key shipping route for agricultural products.

State Route 152 (SR 152) is a four-lane divided expressway extending east and west from the Merced County Line to SR 99. SR 152 is a primary access route from the central San Joaquin Valley to Monterey and Santa Clara Counties. This state route is considered an important agricultural, commercial and recreational access route and runs east/west through the northern portion of where the dairies exist in the county.

State Route 233 (SR 233) is a two- and four-lane highway extending four miles northeasterly from its intersection with SR 152 to the interchange with SR 99. This route serves primarily to provide for northbound traffic movement from SR 152 and SR 99 as well as local access to Chowchilla.

In addition to the regional state routes, a variety of County maintained roadways pass through the area. These include Avenue 7, Avenue 14, Avenue 18 ½, Road 16 and Road 9.

As with most rural areas, Eastern Madera County is served by limited alternative transportation modes. Currently, only limited public transportation facilities or routes exist within the area. Volunteer systems such as the driver escort service, as well as the senior bus system, operate for special purpose activities and are administered by the Madera County Action Committee. The rural densities which are prevalent throughout the region have typically precluded successful public transit systems, which require more concentrated populations in order to gain sufficient ridership. Oakhurst is therefore dependent on private automobile and truck access.

Access will be via Road 9, south of its intersection with Avenue 25. The closest traffic counts done by the Madera County Transportation Commission (MCTC) in 2016 centers around Avenue 25 at its intersection with Road 9, which is at the project site. Per the MCTC, there were 368 east bound and 361 west bound trips on Avenue 25 east of Road 9. There will be a minor increase of traffic in the area for the duration of construction of the site.

(a - d) No Impact. No impacts have been identified as a result of this project.

In the area around the proposed project, opportunities for bicycles and pedestrians, especially as an alternative to the private automobile, are significantly limited by lack of developed shoulders, sidewalks or pavement width accommodating either mode. The condition is not uncommon in rural areas where distances between origins and destinations are long and the terrain is either rolling or mountainous. In the locations outside urbanized portions of the County, the number of non-recreational pedestrians/cyclists would likely be low, even if additional facilities were provided.

As with most rural areas, Madera County is served by limited alternative transportation modes. Currently, only limited public transportation facilities or routes exist within the area. Volunteer systems such as the driver escort service, as well as the senior bus system, operate for special purpose activities and are administered by the Madera County Action Committee. The rural densities which are prevalent throughout the region have typically precluded successful public transit systems, which require more concentrated populations in order to gain sufficient ridership.

Local circulation is largely deficient with these same State Highways and County Roads composing the only existing network of through streets. Most local streets are dead-end drives, many not conforming to current County improvement standards. Existing traffic, particularly during peak hour and key intersections, already exhibits congestion.

Madera County is predicted to experience significant population growth in the coming years (62.27 percent between 2008 and 2030). Accommodating this amount of growth presents a challenge for attaining and maintain air quality standards and for reducing greenhouse gas emissions. The increase in population is expected to be accompanied by a similar increase in vehicle miles traveled (VMT) (61.36 percent between 2008 and 2030).

Emissions of CO (Carbon Monoxide) are the primarily mobile-source criteria pollutant of local concern. Local mobile-source CO emissions near roadway intersections are a direct function of traffic volume, speed and delay. Carbon monoxide transport is extremely limited; it disperses rapidly with distance from the source under normal meteorological conditions. Under certain meteorological conditions, however, CO concentrations close to congested roadway or intersection may reach unhealthy levels, affecting local sensitive receptors (residents, school children, hospital patients, the elderly, etc.). As a result, the SJVAPCP recommends analysis of CO emissions of at a local rather than regional level. Local CO concentrations at intersections projected to operate at level of service (LOS) D or better do not typically exceed national or state ambient air quality standards. In addition, non-signalized intersections located within areas having relatively low background concentrations do not typically have sufficient traffic volumes to warrant analysis of local CO concentrations.

Local circulation is largely deficient with these same State Highways and County Roads composing the only existing network of through streets. Most local streets are dead-end drives, many not conforming to current County improvement standards. Existing traffic, particularly during peak hour and key intersections, already exhibits congestion.

Local circulation improvement is needed to support state highways and county roads forming the majority of the existing network of through streets. Many local streets are dead-end drives (some of which do not conform to current County improvement standards). Emergency access is, therefore, an important issue for area residents.

Several natural barriers such as the Fresno River, numerous tributary creeks and rocky and steep mountain terrain have precluded or complicated a more complete network of regional or community circulation routes. Financial constraints in the past prevented the design and construction of transportation routes which serve the community as a whole rather than individual private development. New developments occurring within the county are required to provide adequate access in the form of local roads to serve development.

The maneuvering of project construction vehicles and equipment among general purpose vehicles on local roads could cause safety hazards. Haul trucks and other on-road vehicles to be used during project construction could increase the hazard risk on existing roadways. The traffic safety hazard risk could increase because of conflicts with construction vehicles entering a public right-of-way from a project worksite; conflicts where road width is narrowed or a roadway is closed during construction activities, which could result in delays to emergency vehicles passing through a project area; or increased traffic (necessitating slower speed and a wider turning radius) during construction.

In addition to these potential impacts, the use of large trucks to transport equipment and material to and from the worksite could affect road conditions on the access roads by increasing the rate of road wear.

In 2013, the State of California passed Senate Bill 743 (SB 743) which mandates that jurisdictions can no longer use automobile delay – commonly measured by "level of service" – when doing transportation analysis under CEQA. Rather, the State has issued guidelines suggesting using a more holistic metric that can better support smart growth – called "vehicle miles traveled."

CEQA §15064.3(b) considers any project that would decrease the amount of traffic in a region or is located within ½ mile of a transit stop (sometimes considered "within walking distance") as less than significant. This particular project does not fit either of those categories.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XVIII. TRIBAL CULTURAL RESOURCES				
Would the project:				
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 (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	☒

Responses:

Cultural resources can be defined as buildings, sites, structures, objects, or places of importance that may have historical, architectural, archaeological, cultural, or scientific importance (including those associated with Native Americans or Native American activities). Preservation of the County's unique cultural heritage should be considered when planning for future development of the area.

The western area of the County was originally inhabited by the Northern Valley Yokuts. Ethnographic information about this group is sparse due to the early dissemination of the aboriginal populations in the lower San Joaquin Valley.

The Northern Valley Yokuts territory is defined roughly by the crest of the Diablo Range on the west, and the foothills of the Sierra Nevada on the east. The southern boundary is approximately where the San Joaquin River bends northwards, and the northern boundary is roughly halfway between the Calaveras and Mokelumne Rivers.

Principle settlements were located on the tops of low mounds, on or near the banks of larger watercourses. Settlements were composed of single family dwellings, sweathouses, and ceremonial assembly chambers. Dwellings were small and lightly constructed, semi-subterranean and oval. The public structures were large and earth covered.

With the development of Spanish Ranchos throughout California, cattle husbandry was prevalent, while dairy farms remained crude and sparse.

As a result of AB 52, which requires jurisdictions to notify Tribal Governments that request such outreach, the County alerted Tribal Entities that requested initial review packets.

(a – i, ii) No Impact. As the site has already been built up, there are no known impacts as a result of this project.

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 relocation 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 had 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?	☐	☐	☐	☒

Responses:

Water Quality Issues

Erosion and sedimentation/siltation are two potentially significant impacts related to development with the entire Oakhurst area. These impacts are generally proportional to the intensity of development which occurs in an area, including the amount of the clearing and grading which is necessary.

Rainfall is unable to percolate into the portions of each site that are paved over and is converted almost entirely into storm run-off, often exceeding the capacity of existing drainage system, causing intermittent flooding, increased flooding, and other adverse impacts. Pollutants associated with parking lots (oil & grease predominately) will be found in high quantities after the first rain of the season. These pollutants have the potential of contaminating ground and surface water sources.

Groundwater availability issues

Groundwater within the area is generally limited and unpredictable as a result of geologic formation which characterizes the mountain and foothill regions of Madera County. These areas are generally underlain by impervious bedrock, and "groundwater" is available only through water bearing fractures within these formations. Within these "fracture" systems the ability to store and transmit water is solely dependent on the development of secondary openings such as faults, joints and exfoliation planes.

Wastewater Issues

The reliance on septic systems has generated concerns regarding potential impacts to both surface and ground water quality, particularly where septic systems are concentrated on individual lots. This project will have an on-site treatment facility.

Solid Waste Issues

According to the Madera County General Plan Background report, all solid waste generated in the unincorporated area is currently disposed of at the Fairmead Landfill, which is owned by the County and operated by Madera Disposal Systems, Inc. The landfill facility is located on 48 acres at the southeast corner of Road 19 and Avenue 22. The landfill is expected to reach capacity in 2020. If additional waste can be diverted, the life of the expansion area could be increased. There is the potential for approximately 28 residential units' total that would be in nee d of disposing of residential related waste material to this landfill. Recycling measures are strongly encouraged. According to the California Integrated Waste Management Board, the generation rate per resident is 0.63 pounds per day of trash.

(a - e) No Impact. No impacts have been identified as a result of this project.

The proposed project would not result in a change to facilities or operations of existing wastewater treatment plants, nor would it generate wastewater.

General Discussion

Madera County has 34 County Service Areas and Maintenance Districts that together operate 30 small water systems and 16 sewer systems. Fourteen of these special districts are located in the Valley Floor, and the remaining 20 special districts are in the Foothills and Mountains. MD-1 Hidden Lakes, Bass Lake (SA-2B and SA-2C) and SA-16 Sumner Hill have surface water treatment plants, with the remaining special districts relying solely on groundwater.

The major wastewater treatment plants in the County are operated in the incorporated cities of Madera and Chowchilla and the community of Oakhurst. These wastewater systems have been recently or are planned to be upgraded, increasing opportunities for use of recycled water. The cities of Madera and Chowchilla have adopted or are in the process of developing Urban Water Management Plans. Most of the irrigation and water districts have individual groundwater management plans. All of these agencies engage in some form of groundwater recharge and management.

Groundwater provides almost the entire urban and rural water use and about 75 percent of the agricultural water use in the Valley Floor. The remaining water demand is met with surface water. Almost all of the water use in the Foothills and Mountains is from groundwater with only three small water treatment plants relying on surface water from the San Joaquin River and its tributaries.

In areas of higher precipitation (Oakhurst, North Fork, and the topographically higher part of the Coarsegold Area), groundwater recharge is adequate for existing uses. However, some problems have been encountered in parts of these areas due to well interference and groundwater quality issues. In areas of lower precipitation (Raymond-Hensley Lake and the lower part of the Coarsegold area), groundwater recharge is more limited, possibly requiring additional water supply from other sources to support future development.

Madera County is served by a solid waste facility (landfill) in Fairmead. There is a transfer station in North Fork. The Fairmead facility also provides for Household Hazardous Materials collections on Saturdays. The unincorporated portion of the County is served by Red Rock Environmental Group. Above the 1,000-foot elevation, residents are served by EMADCO services for solid waste pick-up.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XX. WILDFIRE 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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Responses:

(a – d) No Impact. No impacts identified as a result of this project.

The Project is not located in or near a state responsibility area or very high fire hazard severity zone. The proposed Project would not exacerbate wildfire risks. The Project does not propose any habitable structures and would therefore have no occupants. Further analysis of the Project's potential impacts to wildfire are not warranted. There would be no impacts. The Project would have no impact on emergency response plans adopted by Madera County.

The project does not propose any actions or structures that would expose people or structures to significant risks. Furthermore, the proposed project would not generate runoff, post-fire slope instability or negatively impact drainage.

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XIX. MANDATORY FINDINGS OF SIGNIFICANCE	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of 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 significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☐	☒	☐
d) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Responses:

CEQA defines three types of impacts or effects:

- Direct impacts are caused by a project and occur at the same time and place (CEQA §15358(a)(1).

- Indirect or secondary impacts are reasonably foreseeable and are caused by a project but occur at a different time or place. They may include growth inducing effects and other effects related to changes in the pattern of land use, population density or growth rate and related effects on air, water and other natural systems, including ecosystems (CEQA §15358(a)(2).

- Cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts (CEQA §15355(b)). Impacts from individual projects may be considered minor, but considered retroactively with other projects over a period of time, those impacts could be significant, especially where listed or sensitive species are involved.

(a) Less Than Significant Impact. The analysis conducted in this Initial Study/Mitigated Negative Declaration results in a determination that the Project, with incorporation of mitigation measures, would have a less than significant effect on the environment. The potential for impacts to biological resources, geology and soils, and hazardous materials from the implementation of the proposed Project would be less than significant with the incorporation of the mitigation measures.

(b) Less Than Significant Impact. CEQA Guidelines Section 15064(i) States that a Lead Agency shall consider whether the cumulative impact of a project is significant and whether the effects of the project are cumulatively considerable. The assessment of the significance of the cumulative effects of a project must, therefore, be conducted in connection with the effects of past projects, other current projects, and probable future projects. Implementation of the Project would not result in significant cumulative impacts and all potential impacts would be reduced to less than significant through the implementation of mitigation measures and basic regulatory requirements incorporated into future Project design

(c) Less Than Significant Impact. The project would include the construction of a car wash and oil/lube facility. The project in and of itself would not create significant hazard to the public or the environment. Implementation of the project would allow such services to be available especially to those that live in the area. Air quality/dust exposure impacts could occur temporarily as a result of project construction. However, implementation of basic regulatory requirements would ensure that impacts are less than significant.

Mitigation Measures

See attached.

Bibliography

California Department of Finance

California Department of Transportation (CALTRANS)

California Integrated Waste Management Board

California Environmental Quality Act Guidelines

United States Environmental Protection Agency

Caltrans website http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm

California Department of Fish and Wildlife "California Natural Diversity Database" https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data#43018410-cnddb-quickview-tool

Madera County Airport Land Use Compatibility Plan

Madera County Dairy Standards Environmental Impact Report

Madera County General Plan

Madera County Integrated Regional Water Management Plan

Madera County Department of Environmental Health

Madera County Fire Marshall's Office

Madera County Department of Public Works

State of California, Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011 and 2012, with 2010 Benchmark.* Sacramento, California, May 2012

U.S. Department of the Interior, Bureau of Reclamation Categorical Exclusion Checklist. 2019.

MITIGATED NEGATIVE DECLARATION MND

RE: CUP #2021-008 Maas Energy

LOCATION AND DESCRIPTION OF PROJECT:

The subject property is located southeast Corner of Avenue 25 and Road 8 (no situs and 8503 Avenue 24 ½) Chowchilla

APN #: 025-100-020, 025-100-022, 025-100-023, 025-100-024, 025-100-025, 025-100-026 and 025-100-027

Madera County, California, is located in the central portion of California's Sacramento/San Joaquin Valley. Located in the center of the state, Madera County comprises 2,147 square miles. Elevations above mean sea level (msl) range from less than 180 feet msl in the western portion of the county to over 13,000 feet msl along the crest of the Sierra Nevada Mountains.

The applicant is requesting to install a double-lined, Tier 1 wastewater pond which will be covered and used as an anaerobic lagoon digester to capture methane; to install low-pressure (7-20psi), underground biogas pipeline on private property for transmission of biogas to a centralized cleanup hub facility (permitted separately through Merced County), where the gas will be further cleaned and injected into a natural gas pipeline.

The project will install biogas equipment on an adjacent pad that will remove H_2S (hydrogen sulfide) impurities from the biogas. The resultant gas will be connected to an existing pre-approved pipeline to a project in Merced which has been approved in Merced.

ENVIRONMENTAL IMPACT:

No adverse environmental impact is anticipated from this project. The following mitigation measures are included to avoid any potential impacts.

BASIS FOR NEGATIVE DECLARATION:

See attached

Madera County Environmental Committee

A copy of the negative declaration and all supporting documentation is available for review at the Madera County Planning Department, 200 West Fourth Street, Ste. #3100, Madera, California.

DATED: May 26, 2021
FILED:
PROJECT APPROVED:

MITIGATION MONITORING REPORT

MND # 2020-10

No.	Mitigation Measure	Monitoring Phase	Enforcement Agency	Monitoring Agency	Action Indicating Compliance	Verification of Compliance		
						Initials	Date	Remarks
Aesthetics								
	All lighting associated with this project shall be hooded and directed away from neighboring parcels.	Construction and operations	Planning and building	Planning				
Agricultural Resources								
Air Quality								
	no idling of vehicles longer than 10 minutes							
Biological Resources								
Cultural Resources								
	In the event that archaeological remains are encountered at any time during development or ground-moving activities within the entire project area, all work in the vicinity of the find shall halt until a qualified archaeologist can assess the discovery. The District shall implement all recommendations of the archaeologist necessary to avoid or reduce to a less than significant level potential impacts to cultural resource. Appropriate actions may include a Data Recovery Plan or preservation in place.							

No.	Mitigation Measure	Monitoring Phase	Enforcement Agency	Monitoring Agency	Action Indicating Compliance	Verification of Compliance		
						Initials	Date	Remarks
	If human remains are uncovered, or in any other case when human remains are discovered during construction, the Madera County Coroner is to be notified to arrange their proper treatment and disposition. If the remains are identified—on the basis of archaeological context, age, cultural associations, or biological traits—as those of a Native American, California Health and Safety Code 7050.5 and Public Resource Code 5097.98 require that the coroner notify the NAHC within 24 hours of discovery. The NAHC would then identify the Most Likely Descendent who would determine the manner in which the remains are treated.							
Geology and Soils								
Greenhouse Gas Emissions								
Hazards and Hazardous Materials								
Hydrology and Water Quality								
Land Use and Planning								
Mineral Resources								
Noise								
Population and Housing								

No.	Mitigation Measure	Monitoring Phase	Enforcement Agency	Monitoring Agency	Action Indicating Compliance	Verification of Compliance		
						Initials	Date	Remarks
Public Services								
Recreation								
Transportation and Traffic								
Utilities and Service Systems								
Tribal Cultural Resources								
Energy								
Wildfire								