DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT
1010 10TH Street, Suite 3400, Modesto, CA 95354
Planning Phone: (209) 525-6330 Fax: (209) 525-5911
Building Phone: (209) 525-6557 Fax: (209) 525-7759

CEQA Referral Initial Study And Notice of Intent to Adopt a Mitigated Negative Declaration

Date: **May 19, 2022**

To: **Distribution List (See Attachment A)**

From: **Teresa McDonald, Associate Planner, Planning and Community Development**

Subject: **USE PERMIT APPLICATION NO. PLN2014-0108 – ISABEL MACHADO DAIRY**

Comment Period: **May 19, 2022 – June 21, 2022**

Respond By: **June 21, 2022**

Public Hearing Date: **July 7, 2022**

You may have previously received an Early Consultation Notice regarding this project, and your comments, if provided, were incorporated into the Initial Study. Based on all comments received, Stanislaus County anticipates adopting a Mitigated Negative Declaration for this project. This referral provides notice of a 30-day comment period during which Responsible and Trustee Agencies and other interested parties may provide comments to this Department regarding our proposal to adopt the Mitigated Negative Declaration.

All applicable project documents are available for review at: Stanislaus County Department of Planning and Community Development, 1010 10th Street, Suite 3400, Modesto, CA 95354. Please provide any additional comments to the above address or call us at (209) 525-6330 if you have any questions. Thank you.

Applicant: **John Machado**

Project Location: **7413 South Mitchell Road, at the southwest corner of the South Mitchell Road and Hilmar Road intersection, in the Turlock area.**

APN: **057-007-005**

Williamson Act Contract: **N/A**

General Plan: **Agriculture**

Current Zoning: **General Agriculture (A-2-40)**

Project Description: **Request to expand an existing dairy facility, operating on a 59.39± acre parcel in the General Agriculture (A-2-40) zoning district, to allow for an increase to the herd size, from 1,260 mature cows to 2,860. This project requests to expand the number of combined milk and dry cows from 1,180 mature cows (1,100 milk cows and 80 dry) to 1,700 mature cows (1,500 milk cows and 200 dry); and to increase support stock numbers from 80 to 1,160. The total number of animals is to increase by 1,600. Consequently, additional waste will be generated. The dairy's existing Waste Management Plan (WMP) and Nutrient Management Plan (NMP) were revised to**

account for the increase in waste and resulting storage and disposal needs associated with the increase in herd size. The updated WMP estimates that the expansion will increase the daily manure production by 1,900 cubic feet, for a total of 4,586 cubic feet per day, which equates to approximately 4,117,194 gallons and 550,389 cubic feet of manure per year (pre-separation). The estimated wastewater storage needs will be accommodated by the existing capacity of the on-site lagoons.

Full document with attachments available for viewing at:
http://www.stancounty.com/planning/pl/act-projects.shtm

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USE PERMIT APPLICATION NO. PLN2014-0108 – ISABEL MACHADO DAIRY

Attachment A

Distribution List

X	CA DEPT OF CONSERVATION Land Resources		STAN CO ALUC
X	CA DEPT OF FISH & WILDLIFE		STAN CO ANIMAL SERVICES
	CA DEPT OF FORESTRY (CAL FIRE)	X	STAN CO BUILDING PERMITS DIVISION
X	CA DEPT OF FOOD AND AGRICULTURE	X	STAN CO CEO
X	CA OPR STATE CLEARINGHOUSE		STAN CO CSA
X	CA RWQCB CENTRAL VALLEY REGION	X	STAN CO DER
	CA STATE LANDS COMMISSION	X	STAN CO ERC
	CEMETERY DISTRICT	X	STAN CO FARM BUREAU
	CENTRAL VALLEY FLOOD PROTECTION	X	STAN CO HAZARDOUS MATERIALS
	CITY OF	X	STAN CO DER MILK AND DAIRY
	COMMUNITY SERVICES/SANITARY DIST	X	STAN CO PUBLIC WORKS
X	COOPERATIVE EXTENSION		STAN CO RISK MANAGEMENT
X	COUNTY OF: MERCED	X	STAN CO SHERIFF
X	DER - GROUNDWATER RESOURCES DIVISION	X	STAN CO SUPERVISOR DIST 2: CHIESA
X	FIRE PROTECTION DIST: MOUNTAIN VIEW	X	STAN COUNTY COUNSEL
X	GSA: WEST TURLOCK SUBBASIN		StanCOG
	HOSPITAL DIST:	X	STANISLAUS FIRE PREVENTION BUREAU
X	IRRIGATION DIST: TURLOCK	X	STANISLAUS LAFCO
X	MOSQUITO DIST: TURLOCK	X	STATE OF CA SWRCB – DIV OF DRINKING WATER DIST. 10
X	MOUNTAIN VALLEY EMERGENCY MEDICAL SERVICES	X	SURROUNDING LAND OWNERS
	MUNICIPAL ADVISORY COUNCIL:	X	TELEPHONE COMPANY: AT&T
X	PACIFIC GAS & ELECTRIC		TRIBAL CONTACTS (CA Government Code §65352.3)
	POSTMASTER:		US ARMY CORPS OF ENGINEERS
	RAILROAD:		US FISH & WILDLIFE
X	SAN JOAQUIN VALLEY APCD		US MILITARY (SB 1462)
X	SCHOOL DIST 1: CHATOM UNION	X	USDA NRCS
X	SCHOOL DIST 2: TURLOCK UNIFIED		WATER DIST:
	WORKFORCE DEVELOPMENT		
X	STAN CO AG COMMISSIONER		

STANISLAUS COUNTY
CEQA REFERRAL RESPONSE FORM

TO: **Stanislaus County Planning & Community Development**
1010 10th Street, Suite 3400
Modesto, CA 95354

FROM: _____

SUBJECT: **USE PERMIT APPLICATION NO. PLN2014-0108 – ISABEL MACHADO DAIRY**

Based on this agency's particular field(s) of expertise, it is our position the above described project:

_____ Will not have a significant effect on the environment.
_____ May have a significant effect on the environment.
_____ No Comments.

Listed below are specific impacts which support our determination (e.g., traffic general, carrying capacity, soil types, air quality, etc.) – (attach additional sheet if necessary)

1.
2.
3.
4.

Listed below are possible mitigation measures for the above-listed impacts: *PLEASE BE SURE TO INCLUDE WHEN THE MITIGATION OR CONDITION NEEDS TO BE IMPLEMENTED (PRIOR TO RECORDING A MAP, PRIOR TO ISSUANCE OF A BUILDING PERMIT, ETC.):*

1.
2.
3.
4.

In addition, our agency has the following comments (attach additional sheets if necessary).

_____

_____

Response prepared by:

_____

Name Title Date

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CEQA INITIAL STUDY

Adapted from CEQA Guidelines APPENDIX G Environmental Checklist Form, Final Text, January 1, 2020

1.	**Project title:**	Use Permit Application No. PLN2014-0108 – Isabel Machado Dairy
2.	**Lead agency name and address:**	Stanislaus County 1010 10th Street, Suite 3400 Modesto, CA 95354
3.	**Contact person and phone number:**	Teresa McDonald, Associate Planner
4.	**Project location:**	7413 South Mitchell Road, at the southwest corner of the South Mitchell Road and Hilmar Road intersection, in the Turlock area. (APN: 057-007-005).
5.	**Project sponsor's name and address:**	John Machado 7413 South Mitchell Road Turlock, CA 95380
6.	**General Plan designation:**	Agriculture
7.	**Zoning:**	General Agriculture (A-2-40)

8. Description of project:

Request to expand an existing dairy facility, operating on a 59.39± acre parcel in the General Agriculture (A-2-40) zoning district, to allow for an increase to the herd size, from 1,260 mature cows to 2,860. This project requests to expand the number of combined milk and dry cows from 1,180 mature cows (1,100 milk cows and 80 dry) to 1,700 mature cows (1,500 milk cows and 200 dry); and to increase support stock numbers from 80 to 1,160. The total number of animals is to increase by 1,600. Consequently, additional waste will be generated. The dairy's existing Waste Management Plan (WMP) and Nutrient Management Plan (NMP) were revised to account for the increase in waste and resulting storage and disposal needs associated with the increase in herd size. The updated WMP estimates that the expansion will increase the daily manure production by 1,900 cubic feet, for a total of 4,586 cubic feet per day, which equates to approximately 4,117,194 gallons and 550,389 cubic feet of manure per year (pre-separation). The estimated wastewater storage needs will be accommodated by the existing capacity of the on-site lagoons.

The existing dairy operation is developed with areas for feed storage, waste containment, milking facility infrastructure, and utilities. Due to the proposed increases in animal units, this applicant is also requesting to develop a 36,000± square-foot addition to an existing freestall barn, a new 94,500± square-foot freestall barn, an earthen manure stacking pad, and a mechanical separator, to be constructed west of the existing dairy facility footprint.

Two solid settling basins and a wastewater settling pond are located on the northwestern portion of the project site, west of the dairy housing. Nutrients produced from the herd will be utilized to fertilize approximately 100± acres of irrigated cropland, located on the southwest 24 acres of the project site and on APNs 057-007-006 and 057-023-004, which are all under the same ownership. Hours of operation will remain the same at 24-hours a day, seven days a week. The applicant anticipates increasing employees from 11 to 14 employees on a minimum shift and from 12 to 15 employees on a maximum shift; and one customer/visitor on-site per day. The anticipated number of truck trips per day will increase from one to three. The parcel is also improved with one single-family dwelling. The site is served by a private well and septic system and has access to County-maintained South Mitchell and Hilmar Roads.

9.	**Surrounding land uses and setting:**	Confined animal facilities, irrigated cropland, and scattered single-family dwellings in all directions; City of Turlock is located 5 miles northeast of the project site; and the County of Merced is located .4 miles south.
10.	**Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.):**	Stanislaus County Department of Public Works Stanislaus County Department of Environmental Resources Regional Water Quality Control Board San Joaquin Valley Air Pollution Control District
11.	**Attachments:**	1. Waste Management Plan prepared by F&R Ag Services, Inc., dated August 31, 2020 2. Nutrient Management Plan prepared by F&R Ag Services, Inc., dated August 31, 2020 3. Health Risk Assessment prepared by Yorke Engineering, LLC., dated October 2021 4. Construction and Operating Emissions Report prepared by EAC Engineering, dated July 21, 2021

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

DETERMINATION: (To be completed by the 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 by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.**

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

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

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

Teresa McDonald **May 13, 2022**
Prepared by Date

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, than the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration.

Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

> **a) Earlier Analysis Used. Identify and state where they are available for review.**
>
> **b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.**
>
> **c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.**

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). References to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify:

> **a) the significant criteria or threshold, if any, used to evaluate each question; and**
>
> **b) the mitigation measure identified, if any, to reduce the impact to less than significant.**

ISSUES

I. AESTHETICS – Except as provided in Public Resources Code Section 21099, could the project:	Potentially Significant Impact	Less Than Significant With Mitigation Included	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?			X	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?			X	
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?			X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			X	

Discussion: The site itself is not considered to be a scenic resource or unique scenic vista. The only scenic designation in the County is along Interstate 5, which is not near the project site. As the site is already developed with a dairy facility, aesthetics associated with the project site are not anticipated to change as a result of this project. Standard conditions of approval will be added to this project to address glare and nightglow from any proposed on-site lighting.

Mitigation: None.

References: Application information; Stanislaus County Zoning Ordinance; the Stanislaus County General Plan; and Support Documentation[1].

II. AGRICULTURE AND FOREST RESOURCES: In determining whether 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 Department 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:	Potentially Significant Impact	Less Than Significant With Mitigation Included	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?			X	

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?			X	
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))?			X	
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
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?			X	

Discussion: This is a request to expand the herd of an existing dairy operation. This project requests to expand the number of combined milk and dry cows from 1,180 mature cows (1,100 milk cows and 80 dry) to 1,700 mature cows (1,500 milk cows and 200 dry); and to increase support stock numbers from 80 to 1,160. The total number of animals is to increase by 1,600. The existing dairy operation has been previously developed with areas for feed storage, waste containment, milking facility infrastructure, and utilities. Due to the proposed increases in animal units, this applicant is also requesting to develop a 36,000± square-foot addition to an existing freestall barn, a new 94,500± square-foot freestall barn, an earthen manure stacking pad, and a mechanical separator, to be constructed west of the existing dairy facility footprint. Two solid settling basins and a wastewater settling pond are located on the northwestern portion of the project site, west of the dairy housing. Nutrients produced from the herd will be utilized to fertilize approximately 100± acres of irrigated cropland, located on the southwest 24 acres of the project site and on APNs 057-007-006 and 057-023-004, which are all under the same ownership.

The 58-acre parcel containing the dairy facility and wastewater ponds is designated by the California Department of Conservation Farmland Mapping and Monitoring Program as Confined Animal Agriculture and Unique Farmland. According to the California Department of Agriculture's Natural Resources Conservation Service's Soil Survey, the parcel's soil is classified as being comprised of 80%± Dinuba sandy loam, slightly saline-alkali, 0 to 1 percent slopes (DyA – California Revised Storie Index Rating: 68); and 20%± Hilmar loamy sand, slightly saline-alkali, 0 to 1 percent slopes (HkbA – Storie Index Rating: 54). The California Revised Storie Index is a rating system based on soil properties that dictate the potential for soils to be used for irrigated agricultural production in California. This rating system grades soils with an index rating of 68 as good soil to be used for irrigated agriculture, and 54 as fair. However, the site does qualify as prime agricultural land based on the site being a confined animal facility and having irrigated land which supports livestock used for the production of food and fiber.

The Agricultural Element includes a requirement for an agricultural buffer to protect the long-term health of local agriculture by minimizing conflicts resulting from normal agricultural practices as a consequence of new or expanding uses approved in or adjacent to the A-2 (General Agriculture) zoning district. These guidelines apply to all new or expanding uses approved by discretionary permit in the A-2 zoning district or on a parcel adjoining the A-2 zoning district. However, dairies are considered to be a permitted agricultural use in the A-2 zoning district in Stanislaus County. Use permits are only processed for the expansion of dairy facilities when the Regional Water Quality Control Board (RWQCB) determines that Waste Discharge Requirements (WDRs) are required, which requires CEQA compliance. As dairies are a permitted use, an agricultural buffer is not required for this project.

The project will have no impact to forest land or timberland. The project is an agricultural use and does not appear to conflict with any agricultural activities in the area and/or lands enrolled in the Williamson Act. The project was referred to the Department of Conservation, but no response has been received to date.

Based on the specific features and design of this project, it does not appear this project will impact the long-term productive agricultural capability of surrounding contracted lands in the A-2 zoning district. There is no indication this project will result in the removal of adjacent contracted land from agricultural use.

Mitigation: None.

References: Application information; E-mail correspondence Regional Water Quality Control Board, dated January 26, 2021; USDA Natural Resource Conservation Service Web Soil Survey; USDA Soil Conservation Service Soil Survey of Eastern Stanislaus Area CA; California Farmland Mapping and Monitoring Program Data; Application Materials; Stanislaus County General Plan and Support Documentation[1].

III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Included	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?			X	
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?			X	
c) Expose sensitive receptors to substantial pollutant concentrations?			X	
d) Result in other emissions (such as those odors adversely affecting a substantial number of people?			X	

Discussion: The proposed project is located within the San Joaquin Valley Air Basin (SJVAB) and, therefore, falls under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). In conjunction with the Stanislaus Council of Governments (StanCOG), the SJVAPCD is responsible for formulating and implementing air pollution control strategies. The SJVAPCD's most recent air quality plans are the 2007 PM10 (respirable particulate matter) Maintenance Plan, the 2008 PM2.5 (fine particulate matter) Plan, and the 2007 Ozone Plan. These plans establish a comprehensive air pollution control program leading to the attainment of state and federal air quality standards in the SJVAB, which has been classified as "extreme non-attainment" for ozone, "attainment" for respirable particulate matter (PM-10), and "non-attainment" for PM 2.5, as defined by the Federal Clean Air Act.

This project requests to expand the number of combined milk and dry cows from 1,180 mature cows to 1,700 mature cows and to increase support stock numbers from 80 to 1,160. The existing dairy operation has been previously developed with areas for feed storage, waste containment, milking facility infrastructure, and utilities. Due to the proposed increases in animal units, this applicant is also requesting construction of a 36,000± square-foot addition to an existing freestall barn, and a new 94,500± square-foot freestall barn, located immediately west of the existing dairy facility footprint. The applicant anticipates increasing employees from 11 to 14 employees on a minimum shift and from 12 to 15 employees on a maximum shift; and one customer/visitor on-site per day. The anticipated number of truck trips per day will increase from one to three.

A referral response was received from the SJVAPCD indicating that emissions resulting from construction and/or operation of the project may exceed the District's thresholds of significance for carbon monoxide (CO), oxides of nitrogen (NOx), reactive organic gases (ROG), oxides of sulfur (SOx), (PM10), and particulate matter. The SJVAPCD recommended that a more detailed preliminary review of the project be conducted for the project's construction and operational emissions. Further, the Air District recommended other potential air impacts related to Toxic Air Contaminants, Ambient Air Quality Standards, and Hazards and Odors be addressed. The SJVAPCD recommended the project be evaluated for potential health impacts to surrounding receptors (on-site and off-site) resulting from operational and multi-year construction Toxic Air Contaminants (TAC) emissions, and stated that a Health Risk Assessment should evaluate the risk associated with sensitive receptors in the area and mitigate any potentially significant risk to help limit emission exposure to sensitive receptors. The SJVAPCD also recommended the County evaluate heavy duty truck routing patterns to help limit emission exposure to sensitive receptors, reduce idling of heavy duty trucks, and utilize zero emission equipment.

The Air District response also indicated that the project is subject to District Rule 2010 (Permits Required) and Rule 2201 (New and Modified Stationary Source Review). The project may also be subject to the following rules: Regulation VIII, (Fugitive PM10 Prohibitions), Rule 4102 (Nuisance), Rule 4601 (Architectural Coatings), Rule 4641 (Cutback, Slow Cure,

and Emulsified Asphalt, Paving and Maintenance Operations), Rule 4550 (Conservation Management Practices), and Rule 4570 (Confined Animal Facilities). In the event an existing building will be renovated, partially demolished or removed, the project may be subject to District Rule 4002 (National Emission Standards for Hazardous Air Pollutants). The project may be subject to other applicable District permits and rules, which must be met as part of the District's Authority to Construct (ATC) permitting process.

In response to the SJVAPCD comments, a Health Risk Assessment (HRA) was prepared by Yorke Engineering, LLC, dated October 2021. The HRA examined the combined impacts from construction and operations of the project. Diesel particulate matter (DPM) in exhaust from the construction equipment, off-road equipment, and trucks associated with the project were calculated utilizing the California Emissions Estimator Model (CalEEMod) for the basis of project analysis. Since the construction activities will last up to 6 years but will overlap with operational activities, average annual construction emissions were included in the analysis for all stages of construction spanning the 6-year period, conservatively overestimating the potential health impacts from construction activities. The total CalEEMod vehicle emissions were scaled to represent the on-site travel distance of 0.16 miles and the off-site travel distance of 0.25 miles. The highest source of DPM emissions were found to be from off-road construction equipment at 60.23 pounds per year.

The air dispersion model, which calculates the concentration of selected pollutants at specific downwind points such as residential or off-site workplace receptors, used for this HRA was the American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD), which is the model recommended by the SJVAPCD. Modeling results were obtained at various ground-level locations around the facility. The nearest dwellings in the vicinity are located roughly 393 feet, 492 feet, and 820 feet respectively from of the facility's fence line. Additional residences were modeled but are all located over 1/3 of a mile from the facility's fence line. Other farms surround the facility and the closest structure where off-site workers may congregate is approximately 150 meters northwest of the facility. The source per unit emission values that were determined for each source using AERMOD were imported into HARP2 and used in conjunction with hourly and annual emissions to determine the ground level concentrations (GLC) for each pollutant. The GLCs were then used to estimate the long-term cancer health risk to an individual and non-cancer chronic index.

The HRA found that the cancer risk at all receptor locations were predicted to be below the SJVAPCD significance threshold, and the Chronic Hazard Index (HIC) was well below the non-cancer thresholds at all locations. The Point of Maximum Impact (PMI), Maximally Exposed Individual Resident (MEIR), and Maximally Exposed Individual Worker (MEIW) were calculated for cancer risk and non-cancer chronic health index. The PMI is a location within the modeling grid where the model calculates the highest (worst-case) health risk. The PMI may or may not be a habitable location. The cancer risk PMI occurs at a location near truck driveway and construction/operational equipment area, in a location where no one is expected to congregate for any duration. The cancer and chronic MEIR and MEIW were predicted to occur at the nearest residence and off-site worker, located northwest of the facility. However, the majority of the cancer and chronic risks were predicted to come from the construction equipment, and as emissions were included in the analysis for the full exposure duration, the potential health impacts from construction activities were conservatively overestimated.

Additionally, construction and operational emissions were analyzed with CalEEMOD, by EAH Engineering, dated July 21, 2021. The EAH analysis evaluated construction and operational ROG, NOx, CO, SO2, PM10, PM25, CO2, CH4, and N2O emissions. The industrial land use type was utilized in the CalEEMOD analysis for operational emissions, which assumed 2 employee trips and 2 delivery/pick-up trips per day, off-road equipment and vehicles used on-site for dairy facility maintenance, 50% gas powered passenger vehicles and 50% diesel powered semi-truck vehicles, 1% architectural coatings, zero landscaping and natural gas usage, and energy associated with water consumption for the dairy herd. The construction emissions analysis assumed that during construction access roads would be watered twice daily and that construction equipment and vehicles would reach a maximum speed of 15 miles per hour on unpaved roads. The EAH analysis found that emissions for each of the pollutants associated with the construction and operation of the project are below the Air District's thresholds of significance.

The SJVAPCD reviewed the HRA and emissions analysis and commented that should the currently unoccupied residence located 40 feet south of the site be occupied in the future, a reanalysis of the HRA is recommended. Additionally, the District recommended including both on-road and off-road diesel PM10 emissions for the project into one cumulative emission in the HRA analysis. In response to the District's comments, Yorke Engineering, LLC stated the applicant will let the County know if the on-site dwelling becomes occupied in the future, and will consider updating the HRA. They also clarified that the modeling was conducted with different source locations for the on-road and off-road equipment since they will not

operate in the same locations, but it included combined results from all sources. Accordingly, the cumulative impact from all sources was analyzed. The Air District had no subsequent comments.

Based on the analysis prepared for the project impacts to air quality are considered to be less than significant.

Mitigation: None.

References: Application information; Referral response from the San Joaquin Valley Air Pollution Control District (SJVAPCD) dated April 16, 2021; Email response to HRA from the SJVAPCD, dated December 23, 2021, and follow up call on January 5, 2022; San Joaquin Valley Air Pollution Control District - Regulation VIII Fugitive Dust/PM-10 Synopsis; www.valleyair.org; Health Risk Assessment (HRA) was prepared by Yorke Engineering, LLC, dated October 2021; Construction and Operating Emissions Report prepared by EAC Engineering, dated July 21, 2021; and the Stanislaus County General Plan and Support Documentation[1].

IV. BIOLOGICAL RESOURCES -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Included	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?			**X**	
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?			**X**	
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?			**X**	
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			**X**	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			**X**	
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?			**X**	

Discussion: The project is located within the Hatch Quad of the California Natural Diversity Database (CNDDB). There are five species of animals which are state or federally listed, threatened, or identified as species of special concern within the Hatch California Natural Diversity Database Quad. These species include the following: Swainson's hawk, tricolored blackbird, green sturgeon - southern DPS, steelhead - Central Valley DPS, and western pond turtle. According to the CNDDB, none of the species have been sited within the project area. The tricolored blackbird has been sited approximately 1.5 miles southwest of the project site. The entire project site is developed or disturbed.

The project site is developed with an existing dairy and the area where the proposed constructed will be located is already disturbed. There are no known Waters of the United States on-site. It does not appear that this project will result in impacts to endangered species or habitats, locally designated species, wildlife dispersal, or mitigation corridors as the site is disturbed and improved. The project is anticipated to have a less than significant impact to biological resources.

The project was referred to the California Department of Fish and Wildlife, and no comments have been received to date.

Mitigation: None.

References: Application information; California Department of Fish and Wildlife's Natural Diversity Database Quad Species List; California Department of Fish and Wildlife's Natural Diversity Database spatial data for element occurrences; Stanislaus County General Plan and Support Documentation[1].

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

Discussion: As this project is not a General Plan Amendment it was not referred to the tribes listed with the Native American Heritage Commission (NAHC), in accordance with SB 18. Tribal notification of the project was not referred to any tribes in conjunction with AB 52 requirements, as Stanislaus County has not received any requests for consultation from the tribes listed with the NAHC. It does not appear that this project will result in significant impacts to any archaeological or cultural resources. The project site is already developed and the proposed construction is within the area which has already been disturbed. However, standard conditions of approval regarding the discovery of cultural resources during the construction process will be added to the project.

Mitigation: None.

References: Application information; Stanislaus County General Plan and Support Documentation[1].

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

Discussion: The CEQA Guidelines Appendix F states that energy consuming equipment and processes, which will be used during construction or operation such as: energy requirements of the project by fuel type and end use, energy conservation equipment and design features, energy supplies that would serve the project, and total estimated daily vehicle trips to be generated by the project, and the additional energy consumed per trip by mode, which shall be taken into

consideration when evaluating energy impacts. Additionally, the project's compliance with applicable state or local energy legislation, policies, and standards must be considered.

All construction activities shall be in compliance with all SJVAPCD regulations and with Title 24, Green Building Code, which includes energy efficiency requirements. The operation proposes to operate out of existing buildings and proposes to construct two awnings for which a building permit will be required. Any future construction activities will be required to occur in compliance with all SJVAPCD regulations.

This project requests to expand the number of combined milk and dry cows from 1,180 mature cows to 1,700 mature cows and to increase support stock numbers from 80 to 1,160. The existing dairy operation has been previously developed with areas for feed storage, waste containment, milking facility infrastructure, and utilities. Due to the proposed increases in animal units, this applicant is also requesting construction of a 36,000± square-foot addition to an existing freestall barn, and a new 94,500± square-foot freestall barn, located immediately west of the existing dairy facility footprint. The applicant anticipates increasing employees from 11 to 14 employees on a minimum shift and from 12 to 15 employees on a maximum shift; and one customer/visitor on-site per day. The anticipated number of truck trips per day will increase from one to three.

Energy consuming equipment and processes include equipment, trucks, and the employee and customer vehicles. These activities would not significantly increase Vehicle Miles Traveled (VMT), due to the number of vehicle trips not exceeding a total of 110 vehicle trips per-day. There will be a maximum total of three truck trips per day total (inbound and outbound), and a total of 16 automobile trips per-day (anticipated inbound and outbound trips by employees and customers), which is an increase of two truck trips and one automobile trip per-day. Additionally, the trucks are the main consumers of energy associated with this project but shall be required to meet all Air District regulations, including rules and regulations that increase energy efficiency for heavy trucks. Consequently, emissions would be minimal. Therefore, consumption of energy resources would be less-than significant without mitigation for the proposed project.

A referral response was received from the SJVAPCD indicating that emissions resulting from construction and/or operation of the project may exceed the District's thresholds of significance for carbon monoxide (CO), oxides of nitrogen (NOx), reactive organic gases (ROG), oxides of sulfur (SOx), (PM10), and particulate matter. The SJVAPCD recommended that a more detailed preliminary review of the project be conducted for the project's construction and operational emissions.

Construction and operational emissions were analyzed with CalEEMOD, by EAH Engineering, dated July 21, 2021. The EAH analysis evaluated construction and operational ROG, NOx, CO, SO2, PM10, PM25, CO2, CH4, and N2O emissions. The industrial land use type was utilized in the CalEEMOD analysis for operational emissions, which assumed 2 employee trips and 2 delivery/pick-up trips per day, off-road equipment and vehicles used on-site for dairy facility maintenance, 50% gas powered passenger vehicles and 50% diesel powered semi-truck vehicles, 1% architectural coatings, zero landscaping and natural gas usage, and energy associated with water consumption for the dairy herd. The construction emissions analysis assumed that during construction access roads would be watered twice daily and that construction equipment and vehicles would reach a maximum speed of 15 miles per hour on unpaved roads. The EAH analysis found that emissions for each of the pollutants associated with the construction and operation of the project are below the Air District's thresholds of significance.

Impacts to energy are considered to be less than significant.

Mitigation: None.

References: Application information; Referral response from the San Joaquin Valley Air Pollution Control District (SJVAPCD) dated April 16, 2021; Email response to HRA from the SJVAPCD, dated December 23, 2021, and follow up call on January 5, 2022; San Joaquin Valley Air Pollution Control District - Regulation VIII Fugitive Dust/PM-10 Synopsis; www.valleyair.org; Construction and Operating Emissions Report prepared by EAC Engineering, dated July 21, 2021; and the Stanislaus County General Plan and Support Documentation[1].

VII. GEOLOGY AND SOILS -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Included	Less Than Significant Impact	No Impact

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:			**X**	
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			**X**	
ii) Strong seismic ground shaking?			**X**	
iii) Seismic-related ground failure, including liquefaction?			**X**	
iv) Landslides?			**X**	
b) Result in substantial soil erosion or the loss of topsoil?			**X**	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			**X**	
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?			**X**	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?			**X**	
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			**X**	

Discussion: The USDA Natural Resources Conservation Service's Eastern Stanislaus County Soil Survey indicates that the property is comprised of 80%± Dinuba sandy loam, slightly saline-alkali, 0 to 1 percent slopes (DyA); and 20%± Hilmar loamy sand, slightly saline-alkali, 0 to 1 percent slopes (HkbA). As contained in Chapter 5 of the General Plan Support Documentation, the areas of the County subject to significant geologic hazard are located in the Diablo Range, west of Interstate 5; however, as per the California Building Code, all of Stanislaus County is located within a geologic hazard zone (Seismic Design Category D, E, or F) and a soils test may be required at building permit application. Results from the soils test will determine if unstable or expansive soils are present. If such soils are present, special engineering of the structure will be required to compensate for the soil deficiency. Any structures resulting from this project will be designed and built according to building standards appropriate to withstand shaking for the area in which they are constructed. An early consultation referral response received from the Department of Public Works indicated that a grading, drainage, and erosion/sediment control plan for the project will be required, subject to Public Works review and Standards and Specifications. While the Department of Environmental Resources (DER) responded with no comment, any addition or expansion of a septic tank or alternative waste water disposal system would require the approval of the DER through the building permit process, which also takes soil type into consideration within the specific design requirements.

The project site is not located near an active fault or within a high earthquake zone. Landslides are not likely due to the flat terrain of the area.

DER, Public Works, and the Building Permits Division review and approve any building or grading permit to ensure their standards are met. Conditions of approval regarding these standards will be applied to the project. Impacts associated with geology and soils are considered to be less than significant.

Mitigation: None.

References: Application information; Referral response from the Department of Environmental Resources (DER), dated November 5, 2020; Referral response from the Stanislaus County Department of Public Works dated January 28, 2021; Stanislaus County General Plan and Support Documentation[1].

VIII. GREENHOUSE GAS EMISSIONS -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Included	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			**X**	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			**X**	

Discussion: This project requests to expand the number of combined milk and dry cows from 1,180 mature cows to 1,700 mature cows and to increase support stock numbers from 80 to 1,160. The existing dairy operation has been previously developed with areas for feed storage, waste containment, milking facility infrastructure, and utilities. Due to the proposed increases in animal units, this applicant is also requesting construction of a 36,000± square-foot addition to an existing freestall barn, and a new 94,500± square-foot freestall barn, located immediately west of the existing dairy facility footprint. The applicant anticipates increasing employees from 11 to 14 employees on a minimum shift and from 12 to 15 employees on a maximum shift; and one customer/visitor on-site per day. The anticipated number of truck trips per day will increase from one to three.

The principal Greenhouse Gasses (GHGs) are carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), sulfur hexafluoride (SF6), perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), and water vapor (H2O). CO2 is the reference gas for climate change because it is the predominant greenhouse gas emitted. To account for the varying warming potential of different GHGs, GHG emissions are often quantified and reported as CO2 equivalents (CO2e). In 2006, California passed the California Global Warming Solutions Act of 2006 (Assembly Bill [AB] No. 32), which requires the California Air Resources Board (ARB) design and implement emission limits, regulations, and other measures, such that feasible and cost-effective statewide GHG emissions are reduced to 1990 levels by 2020. Two additional bills, SB350 and SB32, were passed in 2015 further amending the states Renewables Portfolio Standard (RPS) for electrical generation and amending the reduction targets to 40% of 1990 levels by 2030.

Under its mandate to provide local agencies with assistance in complying with CEQA in climate change matters, the SJVAPCD developed its Guidance for Valley Land-Use Agencies in Addressing GHG Emissions Impacts for New Projects under CEQA. As a general principal to be applied in determining whether a proposed project would be deemed to have a less-than significant impact on global climate change, a project must be in compliance with an approved GHG emission reduction plan that is supported by a CEQA-compliant environmental document or be determined to have reduced or mitigated GHG emissions by 29 percent relative to Business-As-Usual conditions, consistent with GHG emission reduction targets established in ARB's Scoping Plan for AB 32 implementation. The SJVAPCD guidance is intended to streamline the process of determining if project specific GHG emissions would have a significant effect. The proposed approach relies on the use of performance-based standards and their associated pre-quantified GHG emission reduction effectiveness (Best Performance Standards, or BPS). Establishing BPS is intended to help project proponents, lead agencies, and the public by proactively identifying effective, feasible mitigation measures. Emission reductions achieved through implementation of BPS would be pre-quantified, thus reducing the need for project specific quantification of GHG emissions.

A referral response was received from the SJVAPCD indicating that emissions resulting from construction and/or operation of the project may exceed the District's thresholds of significance for carbon monoxide (CO), oxides of nitrogen (NOx), reactive organic gases (ROG), oxides of sulfur (SOx), (PM10), and particulate matter. The SJVAPCD recommended that a more detailed preliminary review of the project be conducted for the project's construction and operational emissions.

Construction and operational emissions were analyzed with CalEEMOD, by EAH Engineering, dated July 21, 2021. The EAH analysis evaluated construction and operational ROG, NOx, CO, SO2, PM10, PM25, CO2, CH4, and N2O emissions. The industrial land use type was utilized in the CalEEMOD analysis for operational emissions, which assumed 2 employee trips and 2 delivery/pick-up trips per day, off-road equipment and vehicles used on-site for dairy facility maintenance, 50% gas powered passenger vehicles and 50% diesel powered semi-truck vehicles, 1% architectural coatings, zero landscaping and natural gas usage, and energy associated with water consumption for the dairy herd. The construction emissions analysis assumed that during construction access roads would be watered twice daily and that construction equipment and vehicles would reach a maximum speed of 15 miles per hour on unpaved roads. The EAH analysis found that emissions for each of the pollutants associated with the construction and operation of the project are below the Air District's thresholds of significance.

The Air District response also indicated that the project is subject to District Rule 2010 (Permits Required) and Rule 2201 (New and Modified Stationary Source Review). The project may also be subject to the following rules: Regulation VIII, (Fugitive PM10 Prohibitions), Rule 4102 (Nuisance), Rule 4601 (Architectural Coatings), Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations), Rule 4550 (Conservation Management Practices), and Rule 4570 (Confined Animal Facilities). In the event an existing building will be renovated, partially demolished or removed, the project may be subject to District Rule 4002 (National Emission Standards for Hazardous Air Pollutants). The project may be subject to other applicable District permits and rules, which must be met as part of the District's Authority to Construct (ATC) permitting process.

The 2016 California Green Building Standards Code (CALGreen Code) went into effect on January 1, 2017, and includes mandatory provisions applicable to all new residential, commercial, and school buildings. The intent of the CALGreen Code is to establish minimum statewide standards to significantly reduce the greenhouse gas emissions from new construction. The Code includes provisions to reduce water use, wastewater generation, and solid waste generation. It is the intent of the CALGreen Code that buildings constructed pursuant to the Code achieve at least a 15 percent reduction in energy usage when compared to the state's mandatory energy efficiency standards contained in Title 24. The Code also sets limits on VOCs (volatile organic compounds) and formaldehyde content of various building materials, architectural coatings, and adhesives. With the requirements of meeting the Title 24, Green Building Code energy impacts from the project are considered to be less-than significant. A development standard will be added to this project to address compliance with Title 24, Green Building Code, which includes energy efficiency requirements.

Impacts associated with greenhouse gas emissions are expected to have a less than significant impact.

Mitigation: None.

References: Application information; Referral response from the San Joaquin Valley Air Pollution Control District (SJVAPCD) dated April 16, 2021; Email response to HRA from the SJVAPCD, dated December 23, 2021, and follow up call on January 5, 2022; San Joaquin Valley Air Pollution Control District - Regulation VIII Fugitive Dust/PM-10 Synopsis; www.valleyair.org; Construction and Operating Emissions Report prepared by EAC Engineering, dated July 21, 2021; and the Stanislaus County General Plan and Support Documentation[1].

IX. HAZARDS AND HAZARDOUS MATERIALS -- Would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Included**	**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?			**X**	
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?			**X**	

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			**X**	
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?			**X**	
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?			**X**	
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			**X**	
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			**X**	

Discussion: The County Department of Environmental Resources (DER) is responsible for overseeing hazardous materials. This project was referred to the Department of Environmental Resources – Hazardous Materials Division who responded that the applicant should contact DER for any appropriate permitting requirements for hazardous materials and/or wastes. This will be added as a condition of approval to the project. The proposed use is not recognized as a generator and/or consumer of hazardous materials, therefore no significant impacts associated with hazards or hazardous materials are anticipated to occur as a result of the proposed project. Pesticide exposure is a risk in areas located in the vicinity of agriculture. Sources of exposure include contaminated groundwater from drift from spray applications. Application of sprays is strictly controlled by the Agricultural Commissioner and can only be accomplished after first obtaining permits.

Animal waste resulting from daily operations will be managed through Waste and Nutrient Management Plans, which were reviewed by the Central Valley Regional Water Quality Control Board (CVRWQCB). The proposed use is otherwise not recognized as a generator and/or consumer of hazardous materials, therefore no significant impacts associated with hazards or hazardous materials are anticipated to occur as a result of the proposed project.

The project site is not listed on the EnviroStor database managed by the CA Department of Toxic Substances Control or within the vicinity of any airport. The site is located in a Local Responsibility Area (LRA) for fire protection, and is served by Mountain View Fire Protection District. The project was referred to the District, and no comments have been received to date. The project was referred to the Environmental Review Committee (ERC), which responded with no comments. The project site is not within the vicinity of any airstrip or wildlands. No significant impacts associated with hazards or hazardous materials are anticipated to occur as a result of the proposed project.

Mitigation: None.

References: Application information; Department of Toxic Substances Control's data management system (EnviroStar); Referral response from Stanislaus County Environmental Review Committee, November 9, 2020; Referral response from the Department of Environmental Resources Hazardous Materials Division, dated November 10, 2020; Stanislaus County General Plan and Support Documentation[1].

X. HYDROLOGY AND WATER QUALITY -- Would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Included**	**Less Than Significant Impact**	**No Impact**

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?		**X**		
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			**X**	
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:			**X**	
i) result in substantial erosion or siltation on- or off-site;			**X**	
ii) substantially increase the rate of amount of surface runoff in a manner which would result in flooding on- or off-site.			**X**	
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			**X**	
iv) impede or redirect flood flows?			**X**	
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?			**X**	
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			**X**	

Discussion: Dairies pose a number of potential risks to water quality, primarily related to the amount of manure and wastewater that they generate. Manure and wastewater from animal confinement facilities can contribute pollutants such as nutrients (nitrogen), ammonia, phosphorus, organic matter, sediments, pathogens, hormones, antibiotics, and total dissolved solids (salts). These pollutants, if uncontrolled, can cause several types of water quality impacts, including contamination of drinking water, interference with irrigation systems, and impairment of surface water and groundwater quality. Federal, state, and local regulations have been implemented to protect the quality of surface water and groundwater resources. The primary federal laws for protection of water quality are the Clean Water Act (CWA) and the Safe Drinking Water Act (SDWA). Federal and state regulations based on this underlying legislation range from establishing maximum contaminant levels to setting antidegradation policies.

The primary regulatory program for implementing water quality standards is the federal National Pollutant Discharge Elimination System (NPDES) Program. The United States Environmental Protection Agency (EPA) has delegated NPDES enforcement and administration to the State of California Regional Water Quality Control Board (RWQCB). The Central Valley RWQCB (CVRWQCB) administers the federal NPDES program for dairies within Stanislaus County. The CVRWQCB adopted the General Waste Discharge Requirements and General NPDES Permit for Existing Milk Cow Dairy Concentrated Animal Feeding Operations (CAFO) within the Central Valley Region, Revised Order No. R5-2011-0091, in December 2011. The CAFO Order serves as a NPDES permit. Under the CAFO Order, owners and operators ("dischargers") of dairies are required to apply for and receive an NPDES permit if the dairy is an operation that stables or confines 700 or more mature dairy cows, whether milked or dry (a Large CAFO) and the operator discharges, or proposes to discharge, pollutants to the waters of the United States. This project requests to expand the number of combined milk and dry cows from 1,180 mature cows (1,100 milk cows and 80 dry) to 1,700 mature cows (1,500 milk cows and 200 dry); and to increase support stock numbers from 80 to 1,160. The total number of animals is to increase by 1,600. The CAFO Order was written to follow the format of the 2007 General Order for Existing Milk Cow Dairies and Individual Waste Discharge Requirements as closely as possible, while incorporating requirements of the Federal CAFO rule.

Large CAFOs are required to prepare and implement a Nutrient Management Plan (NMP) and Waste Management Plan (WMP) which describe the regulatory requirements for the facility, and together they serve as the primary tool to prevent groundwater contamination and to establish best management practices (BMP) for dairy waste management. The General Order establishes a schedule for dischargers to develop and implement their WMP and NMP, and requires them to make facility modifications as necessary to protect surface water, improve storage capacity, and improve the facility's nitrogen balance before all infrastructure changes are completed. In addition, BMPs intended to minimize surface water discharges and subsurface discharges at dairies are required.

The WMP and NMP were reviewed by CVRWQCB staff to determine if the amount of wastewater generated was in accordance with the standards outlined in the General Order and whether new individual WDRs are needed. The purpose of review of these plans and compliance with the General Order is to ensure that approved plans are designed and implemented to ensure that the impact of animal waste on surface and groundwater quality is minimized and poses a less than significant impact on water quality. According to the WMP, the total process wastewater generated daily will be 68,816 gallons per day under normal precipitation. The existing and required storage capacities were calculated to be 9,433,174 and 7,228,529 gallons, respectively. CVRWQCB staff is responsible for determining that the aforementioned plans are compliant with the General Order and that the existing lagoons are adequately sized to handle any additional waste resulting from the reorganization. Initially, CVRWQCB provided correspondence dated January 26, 2021 stating the plans were adequate provided that the operator closely follows both plans considering the NMP relies heavily on exports and following specific cropping patterns, and the WMP requires that all lagoons on-site be lowered substantially prior to the 120-day storage period/wet winter months.

In May 2018, the CVRWQCB approved new Salt and Nitrate Control Programs. The Nitrate Control Program was developed to address widespread nitrate pollution in the Central Valley. The Board identified areas, referred to as Priority 1 and Priority 2 basins, where nitrates pose a high risk based on the presence of nitrates in groundwater that is being used for drinking water. The site is located within the Turlock Subbasin, which was included in one of these priority areas. Most nitrates in the Turlock Subbasin groundwater is from anthropogenic sources, such as nitrogen fertilizer, feedlot and dairy drainage, septic systems, or wastewater drainage. Nitrate concentrations are generally highest at shallow depths in the unconfined aquifer system, but can reach deeper portions of aquifers by downward vertical hydraulic gradients, which can be exacerbated by pumping, or by intra-borehole flow through wells screened at multiple aquifer depths. During Water Year (WY) 2021, nitrate concentrations ranged from ND to 159 mg/L. In total, 92 wells (28.9% of all wells) had baseline values that are greater than the 10 mg/L MT, and the maximum nitrate concentration was measured during WY 2021 for 52 of these wells. The average of all nitrate baseline values was 11.7 mg/L, and the median was 7.5 mg/L. Elevated nitrate concentrations are observed primarily in the Western Principal Aquifers and in the western portion of the Eastern Principal Aquifer. Of the 198 wells in the Western Principal Aquifers, 70 have baseline values greater than the MT. Of the 166 wells in the Eastern Principal Aquifer, 65 have a baseline value greater than the MT. Higher concentrations were reported in the Western Upper Principal Aquifer than the Western Lower Principal Aquifer.

An email provided by CVRWQCB dated February 18, 2022 stated the NMP is in agreement with the current Dairy General Order; however, data collected by the Central Valley Dairy Representative Monitoring Program (CVDRMP) have indicated that these nutrient management practices are not sufficient to prevent the pollution of groundwater from cropland. CVRWQCB is placing the review of all NMP & WMP on hold and operators are to proceed at their own discretion; therefore, the proposed project could result in degradation of groundwater resources. The CVRWQCB suggested the CAFO enrolls in the Central Valley Dairy Representative Monitoring Program (CVDRMP) to meet the requirements for groundwater monitoring. While the proposed dairy expansion is not anticipated to increase the potential for impacts to groundwater quality, because elevated nitrate levels have been observed from agricultural operations in general in the Central Valley, mitigation measures have been incorporated into the project requiring implementation of BMPs, compliance with their WMP and NMP, compliance with the permit requirements to protect surface waters and groundwater from salts in wastewater, in conformance with the Central Valley Regional Water Quality Control Board's (CVRWQCB) Resolution R5-2018-0034, enrollment in the Central Valley Dairy Representative Monitoring Program (CVDRMP) to meet the requirements for groundwater monitoring, and well monitoring. With mitigation in place impacts to hydrology and water quality are considered to be less than significant.

Stanislaus County adopted a Groundwater Ordinance in November 2014 (Chapter 9.37 of the County Code, hereinafter, the "Ordinance") that codifies requirements, prohibitions, and exemptions intended to help promote sustainable groundwater extraction in unincorporated areas of the County. The Ordinance prohibits the unsustainable extraction of groundwater and makes issuing permits for new wells, which are not exempt from this prohibition, discretionary. For unincorporated areas

covered in an adopted GSP pursuant to SGMA, the County can require holders of permits for wells it reasonably concludes, are withdrawing groundwater unsustainably to provide substantial evidence that continued operation of such wells does not constitute unsustainable extraction and has the authority to regulate future groundwater extraction. The project site utilizes an existing septic system and on-site well and no additional septic systems or wells are included in the request. The project was referred to the Department of Environmental resources and Environmental Review Committee, who had no comments regarding impacts to water. Any future proposals for new wells will be subject to review under the County's Groundwater Ordinance and Well Permitting Program.

The Sustainable Groundwater Management Act (SGMA) was passed in 2014 with the goal of ensuring the long-term sustainable management of California's groundwater resources. SGMA requires agencies throughout California to meet certain requirements including forming Groundwater Sustainability Agencies (GSA), developing Groundwater Sustainability Plans (GSP), and achieving balanced groundwater levels within 20 years. The site is located in the West Turlock Subbasin covered by the West Turlock Subbasin GSA. The West Turlock Subbasin GSA (consisting of 12 public agencies) and the East Turlock Subbasin GSA (five agencies) are jointly developing a single GSP to manage groundwater sustainably through at least 2042. The West Turlock Subbasin Groundwater Sustainability Agency (GSA) and the East Turlock Subbasin GSA submitted the Groundwater Sustainability Plan (GSP) to California's Department of Water Resources (DWR) on January 28, 2022. DWR has posted the final GSP on its website and is in the process of adopting the final plan. The GSAs jointly prepared this first annual report for the Turlock Subbasin addressing groundwater and surface water conditions during Water Year (WY) 2021 and submitted the report to DWR. Total groundwater extractions in the Turlock Subbasin during WY 2021 were approximately 557,200 AFY. This total is based on both direct measurements by local water agencies and estimates. During WY 2021, agricultural groundwater extraction accounts for 92% (513,800 AFY) of the total pumping in the Turlock Subbasin, while urban groundwater extraction accounts for the remaining 8% (43,400 AFY). The proposed dairy expansion would be subject to the requirements of the GSP for the region, when adopted, which would further minimize impacts to groundwater supplies.

Areas subject to flooding have been identified in accordance with the Federal Emergency Management Act (FEMA). Run-off is not considered an issue because of several factors which limit the potential impact. These factors include a relative flat terrain of the subject site and relatively low rainfall intensities. Areas subject to flooding have been identified in accordance with the Federal Emergency Management Act (FEMA). The project site is located in FEMA Flood Zone X, which includes areas determined to be outside the 0.2% annual chance floodplains. As such, flooding is not considered to be an issue with respect to this project. Flood zone requirements will be addressed by the Building Permits Division during the building permit application process. The Stanislaus County Department of Public Works has reviewed the project and is requiring a grading, drainage, and erosion/sediment control plan for any on-site work that will alter the building footprint for the site. Consequently, run-off associated with the construction of any new structure will be reviewed as part of the overall building permit review process.

Impacts to hydrology and water quality are considered to be less-than significant with mitigation.

Mitigation:

1. The following Best Management Practices shall be implemented as applicable: Positive drainage shall be included in project design and construction to ensure that excessive ponding does not occur. The design shall comply with Title 3, Division 2, Chapter 1, Article 22, Section 646.1 of the Food and Agriculture Code for construction and maintenance of dairy or facility surroundings, corrals, and ramps, as described below. Dirt or unpaved corrals, or unpaved lanes, shall not be located closer than 25 feet from the milking barn or closer than 50 feet from the milk house. Corral drainage must be provided. A paved (concrete or equivalent) ramp or corral shall be provided to allow the animals to enter and leave the milking barn. This paved area shall be curbed (minimum of 6 inches high and 6 inches wide) and sloped to a drain. Cow washing areas shall be paved (concrete or equivalent) and sloped to a drain. The perimeter of the area shall be constructed in a manner that will retain the wash water to a paved drained area. Paved access shall be provided to permanent feed racks, mangers, and water troughs. Water troughs shall be provided with: (1) a drain to carry the water from the corrals; and (2) pavement (concrete or equivalent) which is at least 10 feet wide at the drinking area. The cow standing platform at permanent feed racks shall be paved with concrete or equivalent for at least 10 feet back of the stanchion line. As unpaved areas are cleaned, depressions tend to form, allowing ponding and increased infiltration. Regular maintenance shall include filling of depressions. Personnel shall be taught the correct use of manure collection machines (wheel loaders or elevating scrapers).

2. The applicant shall comply with requirements of the approved Nutrient Management Plan (NMP) and Waste Management Plan (WMP) and implement Central Valley Regional Water Quality Control Board (CVRWQCB) requirements included in the individual Waste Discharge Requirements (WDR) for the proposed expansion. The application rates of liquid and/or solid manure identified within the NMP shall not exceed agronomic rates. Compliance shall be verified by the collection of nutrient samples for nitrogen, potassium, phosphorus, and salts prior to and during application periods to confirm agronomic rates within all portions of cropped areas receiving manure, and to protect water supplies.

3. The applicant shall comply with the permit requirements to protect surface waters and groundwater from salts in wastewater, in conformance with the Central Valley Regional Water Quality Control Board's (CVRWQCB) Resolution R5-2018-0034.

4. The applicant shall enroll in the Central Valley Dairy Representative Monitoring Program (CVDRMP) to meet the requirements for groundwater monitoring.

5. Groundwater monitoring of the on-site domestic and irrigation wells as required under the General Order and individual Waste Discharge Requirements (WDR) shall be completed by the dairy operator. Potential future groundwater monitoring wells may be sampled as required by the WDR or depending on the success of the regional representative monitoring program. A well monitoring schedule shall be incorporated into the WDR issued for the facility.

6. After project implementation and subsequent groundwater monitoring, if the dairy shows increased concentration in groundwater of constituents of concern, additional manure exportation, a reduction in herd size, or additional crop acres may be necessary to accommodate the proposed expansion. A new Report of Waste Discharge (ROWD) may be required by the Central Valley Regional Water Quality Control Board (CVRWQCB). The ROWD shall clearly demonstrate that the herd size will not constitute a threat to groundwater quality. If necessary, the CVRWQCB shall revise the WDR issued to the facility.

References: Application information; Referral response from the Department of Public Works, January 28, 2021**;** Referral response from the Department of Environmental Resources, dated November 5, 2020; Referral response from the Environmental Review Committee, dated November 9, 2020; Referral response from the Central Valley Regional Water Quality Control Board (CVRWQCB), dated November 9, 2020 and emails dated January 26, 2021 and February 18, 2022; West Turlock Subbasin and East Turlock Subbasin Groundwater Sustainability Agencies (GSAs) Turlock Subbasin Groundwater Sustainability Plan (GSP) First Annual Report Water Year 2021; Valley Water Collaborative Interactive Ambient Nitrate Map; Stanislaus County General Plan and Support Documentation[1].

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

Discussion: The project site is designated Agriculture in the County General Plan and is zoned A-2-40 (General Agriculture). This project requests to expand the number of combined milk and dry cows from 1,180 mature cows (1,100 milk cows and 80 dry) to 1,700 mature cows (1,500 milk cows and 200 dry); and to increase support stock numbers from 80 to 1,160. The total number of animals is to increase by 1,600. Consequently, additional waste will be generated. The dairy's existing Waste Management Plan (WMP) and Nutrient Management Plan (NMP) were revised to account for the increase in waste and resulting storage and disposal needs associated with the increase in herd size. The updated WMP estimates that the expansion will increase the daily manure production by 1,900 cubic feet, for a total of 4,586 cubic feet

per day, which equates to approximately 4,117,194 gallons and 550,389 cubic feet of manure per year (pre-separation). The estimated wastewater storage needs will be accommodated by the existing capacity of the on-site lagoons.

The existing dairy operation has been previously developed with areas for feed storage, waste containment, milking facility infrastructure, and utilities. Due to the proposed increases in animal units, this applicant is also requesting construction of a 36,000± square-foot addition to an existing freestall barn, and a new 94,500± square-foot freestall barn, located immediately west of the existing dairy facility footprint. A dairy herd expansion is permitted in the agricultural zone; however, the Regional Water Quality Control Board (RWQCB) has determined that the proposed project required amended Waste Discharge Requirements (WDR) which is subject to CEQA and, therefore, requires that the applicants obtain a Use Permit in accordance with §21.20.030(F) of the Stanislaus County Zoning Ordinance. Agricultural uses requiring a Use Permit which do not fall under Tier One, Two, or Three uses may be allowed when the Planning Commission finds that the establishment, maintenance, and operation of the proposed use or buildings applied for are consistent with the General Plan and will not, under the circumstances of the particular case, be detrimental to the health, safety, and general welfare of persons residing or working in the neighborhood of the use, and that it will not be detrimental or injurious to property and improvements in the neighborhood or to the general welfare of the County.

Based on the specific features and design of this project, it does not appear this project will impact the long-term productive agricultural capability of surrounding contracted lands in the A-2 zoning district. There is no indication this project will result in the removal of adjacent contracted land from agricultural use. The project was referred to the Department of Conservation, and no response has been received to date. This request will not physically divide an established community, nor conflict with any habitat conservation plans. Impacts associated with land use and planning and considered to be less than significant.

Mitigation: None.

References: Application information; Stanislaus County General Plan and Support Documentation[1].

XII. MINERAL RESOURCES -- Would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Included**	**Less Than Significant Impact**	**No Impact**
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?			**X**	
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?			**X**	

Discussion: The location of all commercially viable mineral resources in Stanislaus County has been mapped by the State Division of Mines and Geology in Special Report 173. There are no known significant resources on the site, nor is the project site located in a geological area known to produce resources.

Mitigation: None.

References: Application information; Stanislaus County General Plan and Support Documentation[1].

XIII. NOISE -- Would the project result in:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Included**	**Less Than Significant Impact**	**No Impact**

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			**X**	
b) Generation of excessive groundborne vibration or groundborne noise levels?			**X**	
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?			**X**	

Discussion: The Stanislaus County General Plan identifies noise levels up to 75 dB Ldn (or CNEL) as the normally acceptable level of noise for agricultural uses. The Stanislaus County General Plan identifies noise levels for residential or other noise-sensitive land uses of up to 55 hourly Leq, dBA and 75 Lmax, dBA from 7 a.m. to 10 p.m. and 45 hourly Leq, dBA and 65 Lmax, dBA from 10 p.m. to 7 a.m. Pure tone noises, such as music, shall be reduced by five dBA; however, when ambient noise levels exceed the standards, the standards shall be increased to the ambient noise levels. Noise impacts associated with on-site activities and traffic are not anticipated to exceed the normally acceptable level of noise. On-site grading and construction may result in a temporary increase in the area's ambient noise levels; however, noise impacts associated with on-site activities and traffic are not anticipated to exceed the normally acceptable level of noise. Permanent increases may result as the number of animal units is increased on-site; however, Stanislaus County has adopted a Right-to-Farm Ordinance (§9.32.050) which states that inconveniences associated with agricultural operations, such as noise, odors, flies, dust, or fumes shall not be considered to be a nuisance if agricultural operations are consistent with accepted customs and standards. The site itself is impacted by noise generated by vehicular traffic on South Mitchell and Hilmar Roads and neighboring dairy operations.

The site is not located within an airport land use plan. Impacts associated with noise are considered to be less than significant.

Mitigation: None.

References: Application information; Stanislaus County Noise Control Ordinance (Title 10); Stanislaus County General Plan and Support Documentation[1].

XIV. POPULATION AND HOUSING -- Would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Included**	**Less Than Significant Impact**	**No Impact**
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?			**X**	
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?			**X**	

Discussion: The site is not included in the vacant sites inventory for the 2016 Stanislaus County Housing Element, which covers the 5th cycle Regional Housing Needs Allocation (RHNA) for the county and will therefore not impact the County's ability to meet their RHNA. No population growth will be induced nor will any existing housing be displaced as a result of this project. The project site is adjacent to large scale agricultural operations, and the nature of the use is considered consistent with the A-2 (General Agriculture) zoning district.

Mitigation: None.

References: Application information; Stanislaus County General Plan and Support Documentation[1].

XV. PUBLIC SERVICES --	Potentially Significant Impact	Less Than Significant With Mitigation Included	Less Than Significant Impact	No Impact
a) Would the project result in the 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:			**X**	
Fire protection?			**X**	
Police protection?			**X**	
Schools?			**X**	
Parks?			**X**	
Other public facilities?			**X**	

Discussion: The project site is served by the Mountain View Fire District for fire protection services, the Stanislaus County Sherriff for police services, the Chatom Union and Turlock Unified School Districts for schools, by the Turlock Irrigation District for electrical services, and by Stanislaus County for other public services such as environmental health, roads, and parks services. The County has adopted Public Facilities Fees (PFF) to address impacts to public services. PFF fees, as well as school and fire fees, are required to be paid at the time of building permit issuance. The project was referred to the appropriate public service agencies, as well as the Stanislaus County Environmental Review Committee (ERC), which includes the Sheriff's Department. This project was circulated to all applicable school, fire, police, irrigation, and public works departments and districts during the early consultation referral period and no concerns regarding impacts to County services were identified. The Turlock Irrigation District responded stating they had no comments on irrigation facilities and that the owner/developer must apply for a facility change for any pole or electrical facility relocation. A referral response received from the Department of Public Works indicated that a grading, drainage, and erosion/sediment control plan for the project shall be submitted prior to the issuance any building permit. A Storm Water Pollution Prevention Plan (SWPPP) will be required for future construction prior to the approval of any grading. These comments will be applied as conditions of approval. Public Works also requested road dedication be provided for the half-width of South Mitchell and Hilmar Roads.

Mitigation: None.

References: Application information; Referral response from the Department of Public Works, dated January 28, 2021; Referral response from the Turlock Irrigation District, dated November 4, 2020; Referral response from Stanislaus County Environmental Review Committee, November 9, 2020; Stanislaus County General Plan and Support Documentation[1].

XVI. RECREATION --	Potentially Significant Impact	Less Than Significant With Mitigation Included	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			**X**	

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?			**X**	

Discussion: The project site is served by Stanislaus County for parks services. This project will not increase demands for recreational facilities, as such impacts typically are associated with residential development. Non-residential development pays parks fees through the payment of public facilities fees, which are collected during the issuance of a building permit. This requirement will be incorporated into the project as a development standard.

Impacts to recreation are considered to be less than significant.

Mitigation: None.

References: Application information; Stanislaus County General Plan and Support Documentation[1].

XVII. TRANSPORTATION -- Would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Included**	**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?			**X**	
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?			**X**	
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			**X**	
d) Result in inadequate emergency access?			**X**	

Discussion: The site has access to County-maintained South Mitchell and Hilmar Roads which are classified as 60-foot-wide local roads.

Section 15064.3 of the CEQA Guidelines establishes specific considerations for evaluating a project's transportation impacts. The CEQA Guidelines identify vehicle miles traveled (VMT), which is the amount and distance of automobile travel attributable to a project, as the most appropriate measure of transportation impacts. A technical advisory on evaluating transportation impacts in CEQA published by the Governor's Office of Planning and Research (OPR) in December of 2018 clarified the definition of automobiles as referring to on-road passenger vehicles, specifically cars and light trucks. While heavy trucks are not considered in the definition of automobiles for which VMT is calculated for, heavy-duty truck VMT could be included for modeling convenience. According to the same technical advisory from OPR, projects that generate or attract fewer than 110 trips per-day generally may be assumed to cause a less-than significant transportation impact. The applicant anticipates a maximum of three truck trips per-day, 15 employees on a maximum shift, and one customer/visitor per-day for a total of 16 daily automobile trips and three truck trips. The VMT increase associated with the proposed project is less-than significant as the number of vehicle trips will not exceed 110 per-day.

It is not anticipated that the project would substantially affect the level of service on South Mitchell or Hilmar Roads. The project was referred to the Stanislaus County Department of Public Works, which has requested conditions of approval to address driveway approaches installed according to Public Works' Standards and Specifications, restrictions on loading, parking, unloading within the County right-of-way, the need for road reservations, and a grading, drainage, and sediment management plan.

Transportation impacts associated with the project are considered to be less than significant.

Mitigation: None.

References: Application information; Governor's Office of Planning and Research Technical Advisory, December 2018; Referral response from the Department of Public Works, dated January 28, 2021; Stanislaus County General Plan and Support Documentation[1].

XVIII. TRIBAL CULTURAL RESOURCES -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Included	Less Than Significant Impact	No Impact
a) 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:			**X**	
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			**X**	
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set for the in subdivision (c) of Public Resource Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.			**X**	

Discussion: It does not appear that this project will result in significant impacts to any archaeological or cultural resources. The project site is already improved with multiple buildings. In accordance with SB 18 and AB 52, this project was not referred to the tribes listed with the Native American Heritage Commission (NAHC) as the project is not a General Plan Amendment and no tribes have requested consultation or project referral noticing. While the site is already developed, if any resources are found during future construction, construction activities would halt until a qualified survey takes place and the appropriate authorities are notified.

Mitigation: None.

References: Application information; Stanislaus County General Plan and Support Documentation[1].

XIX. UTILITIES AND SERVICE SYSTEMS -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Included	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?			**X**	

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?			**X**	
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?			**X**	
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?			**X**	
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			**X**	

Discussion: Limitations on providing services have not been identified. The project proposes to utilize an existing well and existing septic facilities. The project site is served by the Turlock Irrigation District (TID) for electrical services. Any intensity of these utilities will be subject to any regulatory requirements during the building permitting phase. A referral response received from the Department of Public Works indicated that a grading, drainage, and erosion/sediment control plan for the project shall be submitted prior to the issuance any building permit. A Storm Water Pollution Prevention Plan (SWPPP) will be required for future construction prior to the approval of any grading. TID responded stating they had no comments on irrigation facilities and that the owner/developer must apply for a facility change for any pole or electrical facility relocation. These comments will be applied as conditions of approval. The project was also referred to PG&E and AT&T and no response has been received to date.

No new wells or septic systems are proposed for this expansion; installation of any future wells or septic systems must be reviewed and approved by the Department of Environmental Services (DER) and must adhere to current Local Agency Management Program (LAMP) standards. LAMP standards include minimum setbacks from wells to prevent negative impacts to groundwater quality. The project was referred to DER, who responded with no comments regarding wastewater. The project was also referred to the Environmental Review Committee who responded with no comment.

Impacts to utilities and services are considered to be less than significant.

Mitigation: None.

References: Referral response from Public Works, dated January 28, 2021; Referral response from the Turlock Irrigation District, dated November 4, 2020; Referral response from DER, dated November 5, 2020; Referral response from the Environmental Review Committee, dated November 9, 2020; Stanislaus County General Plan and Support Documentation[1].

XX. WILDFIRE – If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Included**	**Less Than Significant Impact**	**No Impact**
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?			**X**	
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?			**X**	

c) Require the installation of 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?			**X**	
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?			**X**	

Discussion: The Stanislaus County Local Hazard Mitigation Plan identifies risks posed by disasters and identifies ways to minimize damage from those disasters. The terrain of the site is relatively flat, and the site has access to a City and County-maintained road. The site is located in a Local Responsibility Area (LRA) for fire protection and is served by Mountain View Fire Protection District. The project was referred to the District, and no comments have been received to date. California Building and Fire Code establishes minimum standards for the protection of life and property by increasing the ability of a building to resist intrusion of flame and burning embers. The building permit for the 36,000± square-foot addition to an existing freestall barn and new 94,500± square-foot freestall barn will be reviewed by the County's Building Permits Division and Fire Prevention Bureau to ensure all State of California Building and Fire Code requirements are met prior to construction. Wildfire risk and risks associated with postfire land changes are considered to be less-than significant.

Mitigation: None.

References: Application Material; California Fire Code Title 24, Part 9; California Building Code Title 24, Part 2, Chapter 7; Stanislaus County Local Hazard Mitigation Plan; Stanislaus County General Plan and Support Documentation[1].

XXI. MANDATORY FINDINGS OF SIGNIFICANCE --	**Potentially Significant Impact**	**Less Than Significant With Mitigation Included**	**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?			**X**	
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)			**X**	
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			**X**	

Discussion: The proposed use is considered to be a permitted agricultural use. Discretionary approval is required for the expansion of the dairy to allow for amendments to the operation's Waste Discharge Requirements. The site is surrounded by A-2-40 zoned parcels improved with agricultural uses, including confined animal facilities, irrigated cropland, and scattered single-family dwellings in all directions. The City of Turlock is located 5 miles northeast of the project site and

the County of Merced is located .4 miles south of the project site. Development of the surrounding area is subject to the permitted uses and uses allowed when a use permit is obtained as permitted by the A-2 zoning district. Additionally, the majority of the surrounding parcels are restricted by Williamson Act Contracts and are limited to the uses found to be compatible with the Williamson Act. Any uses beyond those uses permitted in the A-2 zoning district would require a General Plan Amendment and rezoning of the property which would be evaluated through additional environmental review which would take into consideration impacts from the loss of farmland and the potential for farmland conversion and cumulative impacts to the surrounding area. Review of this project has not indicated any features which might significantly impact the environmental quality of the site and/or the surrounding area.

Mitigation: None.

References: Application information; Initial Study; Stanislaus County General Plan and Support Documentation[1].

[1]Stanislaus County General Plan and Support Documentation adopted in August 23, 2016, as amended. ***Housing Element*** adopted on April 5, 2016.

DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT
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Stanislaus County

Planning and Community Development

Mitigation Monitoring and Reporting Program

Adapted from CEQA Guidelines APPENDIX G Environmental Checklist Form, Final Text, January 1, 2020

MAY 13, 2022

1. Project title and location:	Use Permit Application No. PLN2014-0108 – Isabel Machado Dairy 7413 South Mitchell Road, at the southwest corner of the South Mitchell Road and Hilmar Road intersection, in the Turlock area. (APN: 057-007-005 & -006, 057-023-004).
2. Project Applicant name and address:	Isabel Machado 7413 South Mitchell Road Turlock, CA 95380
3. Person Responsible for Implementing Mitigation Program (Applicant Representative):	John Machado, Isabel Machado Dairy
4. Contact person at County:	Teresa McDonald, Associate Planner, (209) 525-6330

MITIGATION MEASURES AND MONITORING PROGRAM:

List all Mitigation Measures by topic as identified in the Mitigated Negative Declaration and complete the form for each measure.

X. HYDROLOGY AND WATER QUALITY

No.1 Mitigation Measure: The following Best Management Practices shall be implemented as applicable: Positive drainage shall be included in project design and construction to ensure that excessive ponding does not occur. The design shall comply with Title 3, Division 2, Chapter 1, Article 22, Section 646.1 of the Food and Agriculture Code for construction and maintenance of dairy or facility surroundings, corrals, and ramps, as described below. Dirt or unpaved corrals, or unpaved lanes, shall not be located closer than 25 feet from the milking barn or closer than 50 feet from the milk house. Corral drainage must be provided. A paved (concrete or equivalent) ramp or corral shall be provided to allow the animals to enter and leave the milking barn. This paved area shall be curbed (minimum of 6 inches high and 6 inches wide) and sloped to a drain. Cow washing areas shall be paved (concrete or equivalent) and sloped to a drain. The perimeter of the area shall be constructed in a manner that will retain the wash water to a paved drained area. Paved access shall be provided to permanent feed racks, mangers, and water troughs. Water troughs shall be provided with: (1) a drain to carry the water from the corrals; and (2) pavement (concrete or equivalent) which is at least 10 feet wide at the drinking area. The cow standing platform at permanent feed racks shall be paved with concrete or equivalent for at least 10 feet back of the stanchion line. As unpaved areas are cleaned,

depressions tend to form, allowing ponding and increased infiltration. Regular maintenance shall include filling of depressions. Personnel shall be taught the correct use of manure collection machines (wheel loaders or elevating scrapers).

Who Implements the Measure:	Developer/Property Owner
When should the measure be implemented:	Prior to issuance of a grading or building permit
When should it be completed:	Prior to final inspection of a building permit
Who verifies compliance:	Stanislaus County Department of Planning and Community Development
Other Responsible Agencies:	None

No.2 Mitigation Measure: The applicant shall comply with requirements of the approved Nutrient Management Plan (NMP) and Waste Management Plan (WMP) and implement Central Valley Regional Water Quality Control Board (CVRWQCB) requirements included in the individual Waste Discharge Requirements (WDR) for the proposed expansion. The application rates of liquid and/or solid manure identified within the NMP shall not exceed agronomic rates. Compliance shall be verified by the collection of nutrient samples for nitrogen, potassium, phosphorus, and salts prior to and during application periods to confirm agronomic rates within all portions of cropped areas receiving manure, and to protect water supplies.

Who Implements the Measure:	Developer/Property Owner
When should the measure be implemented:	Prior to issuance of a grading or building permit
When should it be completed:	Ongoing
Who verifies compliance:	Stanislaus County Department of Planning and Community Development
Other Responsible Agencies:	Central Valley Regional Water Quality Control Board

No.3 Mitigation Measure: The applicant shall comply with the permit requirements to protect surface waters and groundwater from salts in wastewater, in conformance with the Central Valley Regional Water Quality Control Board's (CVRWQCB) Resolution R5-2018-0034.

Who Implements the Measure:	Developer/Property Owner
When should the measure be implemented:	Prior to issuance of a grading or building permit
When should it be completed:	Ongoing
Who verifies compliance:	Stanislaus County Department of Planning and Community Development
Other Responsible Agencies:	Central Valley Regional Water Quality Control

	Board; Stanislaus County Department of Environmental Resources (DER)

No.4 Mitigation Measure: The applicant shall enroll in the Central Valley Dairy Representative Monitoring Program (CVDRMP) to meet the requirements for groundwater monitoring.

Who Implements the Measure:	Developer/Property Owner
When should the measure be implemented:	Prior to issuance of a grading or building permit
When should it be completed:	Prior to onset of any ground disturbing activities
Who verifies compliance:	Stanislaus County Department of Planning and Community Development
Other Responsible Agencies:	Central Valley Dairy Representative Monitoring Program

No.5 Mitigation Measure: Groundwater monitoring of the on-site domestic and irrigation wells as required under the General Order and individual Waste Discharge Requirements (WDR) shall be completed by the dairy operator. Potential future groundwater monitoring wells may be sampled as required by the WDR or depending on the success of the regional representative monitoring program. A well monitoring schedule shall be incorporated into the WDR issued for the facility.

Who Implements the Measure:	Developer/Property Owner
When should the measure be implemented:	After issuance of the WDR, if required
When should it be completed:	Ongoing
Who verifies compliance:	Stanislaus County Department of Planning and Community Development
Other Responsible Agencies:	Central Valley Regional Water Quality Control Board; Stanislaus County Department of Environmental Resources (DER)

No.6 Mitigation Measure: After project implementation and subsequent groundwater monitoring, if the dairy shows increased concentration in groundwater of constituents of concern, additional manure exportation, a reduction in herd size, or additional crop acres may be necessary to accommodate the proposed expansion. A new Report of Waste Discharge (ROWD) may be required by the Central Valley Regional Water Quality Control Board (CVRWQCB). The ROWD shall clearly demonstrate that the herd size will not constitute a threat to groundwater quality. If necessary, the CVRWQCB shall revise the WDR issued to the facility.

Who Implements the Measure:	Developer/Property Owner
When should the measure be implemented:	In the event groundwater monitoring shows increased concentration in groundwater of constituents of concern

When should it be completed:	Ongoing
Who verifies compliance:	Stanislaus County Department of Planning and Community Development
Other Responsible Agencies:	Central Valley Regional Water Quality Control Board; Stanislaus County Department of Environmental Resources (DER)

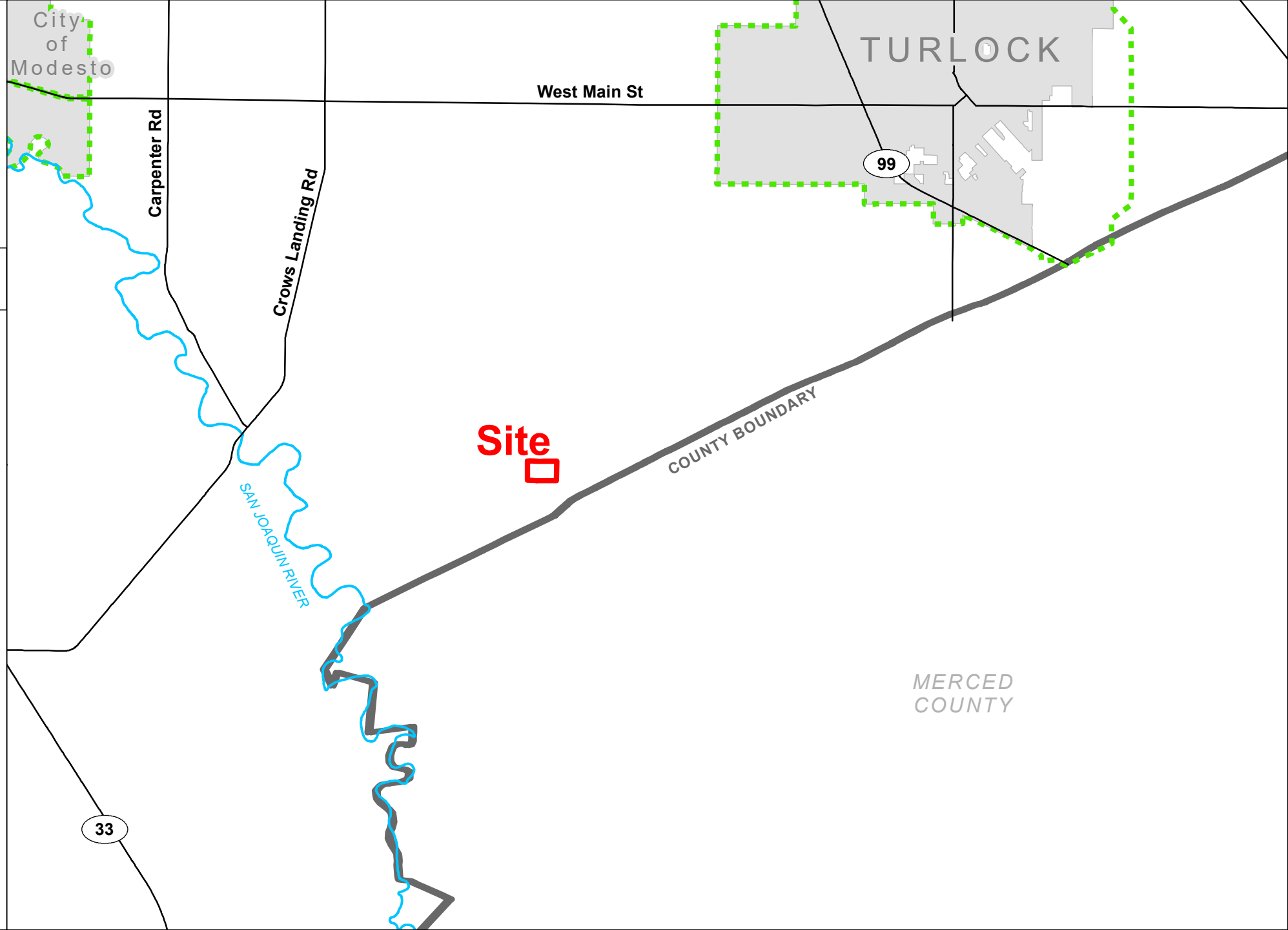
I, the undersigned, do hereby certify that I understand and agree to be responsible for implementing the Mitigation Program for the above listed project.

Signature on File	**5/13/2022**
Person Responsible for Implementing Mitigation Program	Date

ISABEL MACHADO DAIRY

UP PLN2014-0108

AREA MAP



LEGEND

- Project Site
- Sphere of Influence
- City
- Road
- River

N 0 2mi 0 2km

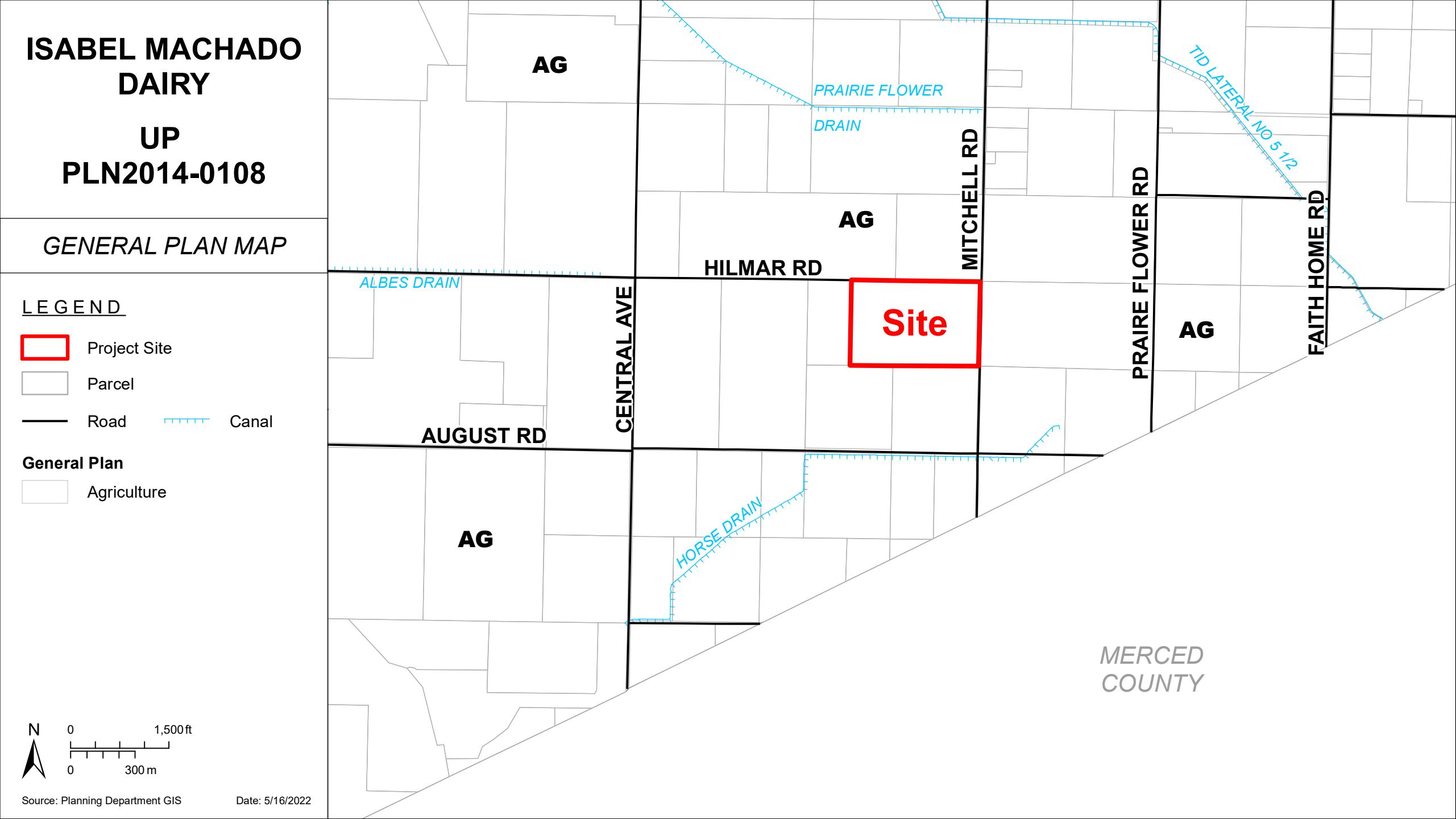
Source: Planning Department GIS

Date: 5/16/2022

ISABEL MACHADO DAIRY

UP PLN2014-0108

GENERAL PLAN MAP



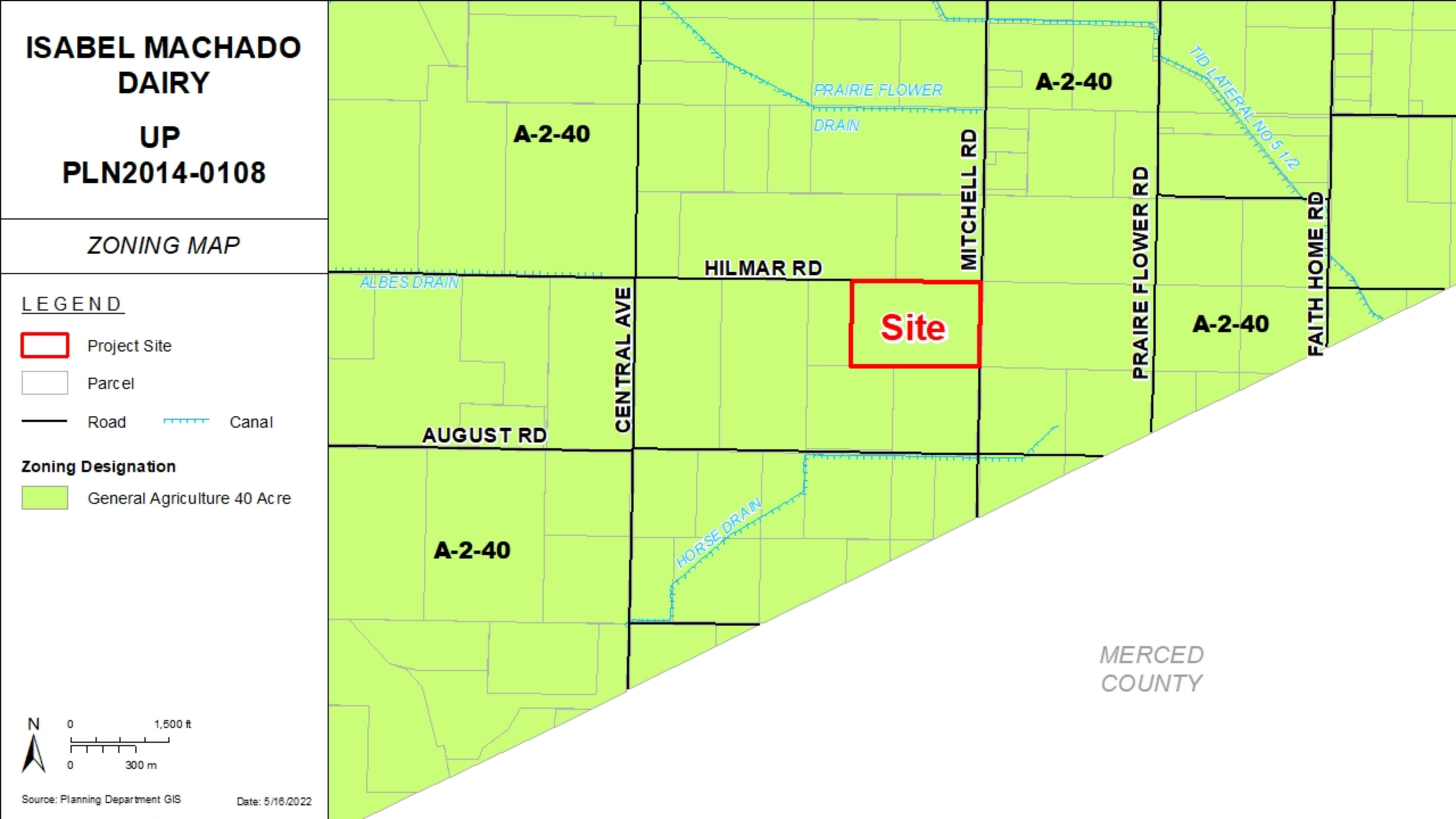
Source: Planning Department GIS

Date: 5/16/2022

ISABEL MACHADO DAIRY

UP PLN2014-0108

ZONING MAP



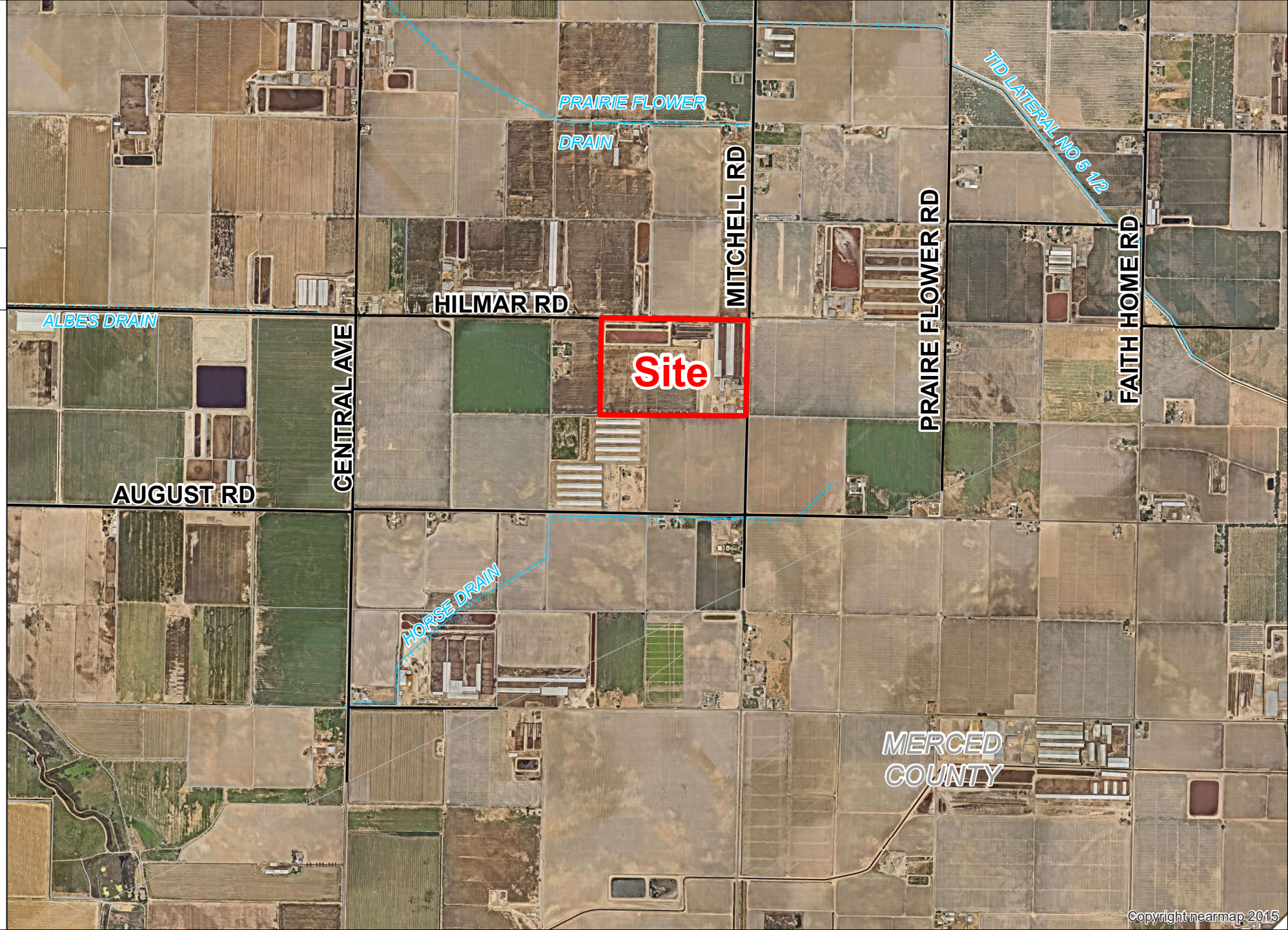
Source: Planning Department GIS

Date: 5/16/2022

ISABEL MACHADO DAIRY

UP PLN2014-0108

2021 AERIAL AREA MAP



LEGEND

- Project Site
- Road
- Canal

N

0 1,500 ft

0 300 m

Source: Planning Department GIS

Date: 5/16/2022

ISABEL MACHADO DAIRY

UP PLN2014-0108

2021 AERIAL SITE MAP

LEGEND

- Project Site
- Road
- Canal

N

0 400 ft

0 100 m

Source: Planning Department GIS

Date: 5/16/2022

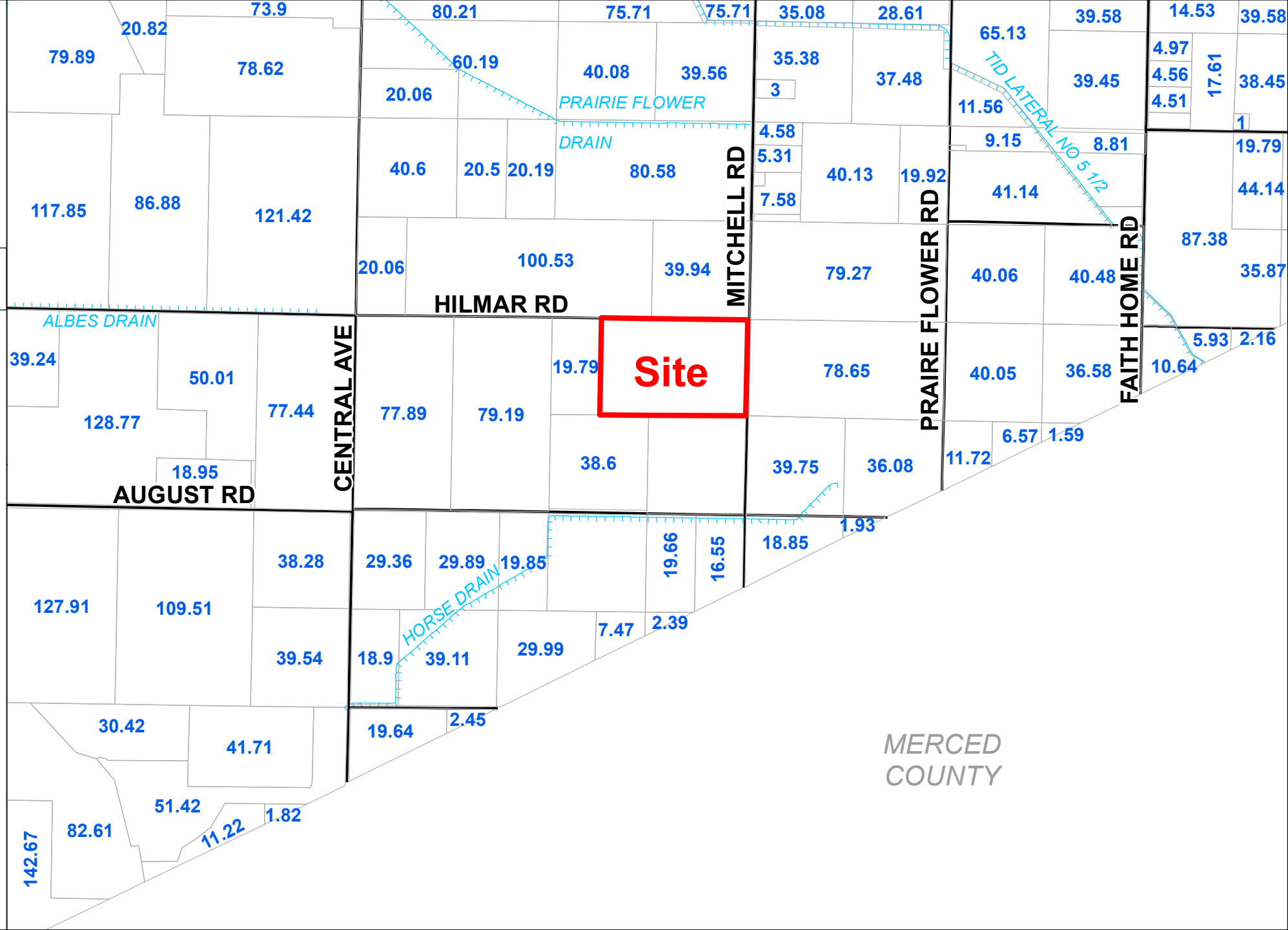
ISABEL MACHADO DAIRY

UP PLN2014-0108

ACREAGE MAP

LEGEND

- Project Site
- # Parcel/Acres
- Road
- Canal



N

0 1,500 ft

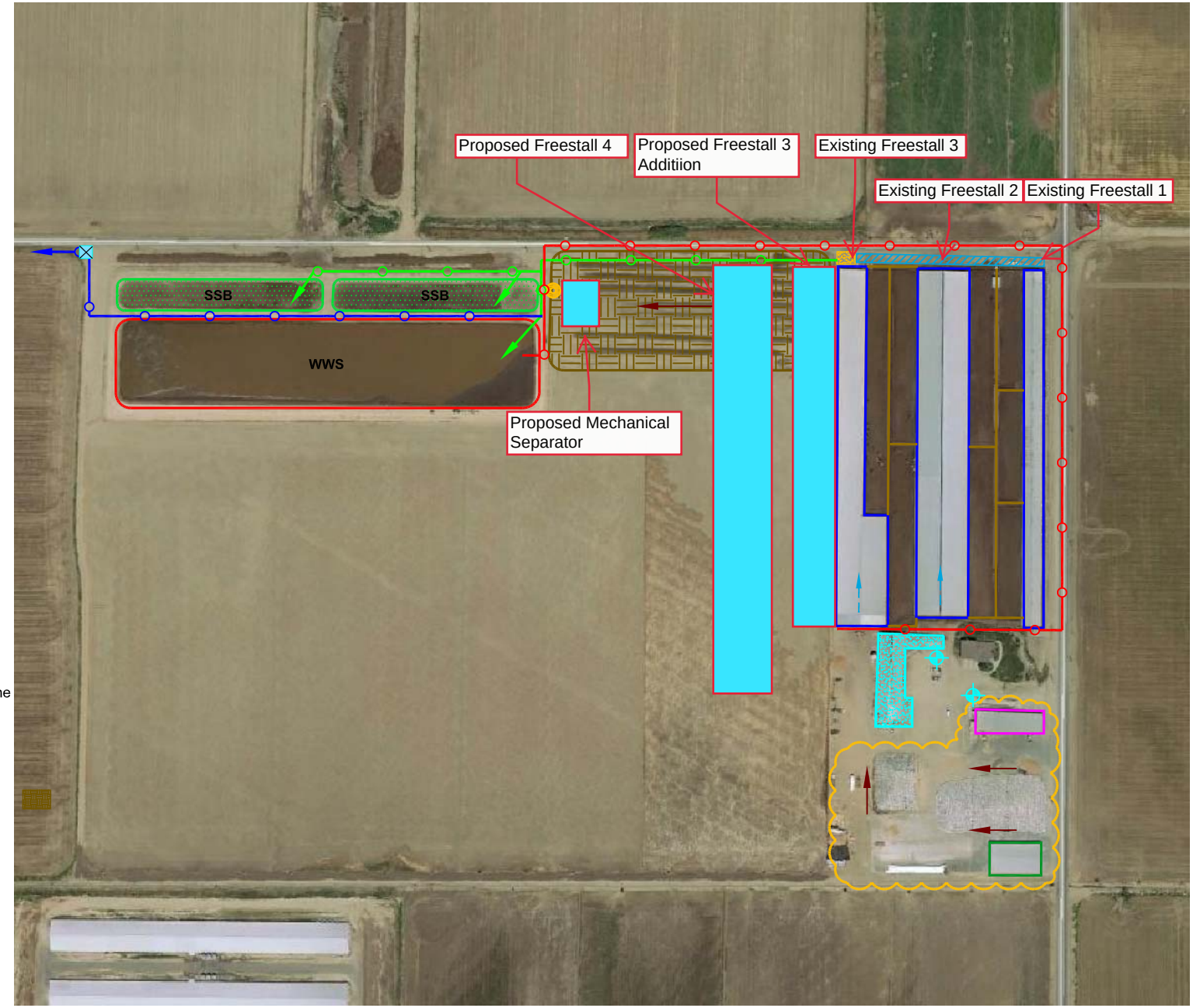
0 300 m

Source: Planning Department GIS

Date: 5/16/2022

LEGEND

- Animal Housing/Shade
- Wastewater Storage
- Hay Barn
- Commodity Barn
- Milk Barn
- Sand Trap
- Corral
- Solids Settling Basin
- Manure Storage
- Pump
- Drain
- Domestic Well
- Feed Storage Area
- Flush Return Pipeline
- Flush Delivery Pipeline
- Clean Water Diversion Pipeline
- Drainage Flow
- Flush Flow Direction
- Flush Return Lane



FR Ag Services, Inc.

SCALE:

0 300 600

APPROXIMATE SCALE IN FEET

MACHADO DAIRY
STANISLAUS COUNTY, CA

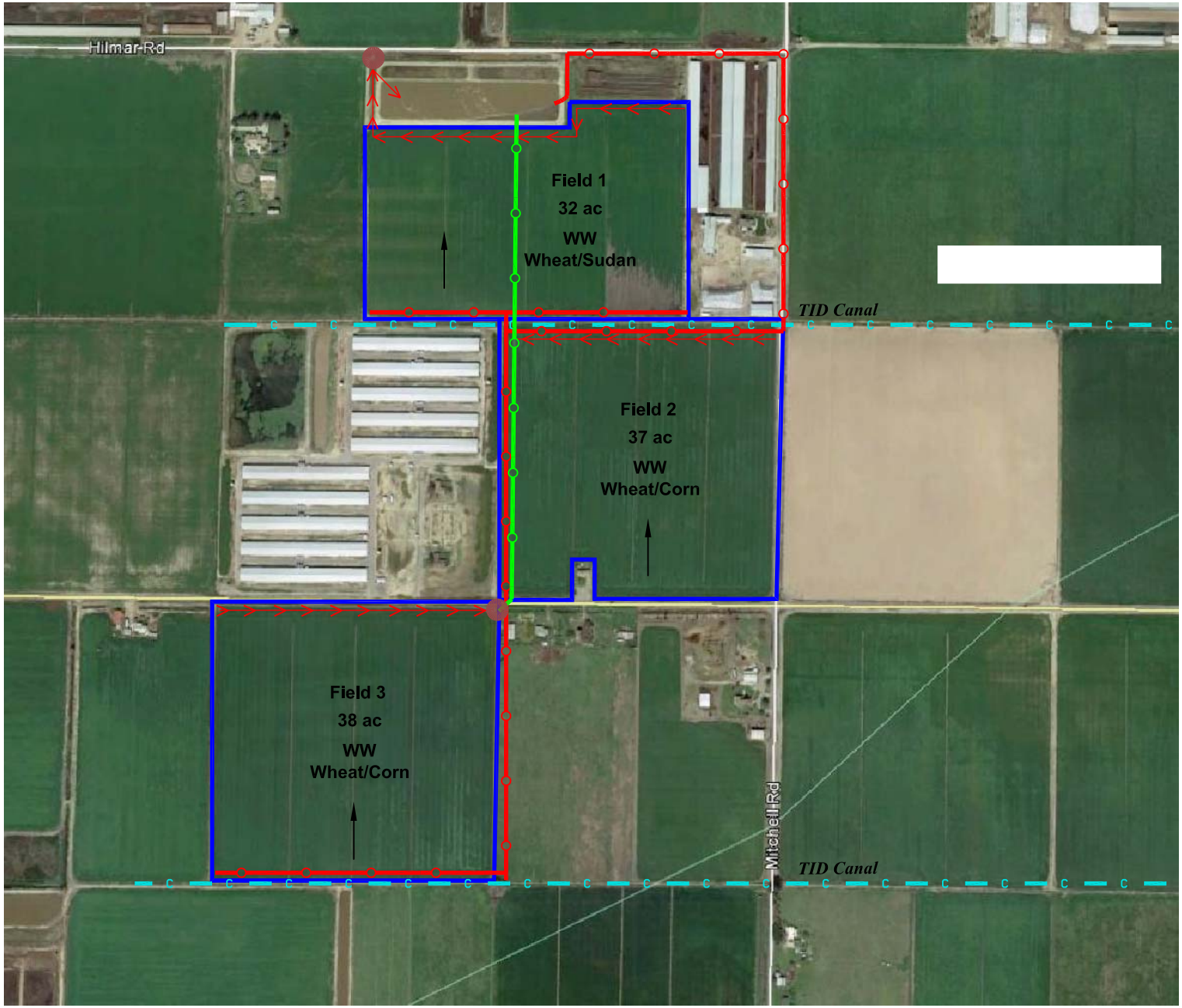
FIGURE 2
DAIRY FACILITY

PROJECT NO.	DATE:	DRAWN BY:	APP. BY:
FRA-00	3/13/18	SB	JR

Machado-land application

LEGEND

- Fields
- Tailwater Return Pipeline
- Wastewater Pipeline
- Irrigation Flow
- Drainage Flow
- TID Canal
- WW Wastewater



Ag Services, Inc.

SCALE:

0 700 1500

APPROXIMATE SCALE IN FEET

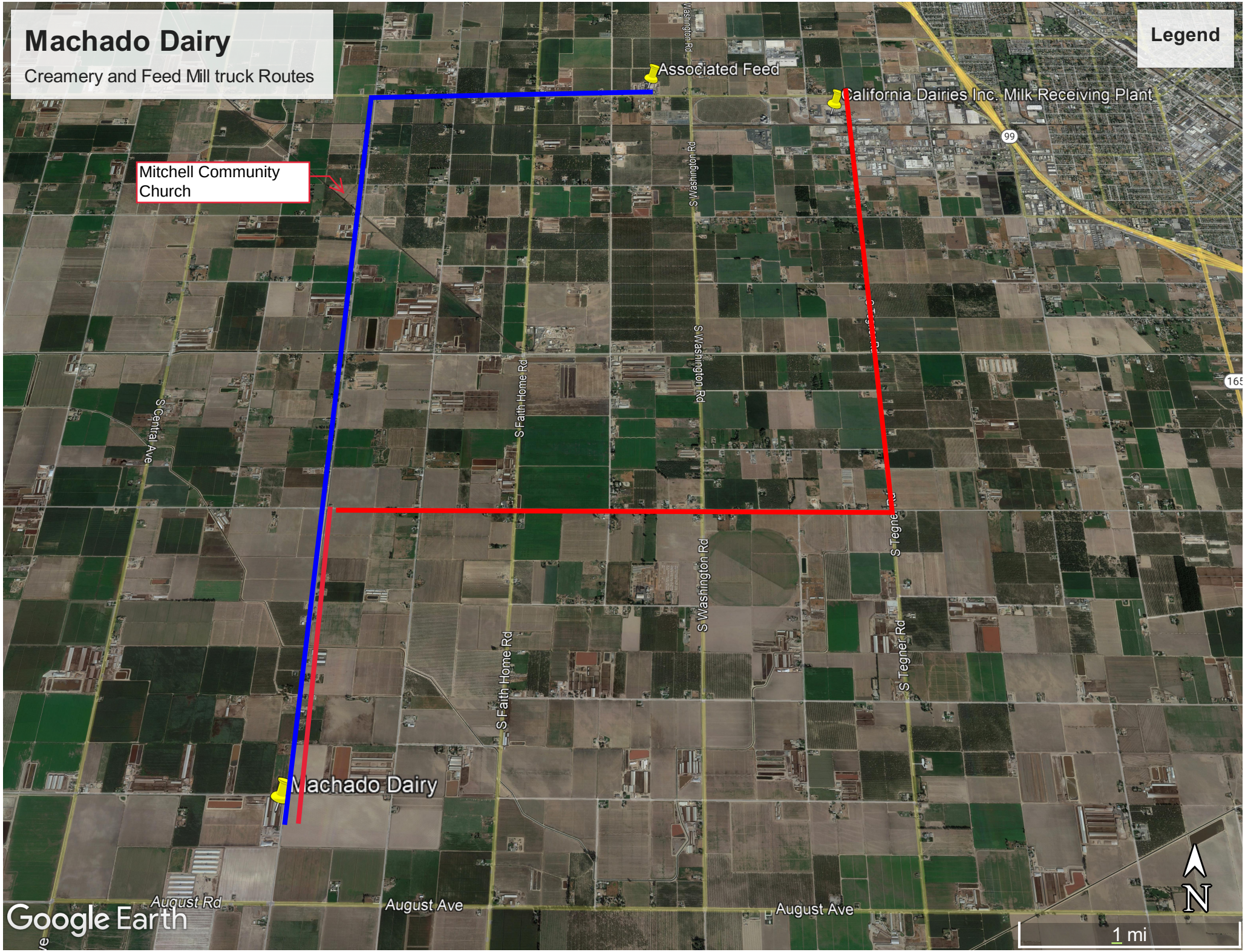
MACHADO DAIRY
STANISLAUS COUNTY, CA

FIGURE 3

LAND APPLICATION AREA

PROJECT NO.	DATE:	DRAWN BY:	APP. BY:
FRA-00	2/10/17	SB	JR

Machado-land application


Machado Dairy
Creamery and Feed Mill truck Routes
Legend
Associated Feed
California Dairies Inc. Milk Receiving Plant
Mitchell Community Church
Machado Dairy
S Washington Rd
S Faith Home Rd
S Central Ave
S Tegner Rd
August Rd
August Ave
August Ave
99
N
1 mi
Google Earth

WASTE MANAGEMENT PLAN

Machado Dairy
c/o: John Machado
7413 So. Mitchell Rd.
Turlock, CA 95380

Prepared By:

FR Ag Services, Inc.

2857 Geer Road, Suite A
Turlock, California 95382

Waste Management Plan Report
General Order No. R5-2007-0035, Attachment B
July 1, 2010 deadline

DAIRY FACILITY INFORMATION

A. NAME OF DAIRY OR BUSINESS OPERATING THE DAIRY: Machado Dairy

Physical address of dairy:

7413 S Mitchell RD	Turlock	Stanislaus	95380
Number and Street	City	County	Zip Code

Street and nearest cross street (if no address):

TRS Data and Coordinates:

6S	9E	11	Mt. Diablo	37° 25' 27.61" N	120° 56' 30.61" W
Township (T_)	Range (R_)	Section (S_)	Baseline meridian	Latitude (N)	Longitude (W)

Date facility was originally placed in operation: 01/01/1970

Regional Water Quality Control Board Basin Plan designation: San Joaquin River Basin

County Assessor Parcel Number(s) for dairy facility:

0057-0007-0004-0000 0057-0007-0005-0000 0057-0007-0006-0000

B. OPERATOR NAME: Machado, Isabel Telephone no.: (209) 634-5026 (Landline) (Cellular)

7413 S Mitchell RD	Turlock	CA	95380
Mailing Address Number and Street	City	State	Zip Code

Operator should receive Regional Board correspondence (check): [X] Yes [ ] No

OPERATOR NAME: Machado, John Telephone no.: (209) 652-6929 (Cellular)

7413 S Mitchell RD	Turlock	CA	95380
Mailing Address Number and Street	City	State	Zip Code

Operator should receive Regional Board correspondence (check): [X] Yes [ ] No

C. LEGAL OWNER NAME: Machado, Isabel Telephone no.: (209) 634-5026 (Landline) (Cellular)

7413 S Mitchell RD	Turlock	CA	95380
Mailing Address Number and Street	City	State	Zip Code

Owner should receive Regional Board correspondence (check): [X] Yes [ ] No

LEGAL OWNER NAME: Machado, John Telephone no.: (209) 652-6929 (Cellular)

7413 S Mitchell RD	Turlock	CA	95380
Mailing Address Number and Street	City	State	Zip Code

Owner should receive Regional Board correspondence (check): [X] Yes [ ] No

D. CONTACT NAME: Mitchell, Michael Telephone no.: (209) 664-1067 (Landline) (Cellular)

Title: Professional Engineer

18836 Clausen RD	Turlock	CA	95380
Mailing Address Number and Street	City	State	Zip Code

Waste Management Plan Report
General Order No. R5-2007-0035, Attachment B
July 1, 2010 deadline

CONTACT NAME: Ramos, Joe | Telephone no.: (209) 250-2471 Landline | (209) 226-2375 Cellular

Title: Technical Service Provider

2857 Geer RD, STE A	Turlock	CA	95382
Mailing Address Number and Street	City	State	Zip Code

Waste Management Plan Report
General Order No. R5-2007-0035, Attachment B
July 1, 2010 deadline

HERD AND MILKING EQUIPMENT

A. HERD AND MILKING

The milk cow dairy is currently regulated under individual Waste Discharge Requirements.

Total number of milk and dry cows combined as a baseline value in response to the Report of Waste Discharge (ROWD) request of October, 2005:

1,700 milk and dry cows combined (regulatory review is required for any expansion)

Type of Animal	Present Count	Maximum Count	Daily Flush Hours	Avg Live Weight (lbs)
Milk Cows	1,100	1,500	18	1,400
Dry Cows	80	200	24	1,400
Bred Heifers (15-24 mo.)	50	450	18	900
Heifers (7-14 mo.)	0	450	24	650
Calves (4-6 mo.)	0	260	24	
Calves (0-3 mo.)	0	0	0	

Predominant milk cow breed: Holstein

Average milk production: 77 pounds per cow per day

Average number of milk cows per string sent to the milkbarn: 188 milk cows per string

Number of milkings per day: 2.0 milkings per day

Number of times milk tank is emptied/filled each day: 2.0 per day

Number of hours spent milking each day: 22.0 hours per day

B. MILKBARN EQUIPMENT AND FLOOR WASH

Bulk tank wash and sanitizing: 4.0 run cycles/wash

Bulk tank wash vat volume: 60 gallons/cycle

Bulk tank wash wastewater: 480.0 gallons/day

Pipeline wash and sanitizing: 4.0 run cycles/wash

Pipeline wash vat volume: 75 gallons/cycle

Pipeline wash wastewater: 600.0 gallons/day

Reused / recycled water is the source of parlor floor wash water: [ ] Yes [X] No

Milkbarn / parlor floor wash volume: 0 gallons/day

Plate coolers type: Mechanically/Air Cooled

Plate coolers volume: 0 gallons/day

Vacuum pumps / air compressors / chillers type: Mechanically/Air Cooled

Vacuum pumps / air compressors / chillers volume: 0 gallons/day

Milkbarn and equipment wastewater volume generated daily: 11,195 gallons/day

C. OTHER WATER USES

Reused/recycled water is the source of herd drinking water: [ ] Yes [X] No

	Milk Cows	Dry Cows	Bred Heifers (15-24 mo.)	Bred Heifers (7-14 mo.)	Calves (4-6 mo.)	Calves (0-3 mo.)
Number of cows drinking from reusable water:	0	0	0	0	0	0
	of 1,100	*of 80*	*of 50*	*of 0*	*of 0*	*of 0*
Gallons per head per day:	0	0	0	0	0	0

Total reusable water consumed by herd: 0 gallons/day

Reused/recycled water is the source of sprinkler pen water: [ ] Yes [X] No

Number of sprinklers in the holding pen: 0 sprinklers

Duration of each sprinkler cycle: 1.0 minutes

Number of sprinkler pen runs/milking: 1 cycles/milking

Flow rate for each sprinkler head: 1.0 gallons/minute

Total sprinkler pen wastewater volume: 0 gallons/day

Total fresh water used in manure flush lane system(s): 0 gallons/day

D. MISCELLANEOUS EQUIPMENT

Description	Source	Throughput (gallons per day)	Discharge Destination
Footbath	Fresh Water	50	Sent to pond
Parlor Butt Trough	Fresh Water	2,175	Sent to pond
Parlor Deck Squirt	Fresh Water	2,860	Sent to pond
Parlor Drop Hoses	Fresh Water	680	Sent to pond
Parlor Slab Wash	Fresh Water	4,350	Sent to pond

E. MILKBARN AND EQUIPMENT SUMMARY

Number of days in storage period: 120 days

Water available for reuse/recycle: 0 gallons/day

Recycled water reused: 0 gallons/day

Recycled water leaving system: 0 gallons/day

Reusable water balance: 0 gallons/day

Volume of milkbarn and equipment wastewater generated for storage period: 1,343,400 gallons/storage period

MANURE AND BEDDING SOLIDS

A. IMPORTED AND FACILITY GENERATED BEDDING

Bedding Type	Imported or Generated (tons)	Density (lbs/cu. ft.)	Applied Separation Efficiency (default)	Solids to Pond (cu. ft./period)
Facility generated bedding	400	40.0	50%	10,000
			Total:	10,000

B. SOLIDS SEPARATION PROCESS

Combined manure solids separation efficiency (weight basis): 60 %

Description of all solids separation equipment used in flushed lane manure management systems:

Proposed Mechanical Separator

C. MANURE AND BEDDING SOLIDS SUMMARY

	cubic feet		gallons	
	day	storage period	day	storage period
Manure generated by the herd (pre-separation):	4,586.57	550,389	34,309.95	4,117,194
Manure generated by the herd sent to pond(s):	2,867.72	344,127	21,452.06	2,574,247
Manure generated by the herd sent to dry lot(s):	972.00	116,640	7,271.05	872,526
Manure solids (herd) removed by separation:	361.55	43,386	2,704.57	324,548
Liquid component in separated solids not send to pond(s):	385.30	46,236	2,882.27	345,872
Imported and facility generated bedding sent to pond(s):	83.33	10,000	623.38	74,805
Total manure and bedding sent to pond(s):	2,951.06	354,127	22,075.44	2,649,053
Residual manure solids and bedding sent to pond(s) w/factor:	162.18	19,462	1,213.21	145,585
	cubic feet per year		gallons per year	
Residual manure solids and bedding sent to pond(s) w/factor:		59,197		442,822

RAINFALL AND RUNOFF

A. RAINFALL ESTIMATES

Rainfall station nearest the facility: Turlock

25 year/24 hour storm event (default NOAA Atlas 2, 1973): 2.50 inches/storage period

25 year/24 hour storm event (user-override): _____ inches/storage period

Storage period rainfall (default DWR climate data): 8.56 inches/storage period

Storage period rainfall (user-override): _____ inches/storage period

Flood zone: Zone X

B. IMPERVIOUS AREAS

Name	Surface Area (sq. ft.)	Quantity	25yr/24hr Storm Runoff Coefficient	Storage Period Runoff Coefficient	Runoff Destination
Conc. Feed/Manure Stacking Slab	112,334	1	0.79	0.82	Drains into pond(s).
Cow walk	4,080	2	0.79	0.82	Drains into pond(s).
Free stall feed lane	1,260	1	0.79	0.82	Drains into pond(s).

Free stall/heifer walk	7,000	2	0.79	0.82	Drains into pond(s).
Heifer feed lane	700	1	0.79	0.82	Drains into pond(s).
Middle free stall lane	1,320	2	0.79	0.82	Drains into pond(s).
Proposed Separator Pad	6,000	1	0.79	0.82	Drains into pond(s).

Surface area that does not run off into pond(s):	0 sq. ft.
Surface area that runs off into pond(s):	145,094 sq. ft.
Total surface area:	145,094 sq. ft.
Runoff from normal storage period rainfall:	634,874 gallons/storage period
Runoff from normal storage period rainfall with 1.5 factor:	952,311 gallons/storage period
25 year/24 hour storm event runoff:	178,635 gallons/storage period
Total surface area runoff:	813,509 gallons/storage period
Total surface area runoff with 1.5 factor:	1,130,946 gallons/storage period

C. ROOF AREAS

Name	Surface Area (sq. ft.)	Quantity	Runoff Destination
Center Freestall	74,200	1	Wastewater pond
Commodity Barn	5,200	1	Wastewater pond
East Freestall	29,000	1	Wastewater pond
Hay barn	6,000	1	Wastewater pond
Milk Barn	8,750	1	Wastewater pond
Office	1,950	1	Wastewater pond
Proposed Heifer Freestall	95,400	1	Field
Proposed West Freestall Addition	36,000	1	Field
Special Needs Barn	11,000	1	Wastewater pond
West Freestall	36,000	1	Wastewater pond

Surface area that does not run off into pond(s):	131,400 sq. ft.
Surface area that runs off into pond(s):	172,100 sq. ft.
Total surface area:	303,500 sq. ft.
Runoff from normal storage period rainfall:	918,343 gallons/storage period
Runoff from normal storage period rainfall with 1.5 factor:	1,377,515 gallons/storage period
25 year/24 hour storm event runoff:	268,208 gallons/storage period
Total surface area runoff:	1,186,551 gallons/storage period
Total surface area runoff with 1.5 factor:	1,645,723 gallons/storage period

D. EARTHEN AREAS

Name	Surface Area (sq. ft.)	Quantity	25yr/24 Storm Coefficient	Storage Period Coefficient	Runoff Destination
Earthen Areas subtracting roofs and conc.	301,787	1	0.35	0.20	Drains into pond(s).
Proposed Manure Stacking area	225,000	1	0.35	0.20	Drains into pond(s).

Surface area that does not run off into pond(s):	0 sq. ft.
Surface area that runs off into pond(s):	526,787 sq. ft.
Total surface area:	526,787 sq. ft.
Runoff from normal storage period rainfall:	562,198 gallons/storage period
Runoff from normal storage period rainfall with 1.5 factor:	843,297 gallons/storage period
25 year/24 hour storm event runoff:	287,338 gallons/storage period
Total surface area runoff:	849,536 gallons/storage period
Total surface area runoff with 1.5 factor:	1,130,635 gallons/storage period

E. TAILWATER MANAGEMENT

No fields with tailwater entered.

LIQUID STORAGE

A. POND OR BASIN DESCRIPTION: LG1

Pond is rectangular in shape: [X] Yes [ ] No

Dimensions

Earthen Length (EL):	860 ft.	Earthen Depth (ED):	11 ft.
Earthen Width (EW):	182 ft.	Side Slope (S):	1.5 ft. (h:1v)
Free Board (FB):	2 ft.	Dead Storage Loss (DS):	2.0 ft.

Calculations

Liquid Length (LL):	854 ft.	Storage Volume Adjusted for Dead Storage Loss:	977,452 cu. ft.
Liquid Width (LW):	176 ft.		
Pond Surface Area:	156,520 sq. ft.	Pond Marker Elevation:	8.3 ft.
Storage Volume:	1,229,778 cu. ft.	Evaporation Volume:	802,198 gals/period
		Adjusted Surface Area:	149,201 sq. ft.

POND OR BASIN DESCRIPTION: SB 1

Pond is rectangular in shape: [X] Yes [ ] No

Dimensions

Earthen Length (EL):	407 ft.	Earthen Depth (ED):	11 ft.
Earthen Width (EW):	60 ft.	Side Slope (S):	1.5 ft. (h:1v)
Free Board (FB):	2 ft.	Dead Storage Loss (DS):	0.0 ft.

Calculations

Liquid Length (LL):	401 ft.	Storage Volume Adjusted for Dead Storage Loss:	141,790 cu. ft.
Liquid Width (LW):	54 ft.		
Pond Surface Area:	24,420 sq. ft.	Pond Marker Elevation:	8.2 ft.
Storage Volume:	141,790 cu. ft.	Evaporation Volume:	113,593 gals/period
		Adjusted Surface Area:	21,127 sq. ft.

POND OR BASIN DESCRIPTION: SB 2

Pond is rectangular in shape: [X] Yes [ ] No

Dimensions

Earthen Length (EL):	407 ft.	Earthen Depth (ED):	11 ft.
Earthen Width (EW):	60 ft.	Side Slope (S):	1.5 ft. (h:1v)
Free Board (FB):	2 ft.	Dead Storage Loss (DS):	0.0 ft.

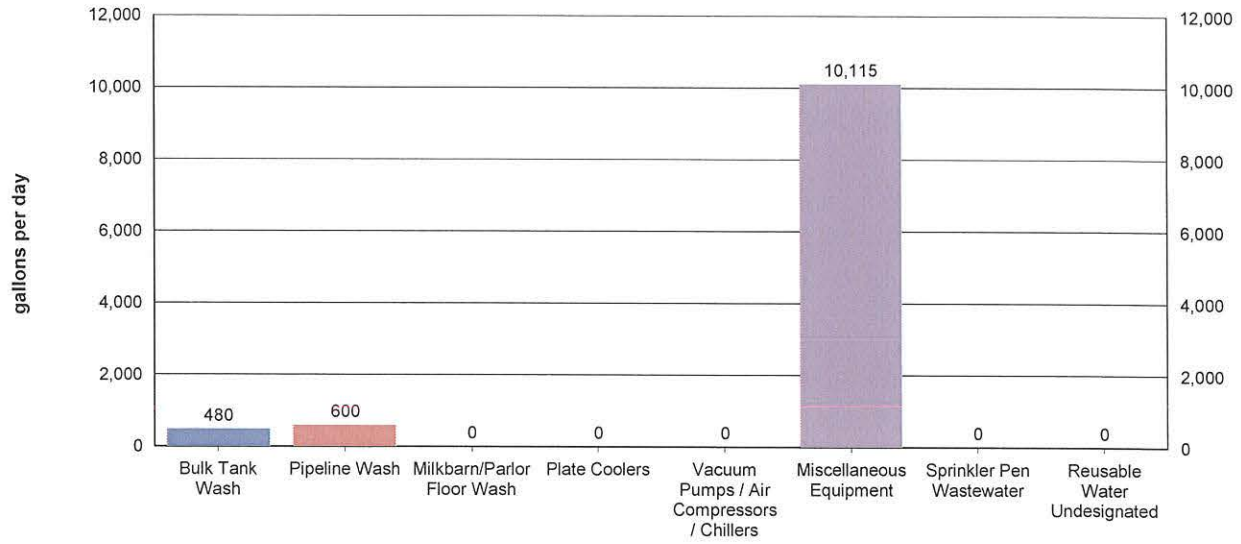
Calculations

Liquid Length (LL):	401 ft.	Storage Volume Adjusted for Dead Storage Loss:	141,790 cu. ft.
Liquid Width (LW):	54 ft.		
Pond Surface Area:	24,420 sq. ft.	Pond Marker Elevation:	8.2 ft.
Storage Volume:	141,790 cu. ft.	Evaporation Volume:	113,593 gals/period
		Adjusted Surface Area:	21,127 sq. ft.

Potential storage losses (due to dead storage):	252,326.0 cubic feet - or -	1,887,529.6 gallons
Liquid storage surface area:	193,612 sq. ft.	
Rainfall onto retention pond(s):	1,095,822 gallons/storage period	
Rainfall runoff into retention pond(s):	2,115,416 gallons/storage period	
Normal rainfall onto retention pond(s) with 1.5 factor:	1,643,733 gallons/storage period	
Normal rainfall runoff into retention pond(s) with 1.5 factor:	3,173,123 gallons/storage period	
Storage period evaporation (default):	11.50 inches/storage period	
Storage period evaporation (user-override):	inches/storage period	
Storage period evaporation volume:	1,029,384 gallons/storage period	
Manure and bedding sent to pond(s):	2,649,053 gallons/storage period	
Milkbarn water sent to pond(s):	1,343,400 gallons/storage period	
Fresh flush water for storage period:	0 gallons/storage period	

CHARTS

A. MILKBARN WASTEWATER SENT TO POND(S)

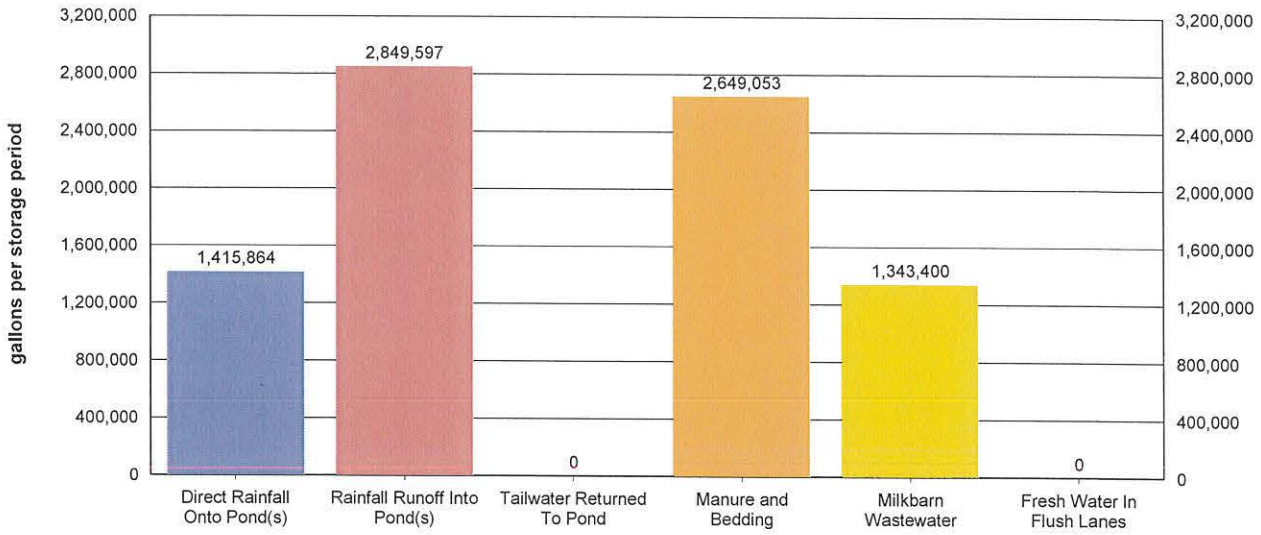


Values shown in chart are approximate values per day.

Total milkbarn wastewater generated daily: 11,195 gallons/day

Total milkbarn wastewater generated per period: 1,343,400 gallons/storage period

B. PROCESS WASTEWATER (NORMAL PRECIPITATION)

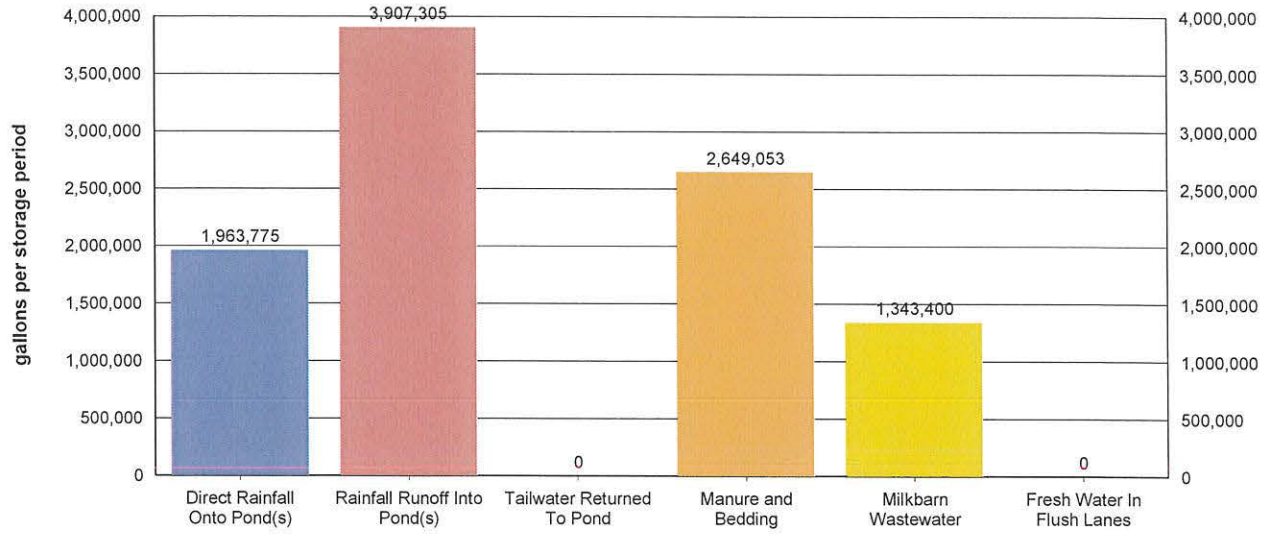


Values shown in chart are approximate values for storage period.

Storage period:	120	days
Total process wastewater generated daily:	68,816	gallons/day
Total process wastewater generated per period:	8,257,913	gallons/storage period
Total process wastewater removed due to evaporation:	1,029,384	gallons/storage period
Total storage capacity required:	7,228,529	gallons
	966,314	cu. ft.
Existing storage capacity (adjusted for dead storage loss):	9,433,174	gallons
	1,261,032	cu. ft.

Considering normal precipitation, existing capacity meets estimated storage needs: [X] Yes [ ] No

C. PROCESS WASTEWATER (NORMAL PRECIPITATION WITH 1.5 FACTOR)

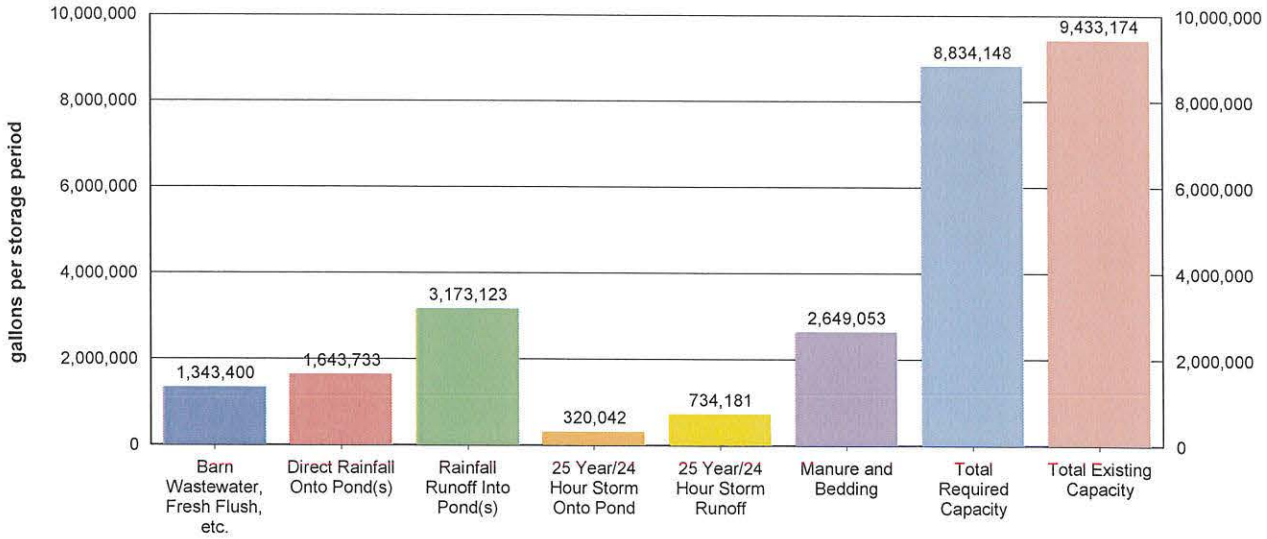


Values shown in chart are approximate values for storage period.

Storage period:	120	days
Total process wastewater generated daily:	82,196	gallons/day
Total process wastewater generated per period:	9,863,532	gallons/storage period
Total process wastewater removed due to evaporation:	1,029,384	gallons/storage period
Total storage capacity required:	8,834,148	gallons
	1,180,954	cu. ft.
Existing storage capacity (adjusted for dead storage loss):	9,433,174	gallons
	1,261,032	cu. ft.

Considering factored precipitation, existing capacity meets estimated storage needs: [X] Yes [ ] No

D. STORAGE VOLUME ASSESSMENT (NORMAL PRECIPITATION WITH 1.5 FACTOR)



Values shown in chart are approximate values for storage period.

Storage period:	120 days
Barn wastewater, fresh flush water, and tailwater:	1,343,400 gallons/storage period
Manure and bedding sent to pond:	2,649,053 gallons/storage period
Precipitation onto pond:	1,643,733 gallons/storage period
Precipitation runoff:	3,173,123 gallons/storage period
25 year/24 hour storm onto pond:	320,042 gallons/storage period
25 year/24 hour storm runoff:	734,181 gallons/storage period
Residual solids after liquids have been removed (liquid equivalent):	145,585 gallons/storage period
Total process wastewater removed due to evaporation:	1,029,384 gallons/storage period
Total required capacity:	8,834,148 gallons/storage period
Total existing capacity:	9,433,174 gallons/storage period
Existing capacity meets estimated storage needs:	[X] Yes [ ] No

OPERATION AND MAINTENANCE PLAN

The goal of the Operation and Maintenance Plan is to eliminate discharges of waste or storm water to surface waters from the production area and the protection of underlying soils and ground water.

A. POND MAINTENANCE

i. FREEBOARD MONITORING

1. Freeboard will be monitored monthly from June 1 through September 1 (dry season) and weekly from October 1 through May 31 (wet season). The results will be recorded on a Dairy Production Area Visual Inspection Form.
2. Freeboard will be monitored during and after each significant storm event and the results recorded on a Production Area Significant Storm Event Inspection Form.
3. Ponds will be photographed on the first day of each month. Pond photos will be labeled and maintained with the dairy's monitoring records.

ii. PREPARATION FOR MAINTAINING WINTER STORAGE CAPACITY

1. The retention pond(s) will begin to be lowered to the minimum operating level on or before a designated date each year.
2. The minimum operating level will include the necessary storage volume as identified in Section II.A in Attachment B of the General Order.

iii. OTHER POND MONITORING

1. At the time of each monitoring for freeboard, the pond(s) will be inspected for evidence of excessive odors, mosquito breeding, algae, or equipment damage; and issues with berm integrity, including cracking, slumping, erosion, excess vegetation, animal burrows, and seepage. Any issues identified and corrective actions performed will be recorded on a Dairy Production Area Visual Inspection Form - Other Pond Monitoring.
2. At the time of each monitoring during and after each significant storm event, the ponds will be inspected for evidence of any discharge and issues with berm integrity, including cracking, slumping, erosion, excess vegetation, animal burrows, and seepage. Any issues identified and corrective actions performed will be recorded on a Production Area Significant Storm Event Inspection Form.

iv. SOLIDS REMOVAL PROCEDURES

1. The average thickness of the solids accumulated on the bottom of the pond(s) will be measured on the designated interval using the owner, operator, and/or designer specified procedure.
2. Once solids/sludge on the bottom of the pond(s) reach the owner, operator, and/or designer specified critical thickness, solids/sludge will be removed so that adequate capacity is maintained.
3. When necessary, solids/sludge will be removed using the owner, operator, and/or designer specified methods for protecting any pond liner.

OPERATIONS AND MAINTENANCE PLAN FOR POND: SB 1

Dry season freeboard monitoring will occur on the 5th of each month.

Wet season freeboard monitoring will occur every Monday of each week.

Process wastewater pond contents will be lowered to the minimum operating level (elevation) of 0.0 feet above the pond invert beginning in September of each year.

Sludge accumulation will be measured annually.

The following method will be used to measure solids/sludge accumulation:

After basin cleanout, sludge thickness should be easily measured with a probe.

When solids/sludge accumulate to a thickness of 2.0 feet, the following method will be used to maintain adequate storage capacity while protecting any pond liner:

Sludge/solids will be removed by excavator or pumping to slurry tanks. The operator in either method will be cautioned to not disturb the soil liner of the basin.

OPERATIONS AND MAINTENANCE PLAN FOR POND: SB 2

Dry season freeboard monitoring will occur on the 5th of each month.

Wet season freeboard monitoring will occur every Monday of each week.

Process wastewater pond contents will be lowered to the minimum operating level (elevation) of 0.0 feet above the pond invert beginning in September of each year.

Sludge accumulation will be measured annually.

The following method will be used to measure solids/sludge accumulation:

After basin cleanout, sludge thickness should be easily measured with a probe.

When solids/sludge accumulate to a thickness of 2.0 feet, the following method will be used to maintain adequate storage capacity while protecting any pond liner:

Sludge/solids will be removed by excavator or pumping to slurry tanks. The operator in either method will be cautioned to not disturb the soil liner of the basin.

OPERATIONS AND MAINTENANCE PLAN FOR POND: LG1

Dry season freeboard monitoring will occur on the 5th of each month.

Wet season freeboard monitoring will occur every Monday of each week.

Process wastewater pond contents will be lowered to the minimum operating level (elevation) of 2.0 feet above the pond invert beginning in April of each year.

Sludge accumulation will be measured annually.

The following method will be used to measure solids/sludge accumulation:

Sludge accumulation should be measured at pond drawdown with a probe that can indicate sludge thickness.

When solids/sludge accumulate to a thickness of 2.0 feet, the following method will be used to maintain adequate storage capacity while protecting any pond liner:

Water is added throughout the year to dilute solids. Solids are pumped out during irrigations. If necessary, storage can also be agitated and pumped into slurry wagons or directly excavated for Spring and/or Fall application. If excavation is required, cleaning equipment operator will be informed as to overall depth of storage and instructed to remain 6-12 inches from the floor.

B. RAINFALL COLLECTION SYSTEM MAINTENANCE

i. Annually, rainfall collection systems will be assessed to ensure:

1. Conveyances are free of debris and operating within designer/manufacturer specifications.
2. Components are properly fastened according to designer/manufacturer specifications.
3. All downspouts and related infrastructure are connected to conveyances that divert water away from manured areas.
4. Water from the rainfall collection system(s) is diverted to an appropriate destination.

Buildings with rooftop rainfall collection systems	Quantity	Surface Area (sq. ft.)
Center Freestall	1	74,200

Commodity Barn	1	5,200
East Freestall	1	29,000
Hay barn	1	6,000
Milk Barn	1	8,750
Office	1	1,950
Proposed Heifer Freestall	1	95,400
Proposed West Freestall Addition	1	36,000
Special Needs Barn	1	11,000
West Freestall	1	36,000

Assessment for buildings with rooftop rainfall collection systems will occur on or before: 1st of October

Assessment for other rainfall collections systems will occur on or before: 1st of November

Description of how rainfall collection systems will be assessed:

Gutters and downspouts will be cleaned and repaired as needed to prevent unneeded overland flow of runoff.

C. CORRAL MAINTENANCE

i. Monthly from June 1st through September 30th (dry season) and weekly from October 1st through May 31st (wet season), the perimeter of the corrals and pens will be assessed to ensure that runon and runoff controls such as berms are functioning correctly, and that all water that contacts waste is collected and diverted into the wastewater retention pond (s). Any issues identified and corrective actions performed will be recorded on a Dairy Production Area Visual Inspection Form - Corrals.

ii. The corrals will be assessed by the designated date to determine:

1. Whether manure needs to be removed from the corrals based on the owner, operator, and/or designer specified conditions.

2. Whether there are depressions within the corrals that should be filled/groomed to prevent ponding.

iii. Removal of manure and/or regrading, when necessary, will be completed on or before the designated month/day of each year.

Day of the month dry season assessment will occur: 1st of each month

Day of the week wet season assessment will occur: Monday

Solid manure removal and regrading assessment will occur on or before: 1st of October

Conditions requiring manure removal and/or regrading:

Corral conditions should be assessed by October 1 of each year to allow the owner/operator the opportunity to regrade and add fill material to the corrals. The corrals should be graded to prevent accumulation of wastewater in the corrals for longer than 48 hours. Well maintained/scraped corrals should provide adequate drainage at 1% to 1 1/2% slop. During the rainy season, corrals must still be groomed or cleaned to provide adequate drainage. Corral manure management must be in accordance with SJVAPCD permit requirements.

Solid manure removal and/or regrading will occur on or before: 1st of November

D. FEED STORAGE AREA MAINTENANCE

i. During the dry season and prior to the wet season, the perimeter of storage areas will be assessed to ensure all runon and runoff controls such as berms are functioning correctly and runoff and leachate from the areas are collected and diverted into the wastewater pond(s). Any issues identified and corrective actions performed will be recorded on a Dairy Production Area Visual Inspection Form - Manure and Feed Storage Areas.

ii. During the wet season, feed storage area(s) will be assessed to determine if there are depressions within any feed storage area that should be filled or repaired to prevent ponding.

iii. Any necessary regrading/resurfacing and berm/conveyance maintenance will be completed on an annual basis.

Day of the month dry season assessment will occur: 1st of each month

Day of the week wet season assessment will occur: Monday

Regrading/resurfacing and berm maintenance assessment will occur on or before: 1st of October

Regrading/resurfacing and berm maintenance completion will occur on or before: 1st of November

E. SOLID MANURE STORAGE AREA MAINTENANCE

i. During the dry season and prior to the wet season, the perimeter of manure storage areas will be assessed to ensure all runon and runoff controls such as berms are functioning correctly and runoff and leachate from the areas are collected and diverted into the wastewater pond(s). Any issues identified and corrective actions performed will be recorded on a Dairy Production Area Visual Inspection Form - Manure and Feed Storage Areas.

ii. During the wet season, manure storage area(s) will be assessed to determine if there are depressions within any manure storage area that should be filled to prevent ponding.

iii. Any necessary regrading/resurfacing and berm/conveyance maintenance will be completed on an annual basis.

Day of the month dry season assessment will occur: 1st of each month

Day of the month wet season assessment will occur: Monday

Regrading/resurfacing and berm maintenance assessment will occur on or before: 1st of October

Regrading/resurfacing and berm maintenance completion will occur on or before: 1st of November

F. ANIMAL HOUSING AND FLUSH WATER CONVEYANCE SYSTEM MAINTENANCE

i. A map will be attached that identifies critical points for monitoring the animal housing and flush water conveyance system to verify that water is being managed as identified in this Waste Management Plan. These points will be maintained at owner, operator, and/or designer specified intervals.

Animal housing area assessment will occur on or before: 1st of October

Animal housing drainage system maintenance will occur on or before: 1st of November

Animal housing area drainage system assessment and maintenance methods:

Debris is removed from flush lanes, drains, and corral drains as needed. Pumps are monitored daily. Corrals are regraded and soil is added as needed to insure drainage. The critical animal housing/flush conveyance points to monitor are all drains. These drains should be checked before every storm and during each flush event to insure that drain/conveyance clogging has not occurred.

G. MORTALITY MANAGEMENT

i. Dead animals will be stored, removed, and disposed of properly.

Rendering company or landfill name: Sisk

Rendering company or landfill telephone number: (209) 667-1451

H. ANIMALS AND SURFACE WATER MANAGEMENT

i. A system will be in place, monitored, and maintained to prevent animals from entering any surface waters when a stream or other surface water crosses or adjoins the corral(s).

Does a stream or any other surface water cross or adjoin the corrals? [ ] Yes [X] No

I. MONITORING SALT IN ANIMAL RATIONS

i. The combined quantity of minerals as salt in animal drinking water and feed rations will be reviewed by a qualified nutritionist on a routine basis to verify that minerals are limited to the amount required to maintain animal health and optimum production. As feed rations change, mineral content may change.

Assessment interval: Monthly

J. CHEMICAL MANAGEMENT

i. Chemicals and other contaminants handled at the facility will not be disposed of in any manure or process wastewater, storm water storage or treatment system unless specifically designed to treat such chemicals and other contaminants.

Chemical Name	Quantity	Units	Frequency	Usage Area	Destination (Used Chemical / Container)	Disposal Company Name	Disposal Company Phone	Collection Frequency
Chlorine Dioxide	400	gallons	month	Milk Barn	Recycled by distributor			
Detergent	140	gallons	month	Milk Barn	Recycled by distributor			
Sanitizer	80	gallons	month	Milk Barn	Recycled by distributor			
Acid	80	gallons	month	Milk Barn	Recycled by distributor			

REQUIRED ATTACHMENTS

The following list, based upon user selections and data entries, describes the minimum required attachments that must be submitted with the Waste Management Plan for the reporting schedule of 'July 1, 2010'.

A. SITE MAP(S)

Provide a site map (or maps) of appropriate scale to show property boundaries and the location of the features of the production area including the following in sufficient detail: structures used for animal housing, milk parlor, and other buildings; corrals and ponds; solids separation facilities (settling basins or mechanical separators); other areas where animal wastes are deposited or stored; feed storage areas; drainage flow directions and nearby surface waters; all water supply wells (domestic, irrigation, and barn wells) and groundwater monitoring wells.

Production area map reference number: Production area map

Provide a site map (or maps) of appropriate scale to show property boundaries and the location of the features of all land application areas (land under the Discharger's control, whether it is owned, rented, or leased, to which manure or process wastewater from the production area is or may be applied for nutrient recycling) including the following in sufficient detail: a field identification system (Assessor's Parcel Number; field by name or number; total acreage of each field; crops grown; indication if each field is owned, leased, or used pursuant to a formal agreement); indication of what type of waste is applied (solid manure only, wastewater only, or both solid manure and wastewater); drainage flow direction in each field, nearby surface waters, and storm water discharge points; tailwater and storm water drainage controls; subsurface (tile) drainage systems (including discharge points and lateral extent); irrigation supply wells and groundwater monitoring wells; sampling locations for discharges of storm water and tailwater to surface water from the field.

Application area map reference number: Land application map

Provide a site map (or maps) of appropriate scale to show property boundaries and the location of all cropland (land that is part of the dairy but not used for dairy waste application) including the following in sufficient detail: Assessor's Parcel Number, total acreage, crops grown, and information on who owns or leases the field. The Waste Management Plan shall indicate if such cropland is covered under the Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands (Order No. R5-2006-0053 for Coalition Group or Order No. R5-2006-0054 for Individual Discharger, or updates thereto).

Non-application area map reference number: Production area map

Provide a site map (or maps) of appropriate scale to show property boundaries and the location of all off-property domestic wells within 600 feet of the production area or land application area(s) associated with the dairy and the location of all municipal supply wells within 1,500 feet of the production area or land application area(s) associated with the dairy.

Well area map reference number: Production area map

Provide a site map (or maps) of appropriate scale to show property boundaries and a vicinity map, north arrow and the date the map was prepared. The map shall be drawn on a published base map (e.g., a topographic map or aerial photo) using an appropriate scale that shows sufficient details of all facilities.

Vicinity map reference number: Vicinity map

B. PROCESS WASTEWATER MAP(S)

Provide a site map (or maps) of appropriate scale to show property boundaries and the location of the features of the production area including the following in sufficient detail: process wastewater conveyance structures, discharge points, and discharge /mixing points with irrigation water supplies; pumping facilities and flow meter locations; upstream diversion structures, drainage ditches and canals, culverts, drainage controls (berms/levees, etc.), and drainage easements; and any additional components of the waste handling and storage system.

Production infrastructure system area map reference number: Figure 2

Provide a site map (or maps) of appropriate scale to show property boundaries and the location of the features of all land application areas (land under the Discharger's control, whether it is owned, rented, or leased, to which manure or process wastewater from the production area is or may be applied for nutrient recycling) including the following in sufficient detail: process wastewater conveyance structures, discharge points and discharge mixing points with irrigation water supplies; pumping facilities ; flow meter locations; drainage ditches and canals, culverts, drainage controls (berms, levees, etc.), and drainage easements.

Land application infrastructure system area map reference number: Figure 3

C. EXCESS PRECIPITATION CONTINGENCY REPORT

There were no attachment references entered or required for this attachment section.

D. OPERATION AND MAINTENANCE PLAN

Attach a map that identifies critical points for monitoring the system to verify that water is being managed as identified in this Waste Management Plan (see Attachment B, Pg B-7 V.F, V.G, and V.H for additional requirements).

Animal housing assessment map reference number: Site Plan

E. FLOOD PROTECTION / INUNDATION REPORT

Provide a published flood zone map that shows the facility is outside the relevant flood zones.

Flood zone map and/or document reference number: FEMA Flood Map

F. BACKFLOW PROTECTION

Attach documentation from a trained professional (i.e. a person certified by the American Backflow Prevention Association, an inspector from a state or local governmental agency who has experience and/or training in backflow prevention, or a consultant with such experience and/or training), as specified in Required Reports and Notices H.1 of Waste Discharge Requirements General Order No. R5-2007-0035, that there are no cross-connections that would allow the backflow of wastewater into a water supply well, irrigation well, or surface water as identified on the Site Map.

Backflow documentation reference number: Backflow protc doc

Waste Management Plan Report
General Order No. R5-2007-0035, Attachment B
July 1, 2010 deadline

CERTIFICATION

A. DAIRY FACILITY INFORMATION

Name of dairy or business operating the dairy: Machado Dairy

Physical address of dairy:

7413 S Mitchell RD	Turlock	Stanislaus	95380
Number and Street	City	County	Zip Code

Street and nearest cross street (if no address): _____

B. DOCUMENTATION OF QUALIFICATIONS AND PLAN DEVELOPMENT

I have reviewed the portion of the waste management plan that is related to storage capacity facility and design specifications in accordance with Item II, Attachment B of the Waste Discharge Requirements General Order for Existing Milk Cow Dairies - Order No. R5-2007-0035 and certify that this plan was prepared by, or under the responsible charge of, and certified by a civil engineer who is registered pursuant to California law or other person as may be permitted under the provisions of the California Business and Professions Code to assume responsible charge of such work.

Storage capacity is:

Insufficient

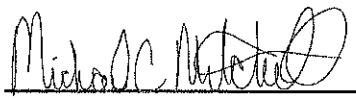
☐ Retrofitting Plan/Schedule/Design Criteria attached in accordance with Attachment B, II.B. 1-5 and Attachment B, II. C.

Sufficient

☒ Certification 1 - Certified in accordance with Attachment B, II. A. 1-8. (no contingency plan)

☐ Certification 2 - Certified in accordance with Attachment B, II. A. 1-8, II. C. (with contingency plan attached)

CIVIL ENGINEER'S WET STAMP



9/1/20

SIGNATURE OF CIVIL ENGINEER — DATE

Michael Mitchell
PRINT OR TYPE NAME

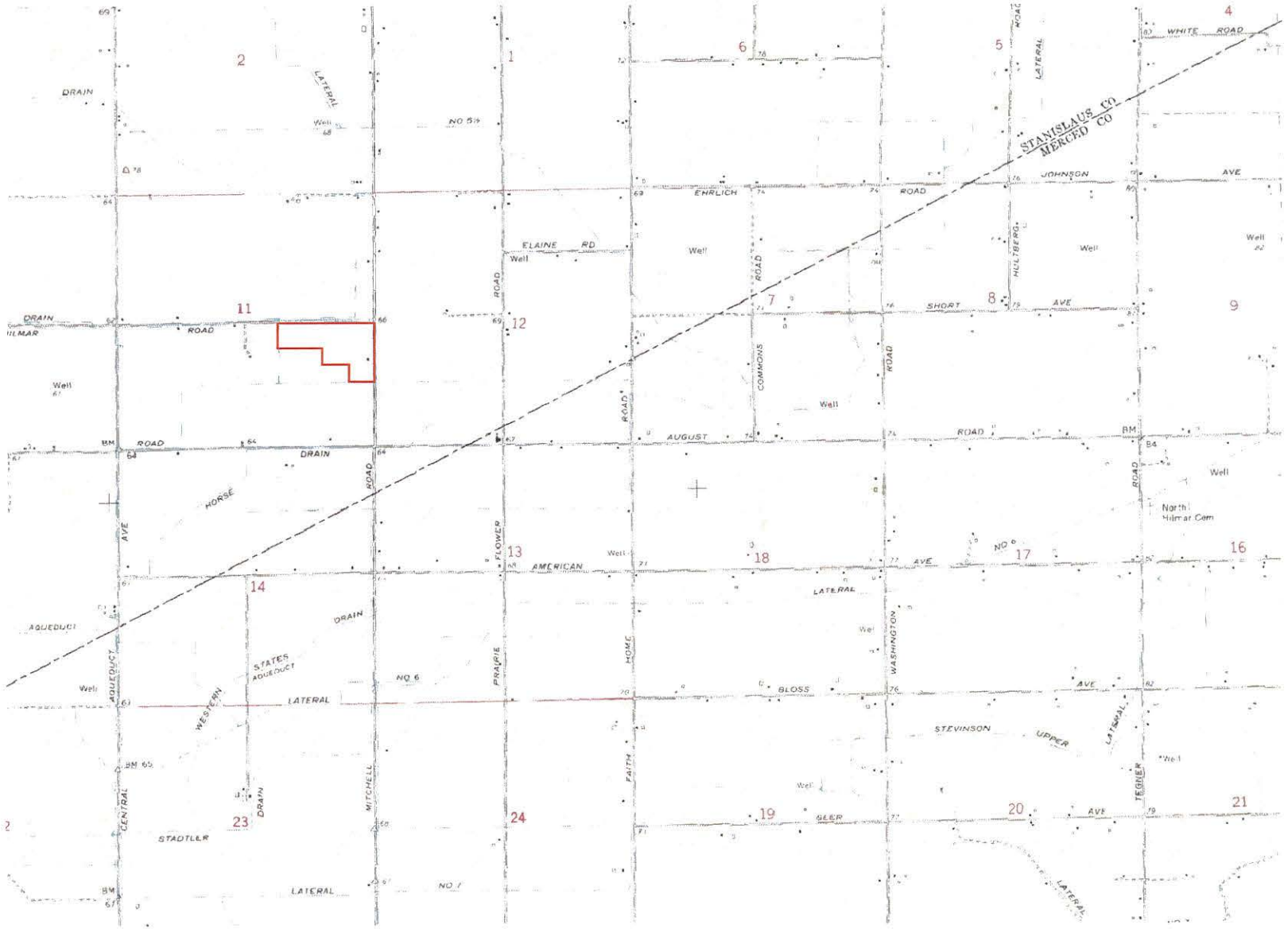
18836 Clausen RD; Turlock, CA 95380
MAILING ADDRESS

(209) 664-1067
PHONE NUMBER

C. OWNER AND/OR OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Isabel Machado	
SIGNATURE OF OWNER	SIGNATURE OF OPERATOR
Isabel Machado	John Machado
PRINT OR TYPE NAME	PRINT OR TYPE NAME
09-01-20	9/1/20
DATE	DATE



LEGEND

Facility Boundary

Ag Services, Inc.	SCALE: 0 4,000 8,000 APPROXIMATE SCALE IN FEET	MACHADO DAIRY STANISLAUS COUNTY, CA			**FIGURE 1** TOPOGRAPHIC MAP
	PROJECT NO. FRA-00	DATE: 9/2/20	DRAWN BY: SB	APP. BY: JR	Machado-land application

LEGEND

- Animal Housing/Shade
- Wastewater Storage
- Hay Barn
- Commodity Barn
- Milk Barn
- Sand Trap
- Corral
- Solids Settling Basin
- Manure Storage
- Pump
- Drain
- Domestic Well
- Feed Storage Area
- Flush Return Pipeline
- Flush Delivery Pipeline
- Clean Water Diversion Pipeline
- Drainage Flow
- Flush Flow Direction
- Flush Return Lane

Ag Services, Inc.

SCALE:
0 300 600
APPROXIMATE SCALE IN FEET

MACHADO DAIRY
STANISLAUS COUNTY, CA

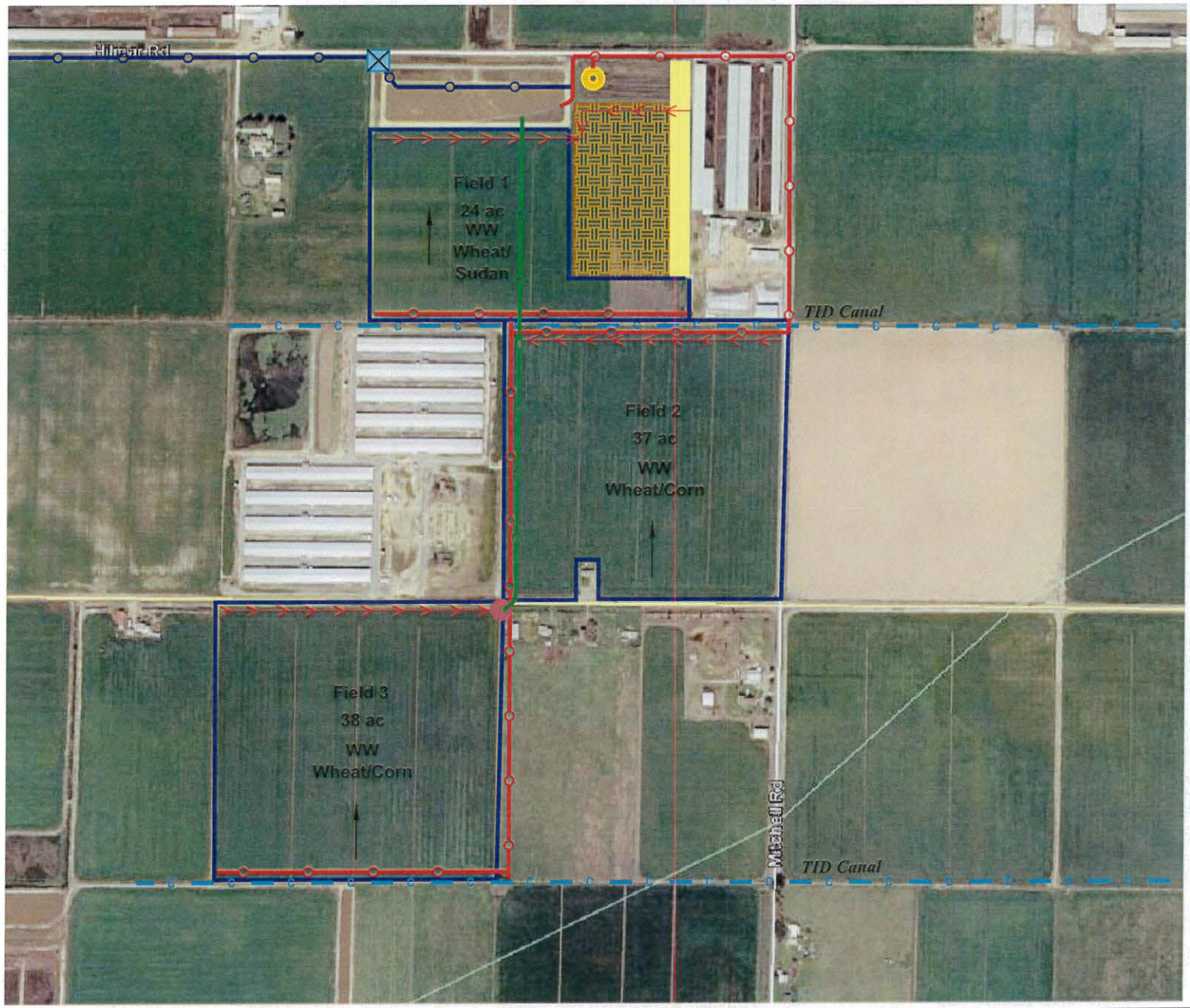
FIGURE 2
DAIRY FACILITY

PROJECT NO.	DATE:	DRAWN BY:	APP. BY:
FRA-00	3/13/18	SB	JR

Machado-land application

LEGEND

- Fields
- Manure Stacking Pad
- Tailwater Return Pipeline
- Wastewater Pipeline
- Clean Water Delivery Pipeline
- Irrigation Flow
- Drainage Flow
- TID Canal
- Drain
- Pump
- WW — Wastewater



FR Ag Services, Inc.

SCALE:
0 700 1500
APPROXIMATE SCALE IN FEET

MACHADO DAIRY
STANISLAUS COUNTY, CA

FIGURE 3
LAND APPLICATION AREA

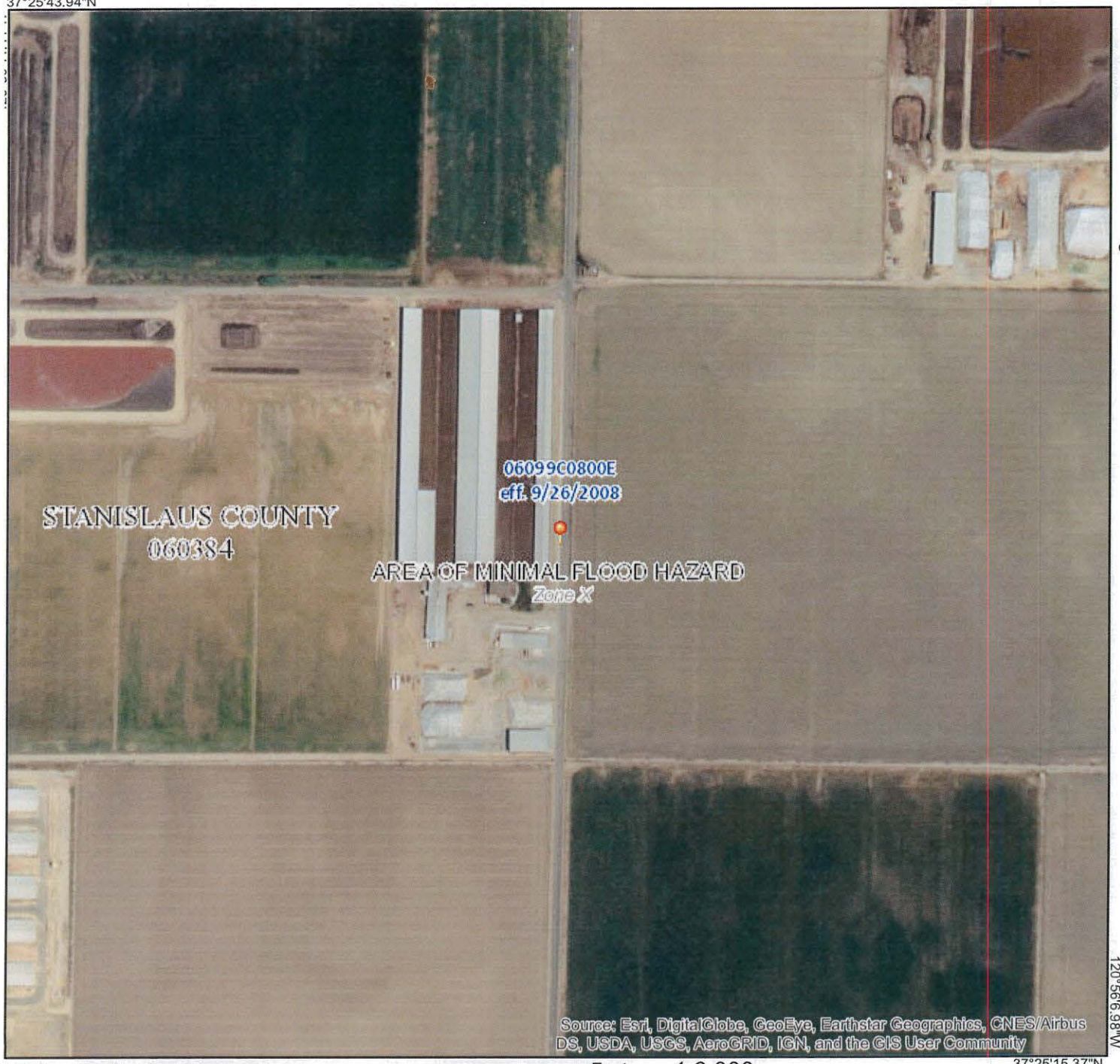
PROJECT NO.	DATE:	DRAWN BY:	APP. BY:
FRA-00	9/2/20	SB	JR

Machado-land application

National Flood Hazard Layer FIRMette

FEMA

37°25'43.94"N



120°56'6.98"W

37°25'15.37"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth
- Regulatory Floodway *Zone AE, AO, AH, VE, AR*

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The base map shown complies with FEMA's base map accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/23/2018 at 7:53:59 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: base map imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

NUTRIENT MANAGEMENT PLAN

Machado Dairy
c/o: John Machado
7413 So. Mitchell Rd.
Turlock, CA 95380

Prepared By:

FR Ag Services, Inc.

2857 Geer Road, Suite A
Turlock, California 95382

Nutrient Management Plan Report
General Order No. R5-2007-0035, Attachment C
July 1, 2009 deadline

DAIRY FACILITY INFORMATION

A. NAME OF DAIRY OR BUSINESS OPERATING THE DAIRY: Machado Dairy

Physical address of dairy:

7413 S Mitchell RD	Turlock	Stanislaus	95380
Number and Street	City	County	Zip Code

Street and nearest cross street (if no address):

Date facility was originally placed in operation: 01/01/1970

Regional Water Quality Control Board Basin Plan designation: San Joaquin River Basin

County Assessor Parcel Number(s) for dairy facility:

0057-0007-0004-0000 0057-0007-0005-0000 0057-0007-0006-0000

B. OPERATOR NAME: Machado, Isabel Telephone no.: (209) 634-5026 (Landline) (Cellular)

7413 S Mitchell RD	Turlock	CA	95380
Mailing Address Number and Street	City	State	Zip Code

Operator should receive Regional Board correspondence (check): [X] Yes [ ] No

OPERATOR NAME: Machado, John Telephone no.: (209) 652-6929 (Cellular)

7413 S Mitchell RD	Turlock	CA	95380
Mailing Address Number and Street	City	State	Zip Code

Operator should receive Regional Board correspondence (check): [X] Yes [ ] No

C. LEGAL OWNER NAME: Machado, Isabel Telephone no.: (209) 634-5026 (Landline) (Cellular)

7413 S Mitchell RD	Turlock	CA	95380
Mailing Address Number and Street	City	State	Zip Code

Owner should receive Regional Board correspondence (check): [X] Yes [ ] No

LEGAL OWNER NAME: Machado, John Telephone no.: (209) 652-6929 (Cellular)

7413 S Mitchell RD	Turlock	CA	95380
Mailing Address Number and Street	City	State	Zip Code

Owner should receive Regional Board correspondence (check): [X] Yes [ ] No

D. CONTACT NAME: Ramos, Joe Telephone no.: (209) 250-2471 (Landline) (209) 226-2375 (Cellular)

Title: Technical Service Provider

2857 Geer RD, STE A	Turlock	CA	95382
Mailing Address Number and Street	City	State	Zip Code

AVAILABLE NUTRIENTS

A. HERD INFORMATION

The milk cow dairy is currently regulated under individual Waste Discharge Requirements.

Total number of milk and dry cows combined as a baseline value in response to the Report of Waste Discharge (ROWD) request of October, 2005:

1,700 *milk and dry cows combined (regulatory review is required for any expansion)*

	Milk Cows	Dry Cows	Bred Heifers (15-24 mo.)	Heifers (7-14 mo. to breeding)	Calves (4-6 mo.)	Calves (0-3 mo.)
Present count	1,100	80	50	0	0	0
Maximum count	1,500	200	450	450	260	200
Avg live weight (lbs)	1,400	1,400	900	650		
Daily hours on flush	18	24	18	24	24	0

Predominant milk cow breed: Holstein

Average milk production: 77 *pounds per cow per day*

B. IRRIGATION SOURCES

Irrigation Source Name	Type	Nitrogen (mg/L)	Phosphorus (mg/L)	Potassium (mg/L)	Discharge Rate
Canal	Surface water (canal, river)	1.00	0.00	0.00	15 *cfs*
TID Canal	Surface water (canal, river)	1.50	0.00	0.00	15 *cfs*

C. NUTRIENT IMPORTS

No nutrient imports entered.

D. NUTRIENT EXPORTS

Nutrient Type/Name	Quantity	Moisture	Nitrogen	Phosphorus (as P2O5)	Potassium (as K2O)
Solid Manure	8,250.00 *ton*	30.0%	2.500%	1.500%	1.750%
Waste Water Fall	7,000,000.00 *gal*	0.0%	0.090%	0.025%	0.066%
Waste Water Spring	7,000,000.00 *gal*	0.0%	0.090%	0.040%	0.070%
Waste Water Summer	7,000,000.00 *gal*	0.0%	0.040%	0.030%	0.040%

Total nitrogen exported: 417,263.00 *lbs*

Total phosphorus exported: 99,961.24 *lbs*

Total potassium exported: 253,096.38 *lbs*

E. STORAGE PERIOD

Storage period is the maximum period of time anticipated between land application of process wastewater (from storage ponds/lagoons) to croplands. A qualified agronomist and civil engineer should collaborate and collectively consider predominant soil types, soil infiltration rates, maximum depth, available water, field capacity, permanent wilting point, allowable depletion, crop water use, evapotranspiration, precipitation, irrigation system capacity, water delivery constraints, crop nutrient requirements, soil nutrient adsorbtion/desorption, rooting depth, nutrient accumulation/availability for current and future crop needs, facility wide process wastewater storage capacity and other factors as deemed necessary across all croplands where process wastewater is applied in selecting a storage period. In many cases conflicts will arise between crop water demands, crop nutrient demands and insufficient process wastewater storage capacity. Process wastewater may not be the best choice as a source of either water and/or nutrients to meet crop demands throughout the year. Groundwater and surface water vulnerability has been considered.

The storage period selected in this Nutrient Management Plan is consistent with the storage period selected in the Waste Management Plan.

Storage period: 120 *days*

APPLICATION AREA

A. ASSESSOR PARCEL NUMBER: 0057-0007-0005-0000
Legal owner of parcel: Owned by Dairy

ASSESSOR PARCEL NUMBER: 0057-0007-0006-0000
Legal owner of parcel: Owned by Dairy

ASSESSOR PARCEL NUMBER: 0057-0023-0004-0000
Legal owner of parcel: Owned by Dairy

B. FIELD NAME: Field 1

Cropable acres: 24

Predominant soil type: Sandy loam

Do irrigation system head-to-head flow conditions exist on the field? [ ] Yes [X] No

Can fresh water for irrigation purposes be delived to the field year round? [ ] Yes [X] No

Can process wastewater be delivered to the field at agronomic rates and times? [X] Yes [ ] No

Tailwater management method: Returned to retention pond

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Oats, silage-soft dough	Early November	Late April	24
Sudangrass, silage	Middle May	Early October	24

FIELD NAME: Field 2

Cropable acres: 37

Predominant soil type: Sandy loam

Do irrigation system head-to-head flow conditions exist on the field? [ ] Yes [X] No

Can fresh water for irrigation purposes be delived to the field year round? [ ] Yes [X] No

Can process wastewater be delivered to the field at agronomic rates and times? [X] Yes [ ] No

Tailwater management method: Returned to retention pond

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Oats, silage-soft dough	Early November	Late April	37
Corn, silage	Middle June	Middle September	37

FIELD NAME: Field 3

Cropable acres: 38

Predominant soil type: Sandy loam

Do irrigation system head-to-head flow conditions exist on the field? [ ] Yes [X] No

Can fresh water for irrigation purposes be delived to the field year round? [ ] Yes [X] No

Can process wastewater be delivered to the field at agronomic rates and times? [X] Yes [ ] No

Tailwater management method: Returned to retention pond

Crops grown and rotation:

Crop Type	Plant Date	Harvest Date	Acres Planted
Oats, silage-soft dough	Early November	Late April	38
Corn, silage	Middle June	Middle September	38

C. LAND APPLICATION AREA FIELDS AND PARCELS

Field name	Cropable acres	Total harvests	Parcel number
Field 1	24	2	0057-0007-00050000
Field 2	37	2	0057-0007-00060000
Field 3	38	2	0057-0023-00040000
Land application area totals	99	6	

NUTRIENT BUDGET

A. NUTRIENT BUDGET FOR CROP: Field 1 / Oats, silage-soft dough

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Pre-irrigation prior to planting (with fertilizer)	1	70.0	17.0	70.0	71.5
Nutrient source: Retention pond (lagoon)		75%	50%	80%	
Application method: Pipeline					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID Canal	1.5	0.0	0.0	7.0
	1.5	0.0	0.0	

In season irrigation (with fertilizer)	2	70.0	17.0	70.0	142.5
Nutrient source: Retention pond (lagoon)		75%	50%	80%	
Application method: Pipeline					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID Canal	1.3	0.0	0.0	6.0
	1.3	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	4.0	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	0.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	210.0	51.0	210.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	221.0	51.0	210.0
Potential crop nutrient removal	160.0	25.6	132.8
Nutrient balance	61.0	25.4	77.2
Applied to removal ratio	1.38	1.99	1.58

Fresh water applied: 0.98 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: Field 1 / Sudangrass, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)

NUTRIENT BUDGET FOR CROP (CONTINUED): Field 1 / Sudangrass, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Pre-irrigation prior to planting (with fertilizer)	1	54.0	15.0	54.0	55.7
Nutrient source: Retention pond (lagoon)		75%	50%	80%	
Application method: Pipeline					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID Canal	1.7	0.0	0.0	8.0
	1.7	0.0	0.0	

In season irrigation (no fertilizer)	6	0.0	0.0	0.0	7.6
Nutrient source: Water only		0%	0%	0%	
Application method: Surface					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID Canal	1.3	0.0	0.0	6.0
	1.3	0.0	0.0	

In season irrigation (with fertilizer)	3	27.0	7.5	27.0	84.8
Nutrient source: Retention pond (lagoon)		75%	50%	80%	
Application method: Pipeline					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID Canal	1.3	0.0	0.0	6.0
	1.3	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	13.1	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	0.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	135.0	37.5	135.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	155.1	37.5	135.0
Potential crop nutrient removal	112.0	21.0	92.4
Nutrient balance	43.1	16.5	42.6
Applied to removal ratio	1.38	1.79	1.46

Fresh water applied: 3.20 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: Field 2 / Oats, silage-soft dough

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)

NUTRIENT BUDGET FOR CROP (CONTINUED): Field 2 / Oats, silage-soft dough

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Pre-irrigation prior to planting (with fertilizer)	1	70.0	17.0	70.0	71.5
Nutrient source: Retention pond (lagoon)		75%	50%	80%	
Application method: Pipeline					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID Canal	1.5	0.0	0.0	11.0
	1.5	0.0	0.0	

In season irrigation (with fertilizer)	2	86.0	15.0	70.0	174.2
Nutrient source: Retention pond (lagoon)		75%	50%	80%	
Application method: Pipeline					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID Canal	1.1	0.0	0.0	8.0
	1.1	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	3.7	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	0.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	242.0	47.0	210.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	252.7	47.0	210.0
Potential crop nutrient removal	180.0	28.8	149.4
Nutrient balance	72.7	18.2	60.6
Applied to removal ratio	1.40	1.63	1.41

Fresh water applied: 0.90 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: Field 2 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Pre-irrigation prior to planting (with fertilizer)	1	67.5	18.5	67.5	69.4
Nutrient source: Retention pond (lagoon)		60%	60%	80%	
Application method: Pipeline					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID Canal	1.9	0.0	0.0	14.0
	1.9	0.0	0.0	

NUTRIENT BUDGET FOR CROP (CONTINUED): Field 2 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (no fertilizer)	2	0.0	0.0	0.0	3.3
Nutrient source: Water only		0%	0%	0%	
Application method: Surface					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID Canal	1.6	0.0	0.0	12.0
	1.6	0.0	0.0	

In season irrigation (with fertilizer)	5	45.0	12.5	45.0	231.8
Nutrient source: Retention pond (lagoon)		75%	50%	80%	
Application method: Pipeline					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID Canal	1.4	0.0	0.0	10.0
	1.4	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	12.0	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	0.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	292.5	81.0	292.5
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	311.5	81.0	292.5
Potential crop nutrient removal	224.0	42.0	184.8
Nutrient balance	87.5	39.0	107.7
Applied to removal ratio	1.39	1.93	1.58

Fresh water applied: 2.95 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: Field 3 / Oats, silage-soft dough

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Pre-irrigation prior to planting (with fertilizer)	1	70.0	17.0	70.0	71.6
Nutrient source: Retention pond (lagoon)		75%	50%	80%	
Application method: Pipeline					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID Canal	1.6	0.0	0.0	12.0
	1.6	0.0	0.0	

NUTRIENT BUDGET FOR CROP (CONTINUED): Field 3 / Oats, silage-soft dough

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer)	2	86.0	15.0	70.0	173.6
Nutrient source: Retention pond (lagoon)		75%	50%	80%	
Application method: Pipeline					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
Canal	0.8	0.0	0.0	9.0
	0.8	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	3.2	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	0.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	242.0	47.0	210.0
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	252.2	47.0	210.0
Potential crop nutrient removal	180.0	28.8	149.4
Nutrient balance	72.2	18.2	60.6
Applied to removal ratio	1.40	1.63	1.41

Fresh water applied: 0.98 *feet* Total harvests: 1

NUTRIENT BUDGET FOR CROP: Field 3 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
Pre-irrigation prior to planting (with fertilizer)	1	67.5	18.5	67.5	69.5
Nutrient source: Retention pond (lagoon)		60%	60%	80%	
Application method: Pipeline					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID Canal	2.0	0.0	0.0	15.0
	2.0	0.0	0.0	

In season irrigation (no fertilizer)	2	0.0	0.0	0.0	3.5
Nutrient source: Water only		0%	0%	0%	
Application method: Surface					

Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID Canal	1.7	0.0	0.0	13.0
	1.7	0.0	0.0	

NUTRIENT BUDGET FOR CROP (CONTINUED): Field 3 / Corn, silage

Activity / Event	# of Events	N (lbs/acre) % avail.	P (lbs/acre) % avail.	K (lbs/acre) % avail.	Total N (lbs/acre)
In season irrigation (with fertilizer)	5	45.0	12.5	45.0	232.3
Nutrient source: Retention pond (lagoon)		75%	50%	80%	
Application method: Pipeline					

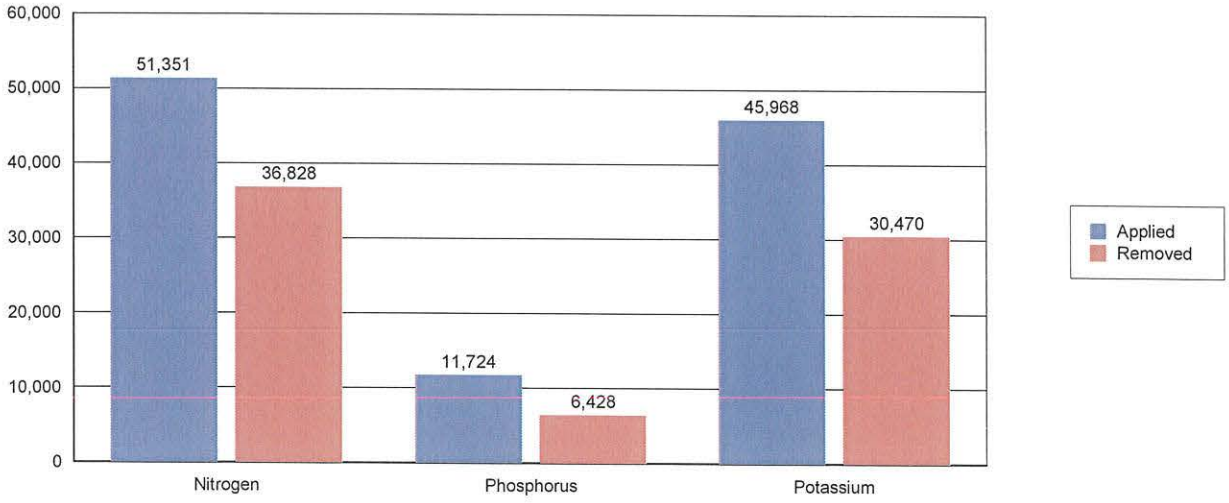
Irrigation Source	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Runtime (hrs)
TID Canal	1.5	0.0	0.0	11.0
	1.5	0.0	0.0	

	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)
Irrigation sources	12.8	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	0.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	292.5	81.0	292.5
Other	0.0	0.0	0.0
Atmospheric deposition	7.0		
Nutrients applied	312.3	81.0	292.5
Potential crop nutrient removal	224.0	42.0	184.8
Nutrient balance	88.3	39.0	107.7
Applied to removal ratio	1.39	1.93	1.58

Fresh water applied: 3.13 *feet* Total harvests: 1

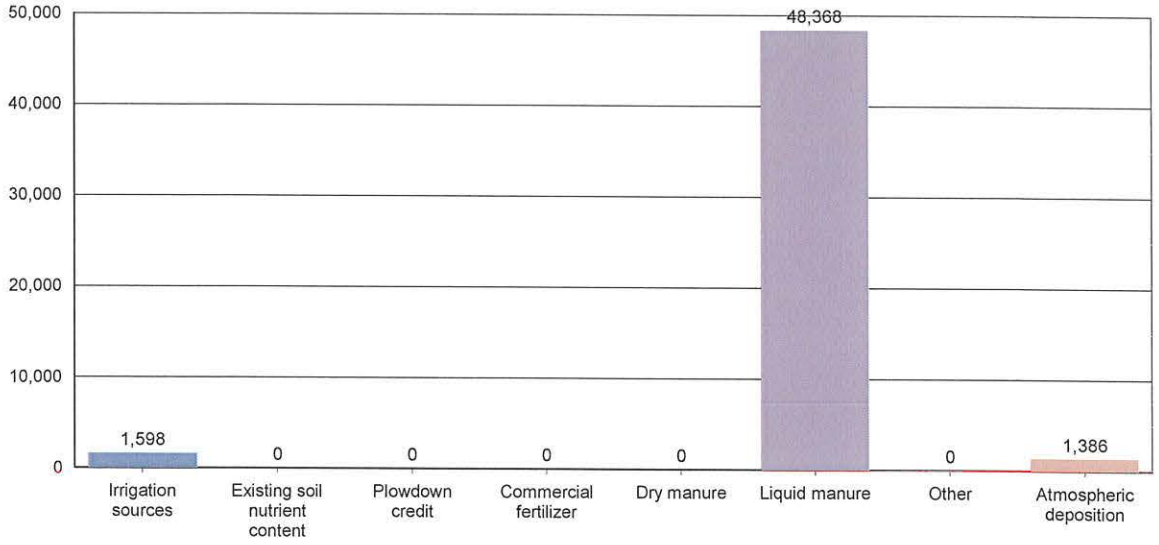
NUTRIENT APPLICATIONS, POTENTIAL REMOVAL, AND BALANCE

A. POUNDS OF NUTRIENT APPLIED VS. CROP REMOVAL POTENTIAL



	Total N (lbs)	Total P (lbs)	Total K (lbs)
Irrigation sources	1,597.8	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	0.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	48,367.5	11,724.0	45,967.5
Other	0.0	0.0	0.0
Atmospheric deposition	1,386.0		
Nutrients applied to all crops	51,351.3	11,724.0	45,967.5
Potential crop nutrient removal	36,828.0	6,428.4	30,469.8
Nutrient balance	14,523.3	5,295.6	15,497.7
Applied to removal ratio	1.39	1.82	1.51

B. POUNDS OF NITROGEN APPLIED BY NUTRIENT SOURCE



	Total N (lbs)	Total P (lbs)	Total K (lbs)
Irrigation sources	1,597.8	0.0	0.0
Existing soil nutrient content	0.0	0.0	0.0
Plowdown credit	0.0	0.0	0.0
Commercial fertilizer	0.0	0.0	0.0
Dry manure	0.0	0.0	0.0
Liquid manure	48,367.5	11,724.0	45,967.5
Other	0.0	0.0	0.0
Atmospheric deposition	1,386.0		
Nutrients applied to all crops	51,351.3	11,724.0	45,967.5
Potential crop nutrient removal	36,828.0	6,428.4	30,469.8
Nutrient balance	14,523.3	5,295.6	15,497.7
Applied to removal ratio	1.39	1.82	1.51

NUTRIENT BALANCE

A. WHOLE FARM BALANCE

	Total N (lbs)	Total P (lbs)	Total K (lbs)
Nutrients in storage from herd*			
Daily gross	1,820.8	298.8	805.9
Annual gross	664,598.0	109,063.5	294,162.3
Net to pond storage after ammonia losses (30% loss applied)	359,734.4	84,501.7	220,621.8
Net to drylot storage after ammonia losses (30% loss applied)	105,484.2	24,561.8	28,371.8
Net in storage (30% loss applied)	465,218.6	109,063.5	248,993.6
Irrigation sources	1,597.8	0.0	0.0
Atmospheric deposition	1,386.0		
Imports	0.0	0.0	0.0
Exports	417,263.0	99,961.2	253,096.4
Potential crop nutrient removal	36,828.0	6,428.4	30,469.8
Nutrient balance	14,111.4	2,673.8	-34,572.6
Nutrient balance ratio	1.38	1.42	-0.13

* Potassium excretion from milk cows and dry cows only.

SAMPLING AND ANALYSIS PLAN

A. MANURE SAMPLING AND ANALYSIS PLAN

			Minimum data collection requirements	
Frequency	Sampling Methods	Source	Field Analytes	Lab Analytes
Annually	Annual estimation for total manure dry weight applied to each field will be quantified using the following: Dry weight applied from a source to a crop per application event = weight applied * (1 - (percent moisture / 100)) Dry weight applied to crop per application event = sum of dry weights applied from each source Dry weight applied to a crop = sum of dry weights applied during each application Dry weight applied to a field = sum of dry weights applied to each crop Annual estimation for total manure dry weight exported will be quantified using the following: Dry weight exported from a source per event = weight exported * (1 - (percent moisture / 100)) Dry weight exported per event = sum of dry weights exported from each source Dry weight exported to any offsite destination = sum of dry weights exported per event	Corral solids Settling basin solids	Total dry weight (tons) manure applied annually to each land application area, and total dry weight (tons) manure exported offsite annually	None required

A. MANURE SAMPLING AND ANALYSIS PLAN (CONTINUED)

			Minimum data collection requirements	
Frequency	Sampling Methods	Source	Field Analytes	Lab Analytes
Twice per year	For each manure source, a composite sample per the "Approved Sampling Procedures for Nutrient and Groundwater Monitoring at Existing Milk Cow Dairies" will be collected.	Corral solids Settling basin solids	None required	Total nitrogen, total phosphorus, total potassium, and percent moisture
Once every two years (biennially)	For each manure source, a composite sample per the "Approved Sampling Procedures for Nutrient and Groundwater Monitoring at Existing Milk Cow Dairies" will be collected.	Corral solids Settling basin solids	None required	General minerals, including: calcium, magnesium, sodium, sulfate, chloride Fixed solids (ash)
Each application to each land application area	For each applied manure source, a composite sample per the "Approved Sampling Procedures for Nutrient and Groundwater Monitoring at Existing Milk Cow Dairies" will be collected. For each applied manure source, a scaled weight by truckload will be recorded.	Corral solids Settling basin solids	Date applied and total weight (tons) applied	Percent moisture

A. MANURE SAMPLING AND ANALYSIS PLAN (CONTINUED)

			Minimum data collection requirements	
Frequency	Sampling Methods	Source	Field Analytes	Lab Analytes
Each application to each land application area	For each applied manure source, a composite sample per the "Approved Sampling Procedures for Nutrient and Groundwater Monitoring at Existing Milk Cow Dairies" will be collected. For each applied manure source, a scaled weight by truckload will be recorded.	Corral solids Settling basin solids	Date applied and total weight (tons) applied	Percent moisture

B. PROCESS WASTEWATER SAMPLING AND ANALYSIS PLAN

			Minimum data collection requirements	
Frequency	Sampling Methods	Source	Field Analytes	Lab Analytes
Anually	A composite or grab sample prior to blending with irrigation water per the "Approved Sampling Procedures for Nutrient and Groundwater Monitoring at Existing Milk Cow Dairies" will be collected.	LG1	None required	pH, total dissolved solids, electrical conductivity, nitrate-nitrogen, ammonion-nitrogen, total Kjeldahl nitrogen, total phosphorus, and total potassium
Once every two years (biennially)	For each pond, a composite or grab sample per the "Approved Sampling Procedures for Nutrient and Groundwater Monitoring at Existing Milk Cow Dairies" will be collected.	LG1	None required	General minerals, including: calcium, magnesium, sodium, bicarbonate, carbonate, sulfate, and chloride

B. PROCESS WASTEWATER SAMPLING AND ANALYSIS PLAN (CONTINUED)

			Minimum data collection requirements	
Frequency	Sampling Methods	Source	Field Analytes	Lab Analytes
Each application	For each pond, a composite or grab sample per the "Approved Sampling Procedures for Nutrient and Groundwater Monitoring at Existing Milk Cow Dairies" will be collected.	LG1	Date applied and volume (gallons or acre-inches) applied	None required
Quarterly during one application event	For field measurement: For each pond, a composite or grab sample per the "Approved Sampling Procedures for Nutrient and Groundwater Monitoring at Existing Milk Cow Dairies" will be collected. For laboratory analyses: For each pond, a composite or grab sample per the "Approved Sampling Procedures for Nutrient and Groundwater Monitoring at Existing Milk Cow Dairies" will be collected.	LG1	Date applied and electrical conductivity	Nitrate-nitrogen (only when pond is aerated), un-ionized ammonia-nitrogen, total Kjeldahl nitrogen, total phosphorus, total potassium, and total dissolved solids

C. SOIL SAMPLING AND ANALYSIS PLAN

			Minimum data collection requirements	
Frequency	Sampling Methods	Source	Field Analytes	Lab Analytes

C. SOIL SAMPLING AND ANALYSIS PLAN (CONTINUED)

			Minimum data collection requirements	
Frequency	Sampling Methods	Source	Field Analytes	Lab Analytes
Once every five years for each land application area (may be distributed over a 5-year period by sampling 20% of the land application areas annually)	For each field, a composite sample per the "Approved Sampling Procedures for Nutrient and Groundwater Monitoring at Existing Milk Cow Dairies" will be collected.	Field 1 - 24 acres Field 2 - 37 acres Field 3 - 38 acres	None required	Soluble phosphorus
Spring pre-plant for each crop	For each field, a composite sample per the "Approved Sampling Procedures for Nutrient and Groundwater Monitoring at Existing Milk Cow Dairies" will be collected.	Field 1 - 24 acres Field 2 - 37 acres Field 3 - 38 acres	None required	0 to 1 foot: Nitrate-nitrogen and organic matter 1 to 2 foot: Nitrate-nitrogen

D. PLANT TISSUE SAMPLING AND ANALYSIS PLAN

			Minimum data collection requirements	
Frequency	Sampling Methods	Source	Field Analytes	Lab Analytes
Each crop harvest from each land application area	For each field and crop, a composite sample per the "Approved Sampling Procedures for Nutrient and Groundwater Monitoring at Existing Milk Cow Dairies" will be collected. For each field and crop, a scaled weight by truckload will be recorded.	Field 1 - Forage/Sudan Field 2 - Forage/Corn Field 3 - Forage/Corn	Date harvested and total weight (tons) of harvested material removed from each land application area	Percent wet weight of harvested plant removed Laboratory analyses for total nitrogen, total phosphorus, total potassium (expressed on a dry weight basis), fixed solids (ash), and percent moisture

E. IRRIGATION WATER SAMPLING AND ANALYSIS PLAN

			Minimum data collection requirements	
Frequency	Sampling Methods	Source	Field Analytes	Lab Analytes
Each fresh water irrigation event for each land application area	TID Canal - flow rate multiplied by runtime	TID Canal	Date applied and volume (gallons or acre-inches) applied	None required

E. IRRIGATION WATER SAMPLING AND ANALYSIS PLAN (CONTINUED)

			Minimum data collection requirements	
Frequency	Sampling Methods	Source	Field Analytes	Lab Analytes
One irrigation event during each irrigation season during actual irrigation events – for each irrigation water source (well and canal)	For each irrigation source, a grab sample per the "Approved Sampling Procedures for Nutrient and Groundwater Monitoring at Existing Milk Cow Dairies" will be collected. In lieu of sampling the irrigation water, the Discharger may provide equivalent data from the local irrigation district.	TID Canal	None required	Electrical conductivity, total dissolved solids, and total nitrogen

F. GROUNDWATER MONITORING SAMPLING AND ANALYSIS PLAN

			Minimum data collection requirements	
Frequency	Sampling Methods	Source	Field Analytes	Lab Analytes
Every five years (may be distributed over a 5-year period by sampling 20% of the wells annually)	For each domestic and agricultural supply well, a grab sample per the "Approved Sampling Procedures for Nutrient and Groundwater Monitoring at Existing Milk Cow Dairies" will be collected.	All Domestic Wells	None required	General minerals, including: calcium, magnesium, sodium, bicarbonate, carbonate, sulfate, chloride Total dissolved solids
Annually	For each domestic and agricultural supply well, a grab sample per the "Approved Sampling Procedures for Nutrient and Groundwater Monitoring at Existing Milk Cow Dairies" will be collected.	All Domestic Wells	Electrical conductivity and ammonion-nitrogen	Nitrate-nitrogen. If field measurement indicates the presence of ammonium-nitrogen, the Discharger shall collect a sample for laboratory analysis of ammonium-nitrogen.

NUTRIENT MANAGEMENT PLAN REVIEW

A. NUTRIENT MANAGEMENT PLAN REVIEW

Person who created the NMP:	Ramos, Joe	*See above for contact information.*
Date the NMP was drafted:	02/14/2017	
Person who approved the final NMP:	Ramos, Joe	*See above for contact information.*
Date of NMP implementation:	02/14/2017	

ATTACHED MAP AND DOCUMENTATION REFERENCES

The following list, based upon user selections and data entries, describes the minimum required attachments that must be submitted with the Nutrient Management Plan for the reporting schedule of 'July 1, 2009'.

A. PRELIMINARY DAIRY FACILITY ASSESSMENT

The NMP will include the initial Preliminary Dairy Facility Assessment (Attachment A) and the annual updates as required by Monitoring and Reporting Program No. R5-2007-0035. Copies of these assessments shall be maintained for 10 years.

B. LAND AREA MAP(S)

Identify each land application area (under the Discharger's control, whether it is owned, rented, or leased, to which manure or process wastewater from the production area is or may be applied for nutrient recycling) on a single published base map

1. A field identification system (Assessor's Parcel Number; land application area; crops grown); indication if each land application is owned, rented, or leased by the Discharger; indication of what type of waste is applied (solid manure only, wastewater only, or both solid manure and wastewater); drainage flow direction in each field, nearby surface waters, and storm water discharge points; tailwater and storm water drainage controls; subsurface (tile) drainage systems (including discharge points and lateral extent); irrigation supply wells and groundwater monitoring wells; sampling locations for discharges of storm water and tailwater to surface water from the field.

2. Process wastewater conveyance structures, discharge points and discharge mixing points with irrigation water supplies; pumping facilities; flow meter locations; drainage ditches and canals, culverts, draining controls (berms, levees, etc.), and drainage easements.

Application area map reference number: 1

Identify each field under control of the Discharger and within five miles of the dairy where neither process wastewater nor manure is applied. Each field shall be identified on a single published base map at an appropriate scale by the following:

1. Assessor's Parcel Number.
2. Total acreage.
3. Information on who owns or leases the field

Non-application area map reference number: 2

Setbacks, Buffers, and Other Alternatives to Protect Surface Water (see Technical Standard VII):

1. Identify all potential surface waters or conduits to surface water that are within 100 feet of any land application area.
2. For each land application area that is within 100 feet of a surface water or a conduit to surface water, identify the setback, vegetated buffer, or other alternative practice that will be implemented to protect surface water (Technical Standard VII).

Setbacks and buffers map reference number: 3

C. PROCESS WASTEWATER WRITTEN AGREEMENTS

Provide copies of written agreements with third parties that receive process wastewater for their own use from the Discharger 's dairy (Technical Standards V.A.1 and V.A.3).

Nutrient Management Plan Report
General Order No. R5-2007-0035, Attachment C
July 1, 2009 deadline

SAMPLING AND ANALYSIS PLAN CERTIFICATION

A. DAIRY FACILITY INFORMATION

Name of dairy or business operating the dairy: Machado Dairy

Physical address of dairy:

7413 S Mitchell RD	Turlock	Stanislaus	95380
Physical Address Number and Street	City	County	Zip Code

Street and nearest cross street (if no address):

B. DOCUMENTATION OF QUALIFICATIONS AND PLAN DEVELOPMENT

I certify that I meet the requirements as a certified specialist in developing nutrient management plans as described in Attachment C of Waste Discharge Requirements General Order No. R5-2007-0035 and that I prepared the Sampling and Analysis plan.

Technical Service Provider
TITLE/QUALIFICATIONS OF CERTIFIED NUTRIENT MANAGEMENT SPECIALIST

SIGNATURE OF TRAINED PROFESSIONAL — DATE: 8/31/20

Joe Ramos
PRINT OR TYPE NAME

2857 Geer RD. STE A; Turlock, CA 95382
MAILING ADDRESS

(209) 250-2471
PHONE NUMBER

C. OWNER AND/OR OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Isabel Machado	
SIGNATURE OF OWNER OF FACILITY	SIGNATURE OF OPERATOR OF FACILITY
Isabel Machado	JOHN MACHADO
PRINT OR TYPE NAME	PRINT OR TYPE NAME
09-01-20	9/1/20
DATE	DATE

Nutrient Management Plan Report
General Order No. R5-2007-0035, Attachment C
July 1, 2009 deadline

NUTRIENT BUDGET CERTIFICATION

A. DAIRY FACILITY INFORMATION

Name of dairy or business operating the dairy: Machado Dairy

Physical address of dairy:

7413 S Mitchell RD	Turlock	Stanislaus	95380
Number and Street	City	County	Zip Code

Street and nearest cross street (if no address):

B. DOCUMENTATION OF QUALIFICATIONS AND PLAN DEVELOPMENT

I certify that I meet the requirements as a certified specialist in developing nutrient management plans as described in Attachment C of Waste Discharge Requirements General Order No. R5-2007-0035 and that I prepared the Nutrient Budget plan.

Technical Service Provider
TITLE/QUALIFICATIONS OF CERTIFIED NUTRIENT MANAGEMENT SPECIALIST

Joe Ramos
SIGNATURE OF TRAINED PROFESSIONAL

8/31/20
DATE

Joe Ramos
PRINT OR TYPE NAME

2857 Geer RD, STE A; Turlock, CA 95382
MAILING ADDRESS

(209) 250-2471
PHONE NUMBER

C. OWNER AND/OR OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Isabel Machado	John Machado
SIGNATURE OF OWNER OF FACILITY	SIGNATURE OF OPERATOR OF FACILITY
Isabel Machado	JOHN MACHADO
PRINT OR TYPE NAME	PRINT OR TYPE NAME
09-01-20	9/1/20
DATE	DATE

Nutrient Management Plan Report
General Order No. R5-2007-0035, Attachment C
July 1, 2009 deadline

STATEMENTS OF COMPLETION

Waste Discharge Requirements General Order No. R5-2007-0035 for Existing Milk Cow Dairies (General Order) requires owners and operators of existing milk cow dairies (Dischargers) to develop and implement a Nutrient Management Plan for their land application areas (land under control of the Discharger, whether it is owned, rented, or leased, to which manure or process wastewater from the production area is or may be applied for nutrient cycling). The Discharger is required to maintain the NMP at the dairy, make the NMP available to Central Valley Water Board staff during their inspections, and submit the NMP to the Executive Officer upon request.

The General Order requires the Discharger to submit two Statements of Completion during development of the NMP. The Discharger may use this form to comply with the General Order requirement to submit one or both of these Statements of Completion. Parts A and E must be completed for each Statement of Completion. Parts B, C and D are to be completed for the Statements of Completion due by 1 July 2008, 31 December 2008 and 1 July 2009, respectively. Both the owner and the operator of the dairy must sign this form in Part E below.

A. DAIRY FACILITY INFORMATION

Name of dairy or business operating the dairy: Machado Dairy

7413 S Mitchell RD	Turlock	Stanislaus	95380
Number and Street	City	County	Zip Code

Street and nearest cross street (if no address): _____

Operator name: _____ Telephone no.: _____ (Landline) _____ (Cellular)

_____ _____ _____ _____
Mailing Address Number and Street | City | State | Zip Code

Legal owner name: Machado, Isabel Telephone no.: (209) 634-5026 (Landline) _____ (Cellular)

7413 S Mitchell RD	Turlock	CA	95380
Mailing Address Number and Street	City	State	Zip Code

B. STATEMENT OF COMPLETION DUE 1 JULY 2008

I have completed the following items of the Nutrient Management Plan (check the boxes of completed sections), which are due 1 July 2008:

☐ **Item I.A.1 Land Application Information**
Identification of land used for manure application and needed information on a facility map.

☐ **Item I.B Land Application Information**
Information list for information provided on map above.

☐ **Item I.C Land Application Information**
Copies of written third-party process wastewater agreements.

☐ **Item I.D Land Application Information**
Identification of fields under control of the discharger within five miles of the dairy where neither process wastewater nor manure is applied.

☐ **Item II Sampling and Analysis Plan**

☐ **Item IV Setbacks, Buffers, and Other Alternatives to Protect Surface Water**
Identification of all potential surface waters or conduits to surface waters within 100 feet of land application areas and appropriate protection.

☐ **Item VI Record-Keeping Requirements**
Identification of monitoring records that will be maintained as required in the production and land application areas.

Has Item II (Sampling and Analysis Plan) of the Nutrient Management Plan been certified by a Certified Nutrient Management Specialist as required in the General Order?

☐ Yes ☐ No

C. STATEMENT OF COMPLETION DUE 31 DECEMBER 2008

I have completed the following items of the Nutrient Management Plan (check the boxes of completed sections), which are due 31 December 2008:

☐ **Item V Field Risk Assessment**
Evaluation of the effectiveness of management practices used to control the discharge of waste constituents from land application areas by assessing the water quality monitoring results of discharges of manure, process wastewater, tailwater, subsurface (tile) drainage, or storm water from the land application areas.

D. STATEMENT OF COMPLETION DUE 1 JULY 2009

I have completed the following items of the Nutrient Management Plan (check the boxes of completed sections), which are due 1 July 2009:

☐ **Item I.A.2 Land Application Area Information**
Identification of process wastewater conveyance, mixing and drainage information for each land application area on a facility map.

☐ **Item III Nutrient Budget**
Established planned rates of nutrient applications by crop based on nutrient monitoring results for each land application area.

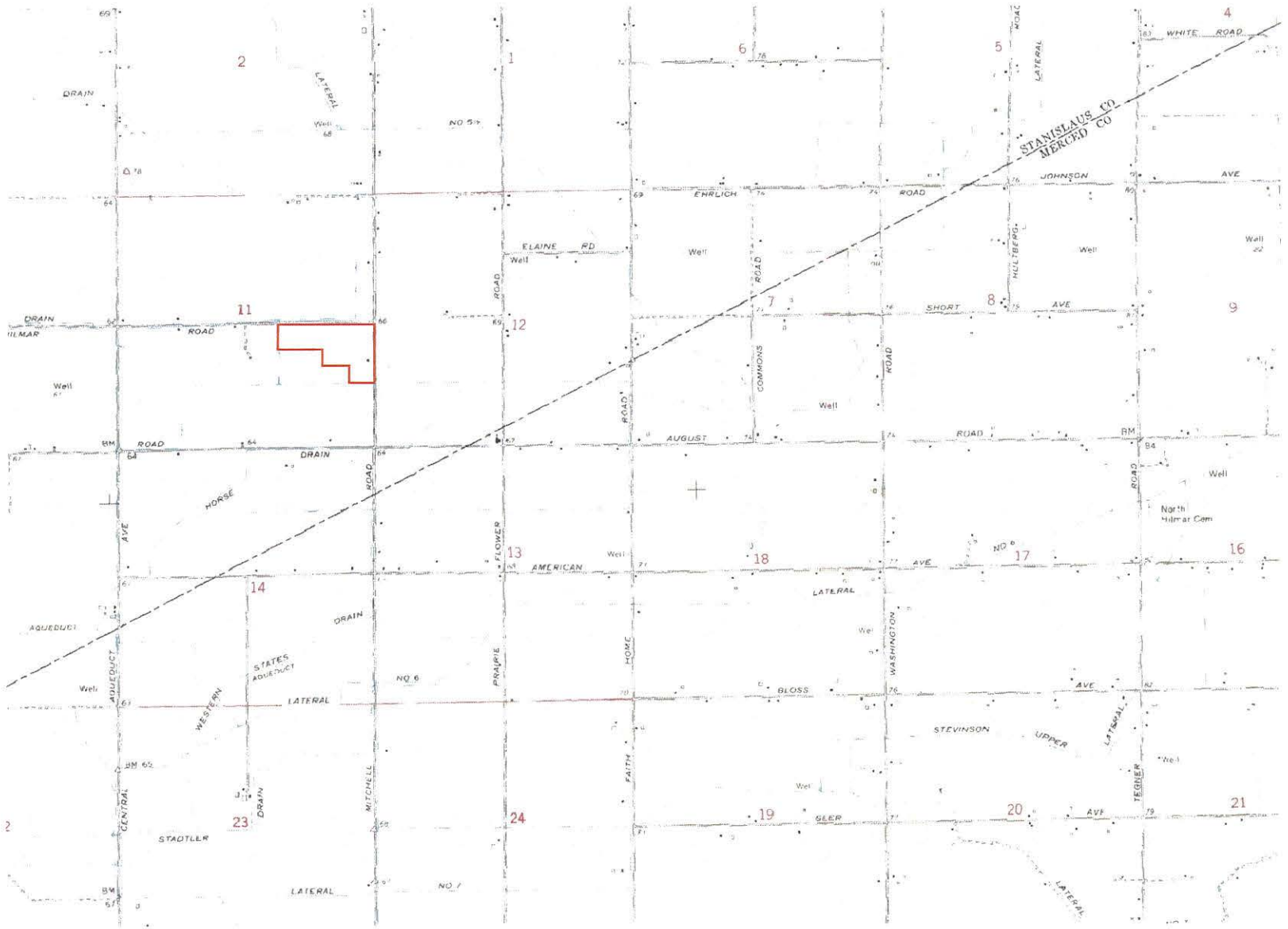
Has Item III (Nutrient Budget) of the Nutrient Management Plan been certified by a Certified Nutrient Management Specialist as required in the General Order?

☐ Yes ☐ No

E. CERTIFICATION STATEMENT

I certify under penalty of law that I have completed the items of the Nutrient Management Plan that are checked in Parts B, C and/or D above for the dairy identified in Part A above and that the appropriate certified nutrient management specialist has certified the items requiring such certification as noted in part B and/or D above and that I have personally examined and am familiar with the information submitted in Parts A, B, C and D of this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Isabel Machado	
SIGNATURE OF OWNER OF FACILITY	SIGNATURE OF OPERATOR OF FACILITY
Isabel Machado	JOHN MACHADO
PRINT OR TYPE NAME	PRINT OR TYPE NAME
09-01-20	9/1/20
DATE	DATE



LEGEND

Facility Boundary

Ag Services, Inc.

SCALE:

0 4,000 8,000

APPROXIMATE SCALE IN FEET

MACHADO DAIRY
STANISLAUS COUNTY, CA

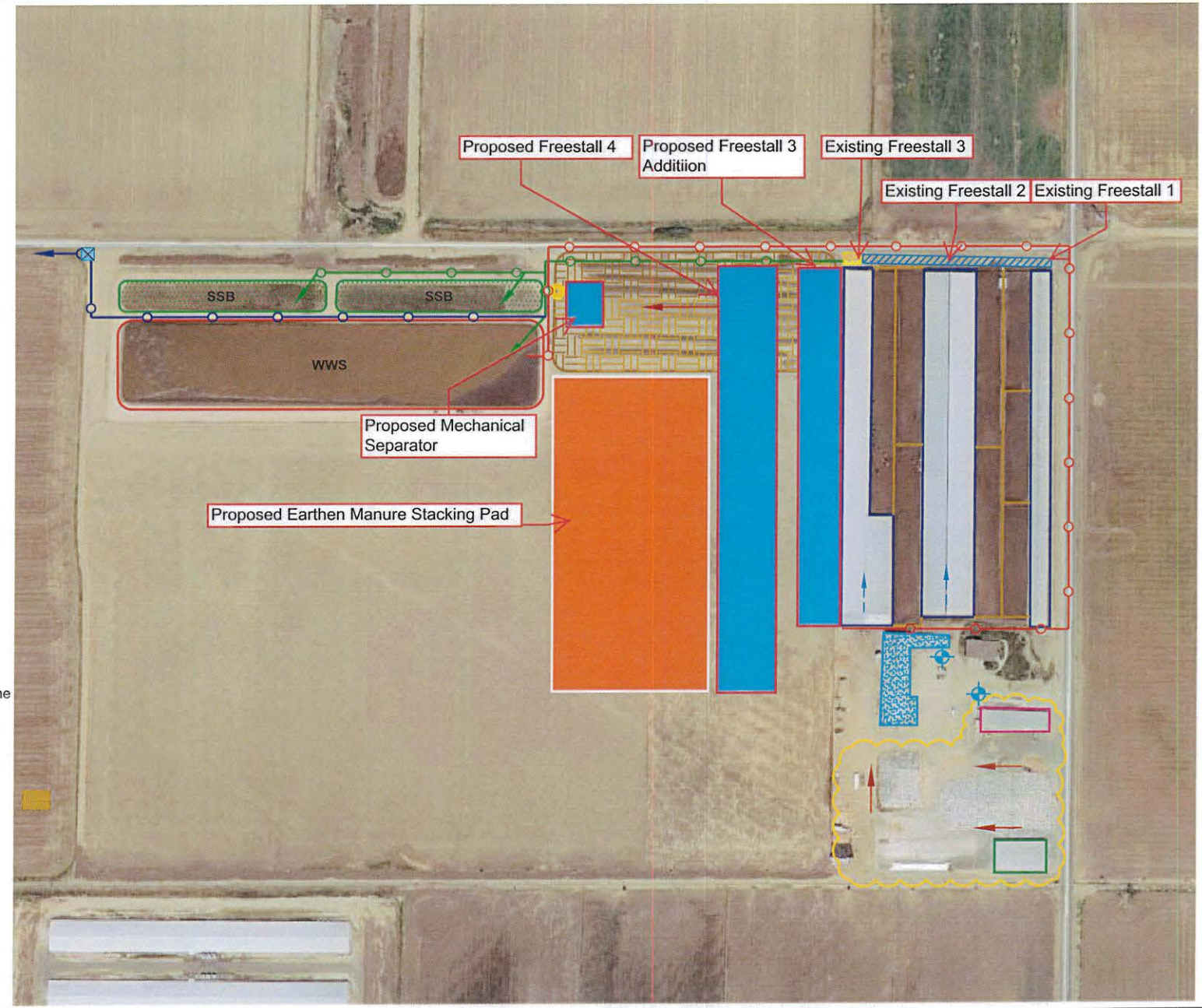
FIGURE 1
TOPOGRAPHIC MAP

PROJECT NO.	DATE:	DRAWN BY:	APP. BY:
FRA-00	9/2/20	SB	JR

Machado-land application

LEGEND

- Animal Housing/Shade
- Wastewater Storage
- Hay Barn
- Commodity Barn
- Milk Barn
- Sand Trap
- Corral
- Solids Settling Basin
- Manure Storage
- Pump
- Drain
- Domestic Well
- Feed Storage Area
- Flush Return Pipeline
- Flush Delivery Pipeline
- Clean Water Diversion Pipeline
- Drainage Flow
- Flush Flow Direction
- Flush Return Lane



Ag Services, Inc.

SCALE:

0 300 600

APPROXIMATE SCALE IN FEET

MACHADO DAIRY
STANISLAUS COUNTY, CA

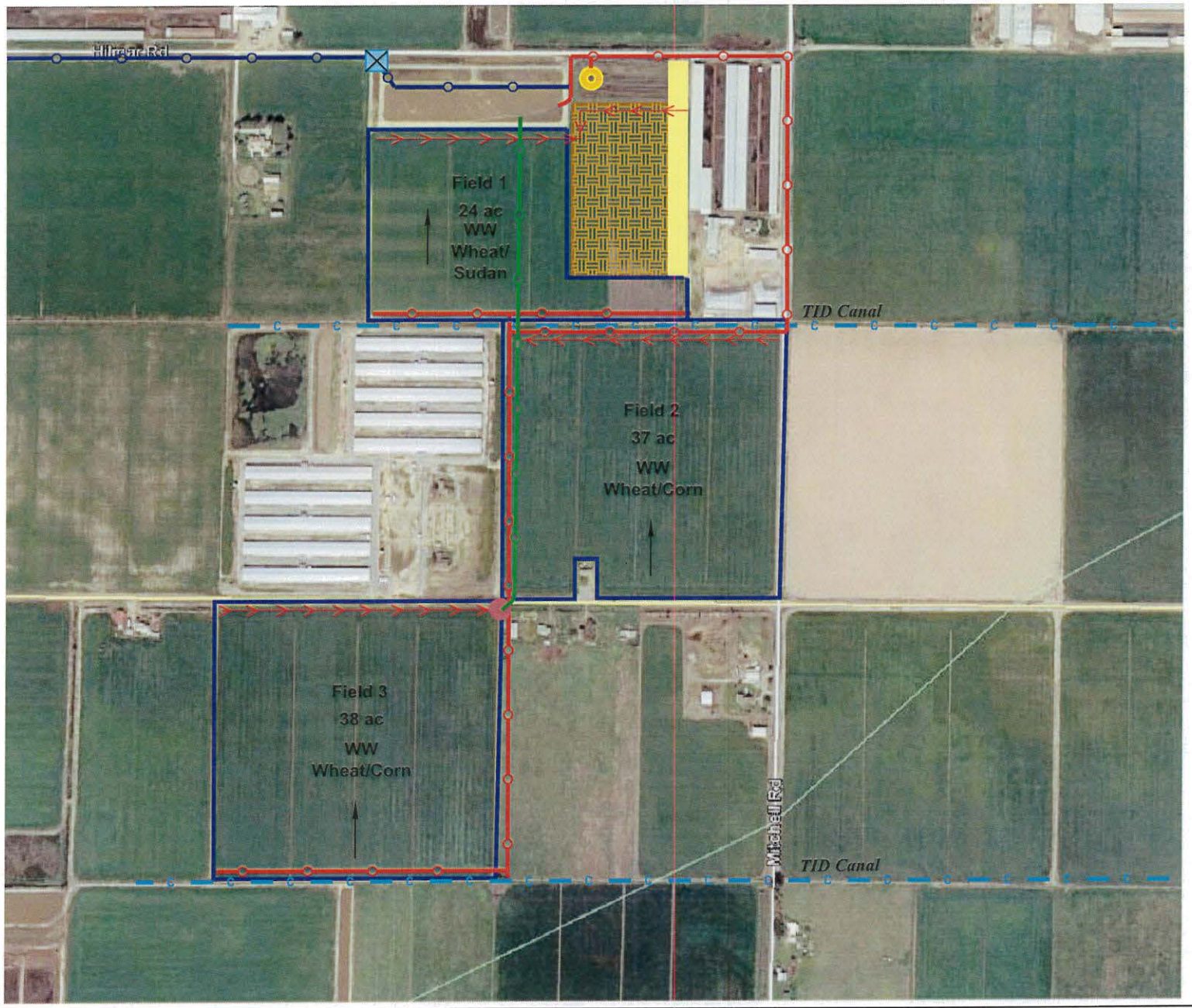
FIGURE 2
DAIRY FACILITY

PROJECT NO.	DATE:	DRAWN BY:	APP. BY:
FRA-00	3/13/18	SB	JR

Machado-land application

LEGEND

- Fields
- Manure Stacking Pad
- Tailwater Return Pipeline
- Wastewater Pipeline
- Clean Water Delivery Pipeline
- Irrigation Flow
- Drainage Flow
- TID Canal
- Drain
- Pump
- WW — Wastewater



Ag Services, Inc.

SCALE:
0 700 1500
APPROXIMATE SCALE IN FEET

MACHADO DAIRY
STANISLAUS COUNTY, CA

FIGURE 3
LAND APPLICATION AREA

PROJECT NO.	DATE:	DRAWN BY:	APP. BY:
FRA-00	9/2/20	SB	JR

Machado-land application

F&R Ag Services, Inc.

2857 Geer Road, Ste A
Turlock, CA 95382

October 2021

Prepared by:

Yorke ENGINEERING, LLC
www.YorkeEngr.com

Office Locations:
Los Angeles, Orange County, Riverside, Ventura,
San Diego, Fresno, Berkeley, San Jose, Bakersfield

Tel: (949) 248-8490
Fax: (949) 248-8499

CEQA Health Risk Assessment

CEQA
Health Risk Assessment

Prepared for:

F&R Ag Services, Inc.
2857 Geer Road, Suite A
Turlock, CA 95382

October 2021

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Health Risk Assessment

1.0 INTRODUCTION

F&R Ag Services, Inc. (F&R) is assisting a dairy farm, Machado Dairy, with a facility expansion development project. The facility, located at 7413 Mitchell Road, Turlock, CA, is an existing and operating dairy facility with corrals, milking facilities, waste storage structures, and utilities in place. The operation currently houses approximately 1,200 mature cows and 80 support stock. The expansion plans to increase the number of milk/dry cows by 500/head for a total of 1,500 milk cows and 200 dry cows and increase support stock to 1,160/head. There will be an estimated daily increase of one milk truck trip, one commodity truck trip, and two employee trips. The project requires the construction of a 36,000-square-foot addition to the West Freestall Barn and the construction of a new 94,500-square-foot freestall barn for dry cows and support stock directly west of the current footprint. Nutrients produced by the herd are used to fertilize approximately 100 acres of irrigated cropland farmed by the applicants. Construction is planned to occur in 14 phases over a period of 6 years. The project site is in Stanislaus County, which is within the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD).

An air quality impact analysis was performed for the project by EAC Engineering of Middleton, ID, that estimated mass emissions of criteria air pollutants from construction and operation using CalEEMod. In response to comments from the SJVAPCD, the Stanislaus County Planning & Community Development (Lead Agency) has requested that a mobile source health risk assessment (HRA) be prepared for diesel engine exhaust emissions associated with the construction and operation of the project.

2.0 HEALTH RISK ASSESSMENT

The California Environmental Quality Act (CEQA) requires that the environmental impacts of a proposed project be identified and assessed. If these impacts are found to be significant, the impacts must be mitigated to the extent feasible. The SJVAPCD has developed CEQA thresholds for determination of significance for HRAs in policy APR-1906 (SJVAPCD 2018) and Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI) (SJVAPCD 2015a).

The methodology used to develop the HRA is described below and based on SJVAPCD guidance documents and policies, in particular, “Guidance for Air Dispersion Modeling” (SJVAPCD 2006), SJVAPCD policy APR-1906, and consultation with SJVAPCD modeling staff.

This HRA examines the combined impacts from construction and operations of the Project, since the construction is anticipated to last many years, and may overlap with operational activities.

2.1 Emission Sources

The HRA examines the diesel particulate matter (DPM) in exhaust from the construction equipment, operational offroad equipment and onroad trucks associated with the project phases. Since the construction activities will last up to 6 years but will overlap with operational activities, the average annual construction emissions are included in the analysis for the full exposure duration, conservatively overestimating the potential health impacts from construction activities.

The DPM emissions used in the HRA are taken from the CalEEMod air quality analysis performed by EAC Engineering. Particulate matter less than 2.5 microns in size ($PM_{2.5}$) in exhaust emissions

from the offroad equipment and onroad vehicles (trucks) was assumed to be DPM. The total CalEEMod vehicle emissions were scaled to represent the on-site travel distance of 0.16 miles and the off-site travel distance of 0.25 miles. Table 2-1 presents the DPM emissions used in the HARP modeling.

Table 2-1: DPM Emissions

HARP Source ID	AERMOD Source ID	Source Description	DPM Annual Emissions (lb/yr)
1	1	Construction: On-Road Trucks	0.030
2	2	Construction: On-Site Trucks	0.019
3	3	Construction: Off-Road Equipment	60.23
4	1	Operation: On-Road Trucks	0.019
5	2	Operation: On-Site Trucks	0.012
6	3	Operation: Off-Road Equipment	0.919

2.2 Dispersion Modeling

2.2.1 Air Dispersion Model

Air dispersion models calculate the atmospheric transport and fate of pollutants from the emissions source. The models calculate the concentration of selected pollutants at specific downwind ground-level points, such as residential or off-site workplace receptors. The transformation (fate) of an airborne pollutant, its movement with the prevailing winds (transport), its crosswind and vertical movement due to atmospheric turbulence (dispersion), and its removal due to dry and wet deposition are influenced by the pollutant's physical and chemical properties and meteorological and environmental conditions. Factors, such as distance from the source to the receptor, meteorological conditions, intervening land use and terrain, pollutant release characteristics, and background pollutant concentrations, affect the predicted air concentration of an air pollutant. Air dispersion models take all of these factors into consideration when calculating downwind ground-level pollutant concentrations.

The air dispersion model used for this HRA is the American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD). AERMOD is recommended by both the United States Environmental Protection Agency (U.S. EPA) and SJVAPCD for stationary source air dispersion modeling projects.

The Lakes Environmental Software implementation/user interface, AERMOD View™, Version 10.0.1, was used for this project. This version of AERMOD View™ implements Version 21112 of AERMOD.

2.2.2 Modeling Options

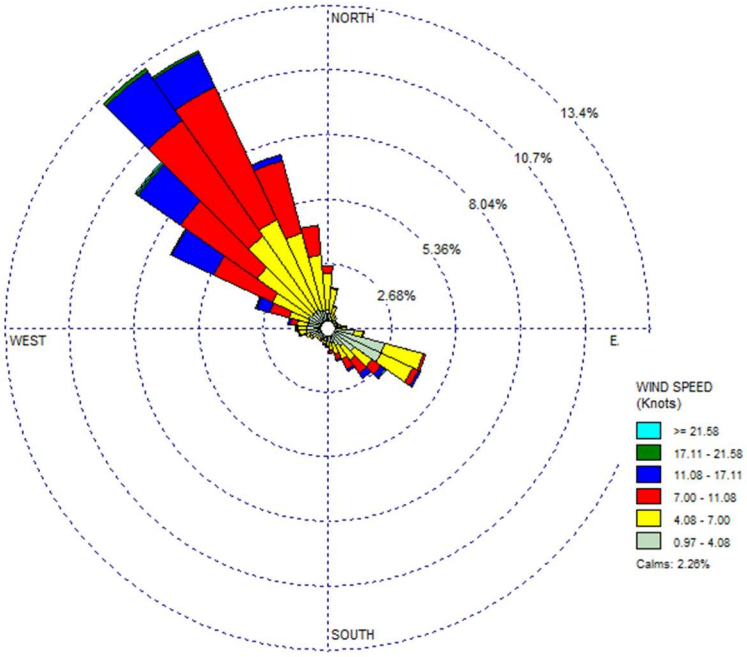
AERMOD View™ allows the user to select from a variety of dispersion options. For this project, "Regulatory Default" options were used unless otherwise directed by the SJVAPCD guidance and noted below.

2.2.3 Meteorological Data

AERMOD-ready pre-processed meteorological data files were obtained directly from the SJVAPCD for the Modesto City-County Airport station. This station is the nearest

meteorological station and most representative of the conditions at the facility. Figure 2-1 presents the wind rose showing the meteorological data for the years 2013-2017. Each petal of the rose represents the frequency and relative strength with which a wind blows from that direction.

Figure 2-1: Modesto Airport Wind Rose 2013-2017



2.2.4 Receptor Grids and Modeling Domain

Satellite maps within AERMOD View™ were used for developing the property boundary and receptor grid. This program uses the World Geodetic System 1984 (WGS84) Datum for displaying Universal Transverse Mercator (UTM) coordinates. The facility is located in Zone 10.

The modeling domain was sufficiently large to include both the cancer risk and non-cancer risk Zone of Impact (ZOI). The ZOI for cancer risk is assumed to be all receptors within the 1 x 10^{-6} (one in one million) cancer risk isopleth and each ZOI for non-cancer chronic risk is assumed to include all receptors within the 0.5 Hazard Index (HI) isopleths.

Modeling results were obtained at various locations around the facility. These receptor locations were identified as the facility boundary ("fenceline"), a grid network of receptors to establish the potential impact area, and discrete receptors that were positioned at specific locations of interest. All receptors were set to ground-level; the HRA did not include flagpole receptors.

The facility boundary encompasses the existing facility and the proposed Project expansion area. Per SJVAPCD guidance, a cascading grid of receptors was used to ensure that impacts will be below the appropriate CEQA thresholds at all locations off-site. These gridded receptors were located as follows:

- Fenceline receptors spaced every 25 meters;

- 50-meter spacing from the center of property out to 1,000 meters;
- 100-meter spacing from 1,000 to 1,500 meters; and
- 250-meter spacing from 1,500 to 3,000 meters.

Additional discrete Cartesian receptors were used to evaluate the locations of the closest residential receptors and off-site workplaces.

The nearest resident is a home located roughly 120 meters northwest of the facility. The second nearest resident is a home located 150 meters west of the facility's fenceline. The third closest residences are 250 meters south of the facility's fenceline. Additional residences were modeled but are all located over 500 meters from the facility's fenceline.

The nearest sensitive receptors are in Turlock, northeast of the facility more than 5 miles away; thus, none are included in the HRA modeling. Other farms surround the facility and the closest structure where off-site workers may congregate is approximately 150 meters northwest of the facility.

Figure 2-2 shows the locations of all receptors used in the modeling and the property line.

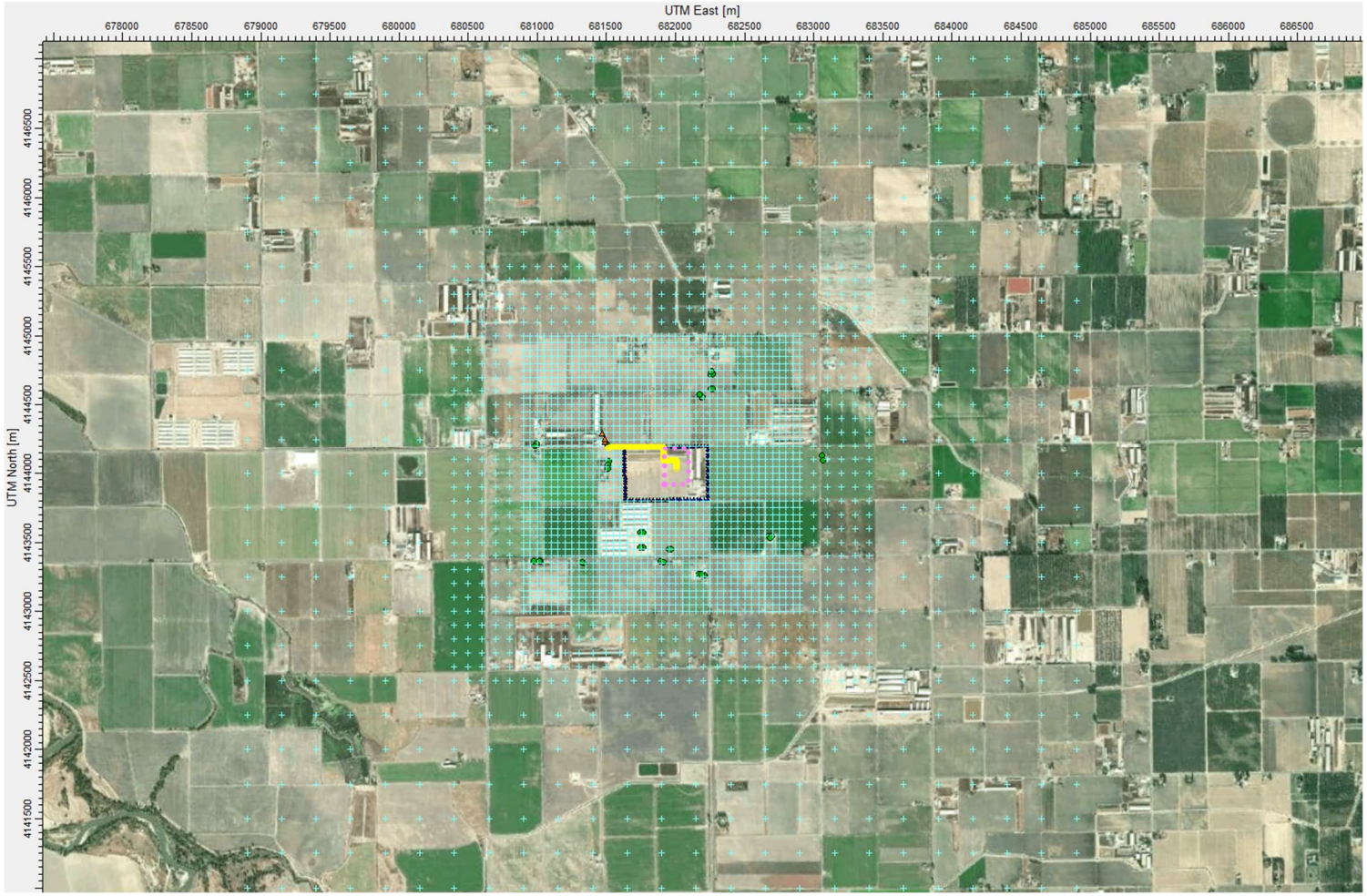
2.2.5 Terrain Options and Modeling Domain

The AERMOD runs used the regulatory default elevated terrain option. Terrain data was imported directly into AERMOD View™ using the WebGIS import feature. The terrain data was from the United States Geological Survey (USGS) National Elevation Dataset (NED) and had a spatial resolution of approximately 10 meters. The terrain data files were processed by AERMOD View™ using AERMAP Version 18081 and elevations were assigned to receptors, buildings, and emissions sources accordingly.

2.2.6 Urban/Rural Dispersion

AERMOD allows for the use of urban or rural dispersion coefficients. The area within 3 kilometers of the Project is rural; therefore, the modeling used rural dispersion coefficients.

Figure 2-2: Source, Fenceline, and Receptor Locations



Dark Blue Triangles: Fenceline Receptors
Cyan Crosses: Uniform Receptor Grid
Green Circles: Residential Receptors
Orange Triangles: Worker Receptors
Yellow Line: Mobile Sources
Pink Dot Region: Offroad Sources

2.2.7 Buildings

The modeling does not include building downwash because only area and volume sources were used to represent the sources and AERMOD does not calculate downwash from these source types. Point sources (stacks, ducts) can utilize downwash calculations.

2.2.8 Deposition

Deposition was accounted for in the multi-pathway exposure assessment in the HRA, as necessary, but not in the air dispersion modeling. In addition, wet and dry pollutant depletion was not used.

2.2.9 Source Information and Release Parameters

AERMOD was run with a unit emission rate [1 gram per second (g/s)] for each source to calculate the concentration from each source per unit emission rate, known as X/Q (Chi/Q), for 1-hour and period (annual) averaging time options per receptor. The modeled X/Q concentration was calculated for each source, at each receptor, for each averaging time for input into the Hotspots Analysis and Reporting Program, version 2 (HARP2).

2.2.9.1 Construction

HRA modeling was conducted for construction for the DPM exhaust from the construction equipment and delivery trucks. The HRA encompassed all stages of construction spanning the 6-year period.

Per SJVAPCD guidance, vehicle travel emissions were included in the HRA for travel on-site and up to ¼-mile off-site. The vehicle DPM exhaust emissions were modeled as line volume sources using the parameters outlined in the SJVAPCD modeling guidance and unit emissions.

The construction equipment was modeled as an area source located in the area where the construction activities are expected to occur. The emission rate in AERMOD from the construction area source is equivalent to 1 g/s.

2.2.9.2 Operations

Modeling was conducted for the full buildout scenario to ensure maximum Project-related impacts were assessed. Operational activities include trucking and worker vehicles exhaust and off-road diesel-powered equipment.

Both construction and operational activities are expected to occur in the same area of the property, thus, the same on-site and off-site line volume sources for vehicles and area source for off-road equipment as the construction activities were used to represent the operational activities.

Figure 2-2 shows the locations of the sources included in the HRA modeling. The release parameters utilized for each source were provided by the Applicant or derived from SJVAPCD guidance.

2.3 Health Risk Assessment

The HRA followed the SJVAPCD Policy 1906 (SJVAPCD 2018) Tier 2 refined project modeling techniques, which are based on the Office of Environmental Health Hazard Assessment (OEHHA)

Tier 1 technique (OEHHA 2015, SJVAPCD 2015b), with the exceptions noted in the following sections.

AERMOD was run with all sources emitting unit emissions (1 g/s) to obtain the X/Q values that are necessary for input into HARP2. The health risk calculations were performed using the HARP2 Air Dispersion Modeling and Risk Tool (ADMRT), version 21081. The X/Q values that were determined for each source using AERMOD were imported into HARP2 and used in conjunction with hourly and annual emissions to determine the ground level concentrations (GLC) for each pollutant. The GLCs were then used to estimate the long-term cancer health risk to an individual and non-cancer chronic index. No acute health risks were calculated because DPM does not have acute toxicity factors.

The Point of Maximum Impact (PMI), Maximally Exposed Individual Resident (MEIR), and Maximally Exposed Individual Worker (MEIW) were calculated for cancer risk and non-cancer chronic health index. The PMI is a location within the modeling grid where the model calculates the highest (worst-case) health risk. The PMI may or may not be a habitable location. A description of the health risk indices and associated calculations conducted in HARP2 is provided below. Table 2-2 provides a listing of the HARP2 options that were selected for the analysis.

This HRA examines the combined impacts from construction and operations of the Project, since the construction is anticipated to last many years and may overlap with operational activities.

2.3.1 HARP Parameters and Exposure Pathways

Because the HRA only examines impacts from DPM, a multi-pathway assessment is not necessary.

Table 2-2 outlines the parameters used in the health risk calculations for the different receptor types. The grid, residential, and sensitive receptors will all be evaluated as residential in HARP2.

Table 2-2: HARP2 Model Options

Parameter	Assumptions				Comments
Multi-Pathway					
Inhalation	Res	☒	Work	☒	–
Deposition Velocity	0.02 m/s				Per SJVAPCD APR-1906
Residential Cancer Risk Assumptions					
Exposure Duration	70 years				–
Fraction of Time at Home	Third Trimester to 16 years: Off 16 years to 30 years: Off				Per SJVAPCD guidance
Inhalation Rate Basis	Long-term 24-hour				Per SJVAPCD guidance
Analysis Option	OEHHA Derived Method				–
Worker Cancer Risk Assumptions					
Exposure Duration	40 years				–
Analysis Option	OEHHA Derived Method				–
Inhalation Rate Basis	Moderate 8-hour				–
Worker Adjustment Factor	3				8 hours/day, 7 days/week
Residential and Worker Non-Cancer Risk Assumptions					

Parameter	Assumptions	Comments
Analysis Option	OEHHA Derived Method	–
Inhalation Rate Basis	Long-term 24-hour (resident) Moderate 8-hour (worker)	–
Worker Adjustment Factor	3	8 hours/day, 7 days/week

2.3.2 Cancer Risk

Cancer risk is the estimated probability of a maximally exposed individual potentially contracting cancer as a result of exposure to toxic air contaminants (TACs) over a period of time. Per SJVAPCD Policy 1906 and HRA guidance, this HRA estimated cancer risk over a 70-year lifetime for residential and grid receptor locations, and 40 years for off-site worker receptor locations.

Based on the SJVAPCD's recommendations, the OEHHA Derived calculation method was used to estimate all cancer risks at residential/sensitive/grid and off-site worker receptors. The "OEHHA Derived" method uses high-end exposure parameters for the top two exposure pathways and mean exposure parameters for the remaining pathways for cancer risk estimates.

2.3.3 Chronic Hazard Index

Some TACs may have non-cancer health risk due to a long-term (chronic) exposure. The Chronic Hazard Index (HIC) is the sum of the individual substance HICs for all TACs affecting the same target organ system. Chronic risk was calculated using the OEHHA Derived Method at all off-site receptors for an annual exposure duration. This analysis used the exposure pathways outlined in Table 2-2.

Because DPM does not have an 8-hour chronic reference exposure level (REL), no 8-hour chronic risks were estimated.

2.3.4 Acute Hazard Risk

Some TACs may have non-cancer health risk due to short-term (acute) exposures. Acute Hazard Index (HIA) is the sum of the individual substance HIAs for all TACs affecting the same target organ system. Acute risk was calculated at all receptors for an exposure duration of 1 hour.

Because DPM does not have an acute REL, no acute risks were estimated.

2.4 HRA Results

Table 2-3 presents a summary of the combined construction and operations HRA results at the MEIR and MEIW. Figure 2-3 shows the 70-year cancer risk isopleths and the location of the MEIR. Figure 2-4 shows the 40-year worker cancer risk isopleths and the location of the MEIW. Appendix A presents more detailed tables of the HARP2 modeling results for each health risk at each receptor type, broken down by source.

The results show that the cancer risk at all actual receptor locations was predicted to be below the SJVAPCD significance threshold and the HIC was well below the non-cancer thresholds at all locations. The cancer risk PMI occurs at a location along the northern fenceline near truck driveway and construction/operational equipment area in a location where no one is expected to congregate for any duration, let alone 70-years. The cancer and chronic MEIR were predicted to

occur at the nearest resident, located northwest of the facility. The cancer and chronic MEIW were predicted to occur at the nearest off-site worker, located northwest of the facility. The majority of the cancer and chronic risks were predicted to come from the construction equipment. Because the average annual construction emissions were included in the analysis for the full exposure duration, the potential health impacts from construction activities were conservatively overestimated.

Table 2-3: Health Risk Assessment Results

Health Risk	MEIR	MEIW	SJVAPCD CEQA Threshold
Cancer Risk (In One Million)	9.89	3.59	20
HIC	0.002	0.002	1

Notes:
- Cancer risk is based on a 70-year exposure for PMI, MEIR, and sensitive receptors and a 40-year exposure for the MEIW.
- The chronic hazard index was estimated on an annual basis.
- There are no sensitive receptors close to the facility.

The HRA predicted that the Project health risks were below the CEQA thresholds, thus the Project would not expose sensitive receptors to substantial pollutant concentrations and would have a less than significant impact on air quality and no mitigation would be required.

PROJECTED IMPACT: Less Than Significant (LTS)

MITIGATION: None required

Figure 2-3: 70-Year Cancer Risk Isopleths and Location of the MEIR

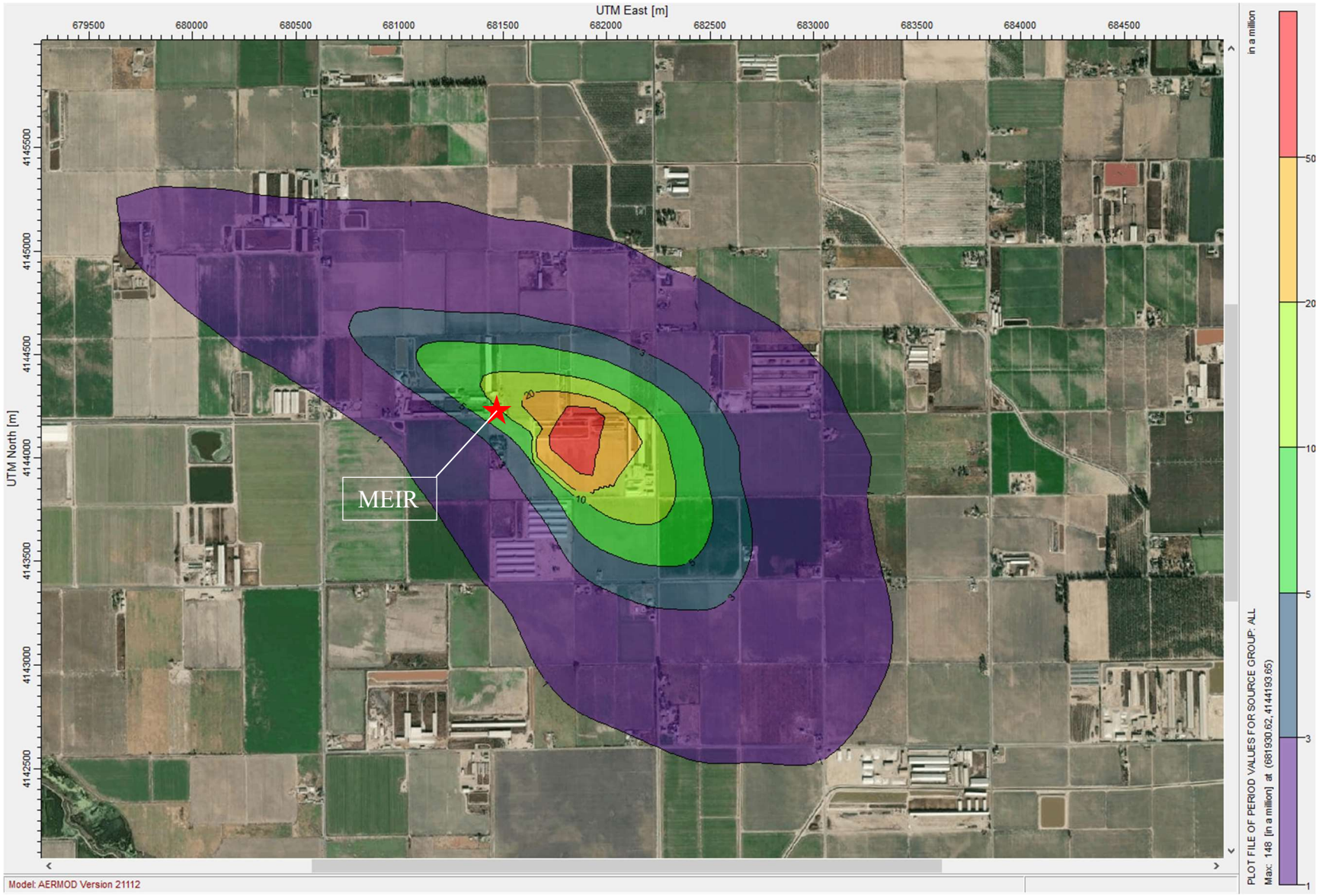
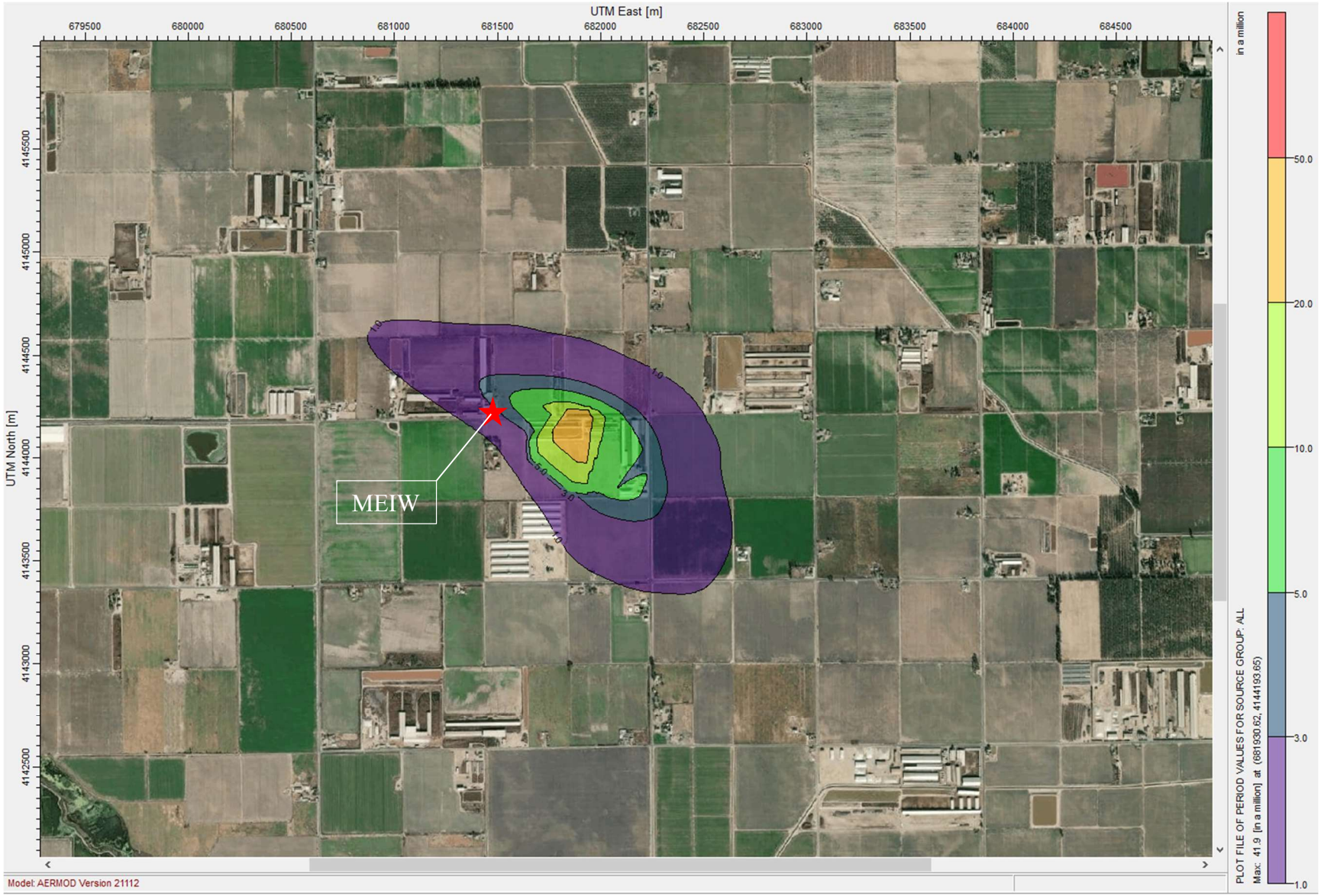


Figure 2-4: 40-Year Worker Cancer Risk Isopleths and Location of the MEIW



3.0 REFERENCES

California Office of Environmental Health Hazard Assessment (OEHHA). 2015. Air Toxics Hot Spots Program, Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments. Website (http://oehha.ca.gov/air/crnr/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0) accessed October 1, 2021.

San Joaquin Valley Air Pollution Control District (SJVAPCD). 2018. APR-1906, Framework for Performing Health Risk Assessments. July 1, 2018. Website (https://www.valleyair.org/policies_per/policies_per_idx.htm) accessed October 1, 2021.

San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015a. Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI). Website (https://www.valleyair.org/transportation/GAMAQI_12-26-19.pdf) accessed October 1, 2021.

San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015b. Update to District's Risk Management Policy to Address OEHHA's Revised Risk Assessment Guidance Document. May 28, 2015. Website (https://www.valleyair.org/busind/pto/staff-report-5-28-15.pdf) accessed October 1, 2021.

San Joaquin Valley Air Pollution Control District (SJVAPCD). 2006. Guidance for Air Dispersion Modeling. August 2006, Rev 1.2. Website (http://www.valleyair.org/busind/pto/tox_resources/Modeling%20Guidance.pdf) accessed October 1, 2021.

APPENDIX A – HRA RESULTS

Yorke ENGINEERING, LLC
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Cancer Risk by Source for All Pollutants Combined at PMI, MEIR, and MEIW
F&R Ag Services CEQA Mobile Source HRA

Sources	Source Description	Point of Maximum Impact (PMI)		Maximally Exposed Individual Resident (MEIR)		Maximally Exposed Individual Worker (MEIW)	
		receptor #	2671	receptor #	2672	receptor #	2674
		UTM Easting (m)	UTM Northing (m)	UTM Easting (m)	UTM Northing (m)	UTM Easting (m)	UTM Northing (m)
		681931	4144194	681512	4144207	681473	4144294
		70-Year Cancer Risk	Contribution (%)	70-Year Cancer Risk	Contribution (%)	40-Year Cancer Risk	Contribution (%)
ALL	ALL	1.48E-04	100%	9.89E-06	100%	3.59E-06	100%
1	Construction: On-Road Trucks	3.69E-08	0.02%	5.25E-09	0.05%	1.48E-09	0.04%
2	Construction: On-Site Trucks	3.46E-08	0.02%	5.91E-08	0.60%	3.54E-09	0.10%
3	Construction: Off-Road Equipment	1.46E-04	98.42%	9.63E-06	97.45%	3.53E-06	98.27%
4	Operation: On-Road Trucks	2.33E-08	0.02%	3.32E-09	0.03%	9.35E-10	0.03%
5	Operation: On-Site Trucks	2.19E-08	0.01%	3.75E-08	0.38%	2.25E-09	0.06%
6	Operation: Off-Road Equipment	2.22E-06	1.50%	1.47E-07	1.49%	5.38E-08	1.50%

Yorke ENGINEERING, LLC
www.YorkeEngr.com

Chronic Hazard Index by Source for All Pollutants Combined at PMI, MEIR, and MEIW
F&R Ag Services CEQA Mobile Source HRA

Sources	Source Description	Point of Maximum Impact (PMI)		Maximally Exposed Individual Resident (MEIR)		Maximally Exposed Individual Worker (MEIW)	
		receptor #	2671	receptor #	2672	receptor #	2674
		UTM Easting (m)	UTM Northing (m)	UTM Easting (m)	UTM Northing (m)	UTM Easting (m)	UTM Northing (m)
		681931	4144194	681512	4144207	681473	4144294
		Chronic Hazard Index	Contribution (%)	Chronic Hazard Index	Contribution (%)	Chronic Hazard Index	Contribution (%)
ALL	ALL	2.82E-02	100%	1.88E-03	100%	2.42E-03	100%
1	Construction: On-Road Trucks	7.02E-06	0.02%	1.00E-06	0.05%	9.96E-07	0.04%
2	Construction: On-Site Trucks	6.59E-06	0.02%	1.13E-05	0.60%	2.38E-06	0.10%
3	Construction: Off-Road Equipment	2.77E-02	98.42%	1.84E-03	97.45%	2.37E-03	97.93%
4	Operation: On-Road Trucks	4.44E-06	0.02%	6.32E-07	0.03%	6.29E-07	0.03%
5	Operation: On-Site Trucks	4.18E-06	0.01%	7.14E-06	0.38%	1.51E-06	0.06%
6	Operation: Off-Road Equipment	4.23E-04	1.50%	2.80E-05	1.49%	3.62E-05	1.50%

CONSTRUCTION & OPERATING EMISSIONS
MACHADO DAIRY
STANISLAUS COUNTY

July 21, 2021

Prepared by:

Box 187
Middleton, ID 83644
(208) 870-0005

Table of Contents

1.0 Project Description

The facility is proposing to construct a 36,000 sq.ft. freestall barn addition and a new 94,500 sq.ft. freestall barn. The construction of these buildings and areas will allow the operation to increase the milk and dry cows by 500 head and the support stock by 1000 head.

CalEEMod 2020.4.0 was used to estimate the emissions from the construction and operation of the proposed facility expansion.

2.0 Project Characteristics

The emissions where estimated using default data for Stanislaus County which is within the CEC forecasting climate zone 3. Calculations where based on a construction start date of September 1, 2021 with the 36,000 sq.ft. building being put into operation within 1 year. The 94,500 sq.ft. building will be phased over a 5 year period with approximately 20% of the barn being constructed each year with a final completion date of September 1, 2026. This timeframe was used as the basis for the construction emissions since they would produce the worst case time of year for the majority of the pollutants. The following pollutants were used in the analysis:

- ROG
- NOx
- CO
- SO_2
- PM_{10} (on-site and fugitive)
- $PM_{2.5}$ (on-site and fugitive)
- CO_2 (including Biogenic, Non-biogenic, and Equivalent GHGs)
- CH_4
- N_2O

3.0 Land Use

For the land use type, the closest available type to a dairy operation is industrial with a subtype of general heavy industry since light industry could not be selected based on a default setting in CalEEMod that will not allow it to be selected if the site is 50,000 sq.ft. The total area of the improvements was estimated to be 4 acres with a total building area of 130,500 sq.ft. Phase 1 will encompass 1.6 acres with each subsequent phase encompassing 0.6 acres per year.

4.0 Construction

Construction phases were based on dairy construction industry standard timeframes and discussions with several contractors to determine their estimated time it would take to complete the project.

For each construction phase of the project, the equipment that would be used was based on dairy construction industry standard practices and conversations with

contractors. Each piece of equipment was selected from the pull-down menu corresponding to phase of construction. Any default equipment that would not be used and could not be removed was assigned a unit amount of zero. No modifications where made to the CalEEMod default horsepower and load factor values for any piece of equipment.

At the present time, there will be no soils imported or exported from the operation for the grading. The grading will be conducted in a manner that balances the cut and fill using only on-site soils. A total area of 4 acres will be disturbed during construction.

Trip, VMT, and on-road fugitive dust values where not modified in the calculations for the construction phases of the project. For the architectural coatings, the non-residential interior area was set to zero. All of the proposed buildings on the site will be open structures; therefore there will not be any areas of the buildings that are not exposed to the outside.

5.0 Operational

Mobile

The operational mobile calculations are based on trips per day that are then multiplied by 1000 sq.ft. of building area. For a dairy facility, this would grossly overestimate the total number of vehicle trips to and from the facility. Therefore, the work day trip rate was modified to a value that represents the actual trips that will be seen on the dairy. Then the Saturday and Sunday trips were set to the same value since the facility is in operation 24 hours a day for 7 days a week. In addition, the percentages for the commercial-customer (C-C), commercial-work (C-W), and commercial-non-work (C-N) were also altered to better represent the dairy operation.

Based on discussions with the facility owner, it has been determined that the facility will see an additional 2 employee trips and 2 deliveries/pick-ups per day. Using these values as the basis, the trip rate was determined using the following equation:

Trip rate = (one-way trips/building area in 1000 sq.ft.) * 2
Trip rate = ((2+2)/(130,500/1,000))*2 = 0.0613

The 2 multiplier at the end accounts for trips to and from the facility.

Then the trip % was determined as follows:

Trip % = # of trip type/total one-way trips
C-C trip % = (0/4)*100 = 0
C-W trip % = (2/4)*100 = 50%
C-N trip % = (2/4)*100 = 50%

The vehicle emissions and road dust values were left at CalEEMod defaults for general heavy industrial. The fleet mix values were changed to represent the types of vehicles the dairy will see due to the expansion which will be 50% gas powered passenger vehicles and 50% diesel powered semi-truck vehicles.

Area

There were two modifications made to the default values for the area categories. Dairy operations very seldom, if ever, reapply architectural coatings to buildings on the facility. This is primarily because the structures are made out of concrete, cmu, galvanized steel and metal, and factory painted steel and metal that is intended to last for long periods of time with very little, if any maintenance. For this reason, the reapplication rate for architectural coatings was modified to 1%.

In addition, there will be no landscaping associated with this project. CalEEMod will not allow the user to change the number of days in the summer that landscaping equipment is used to zero so this value was set at 1 to best signify the lack of landscaping.

Energy Use

All lighting variables in this section were left at program defaults. The only modification made was for the natural gas energy values since there is no use of natural gas associated with this project. The values for natural gas energy were therefore set to zero.

Water and Wastewater

CalEEMod is not designed to model the water use and wastewater production of a dairy operation. It is designed to determine the amount of human water consumption and wastewater generation based on the type of operation. Specifically for wastewater, those emissions should be estimated using other methods and software which has been done by the Air District. Therefore, for this section of the calculations, only the electricity intensity to supply and distribute the water applies. The indoor water use is based on the increase in water use for the watering of additional cattle. The following equation was used to determine the water use:

Water use = (# of cattle * 40 gal/day * 365 days)/(130,500 sq.ft./1000 sq.ft.)
Water use = (1500 * 40 * 365)/(130,500/1000) = 167,816 gal/yr

Off-Road Equipment

This section of the analysis was used to determine the emissions from the on-site equipment used to feed cattle and clean manure on a daily basis.

Stationary Sources

There are no stationary sources on the facility.

6.0 Mitigation

The following mitigation measures have been used in the analysis:

- Construction
    - Watering of exposed areas twice per day
    - Max. speed of 15 mph on unpaved roads

7.0 Results

The emissions for each of the pollutants are below the maximum allowed by the SJVAPCD for both construction and operation. The following table summarizes the emission estimates from the CalEEMod analysis.

Table 7.1 – Pollutant Emissions in tons/year

Phase	*ROG*	*NOx*	*CO*	*SOx*	*PM10*	*PM2.5*
Construction	0.6177	1.2023	1.4716	0.00295	0.1502	0.0827
Operational	0.6532	0.989	1.0398	0.00385	0.0454	0.0343
Stationary	0.00	0.00	0.00	0.00	0.00	0.00

Table of Appendices

Appendix A
CalEEMod Analysis Results

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Machado Dairy

Stanislaus County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	130.50	1000sqft	4.00	130,500.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2026
Utility Company	Turlock Irrigation District				
CO2 Intensity (lb/MWhr)	607.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage includes all of the area that will be disturbed during construction outside of the building footprints and will later be used as roadways once the facility is fully operational

Construction Phase - All site prepartion and grading for the full site development will be conducted during Phase 1 of construction. Construction will be phased from 2021 to 2026 with the major phase starting in 2021 through 2022.

Off-road Equipment - The only demolition that required is the removal of some existing fence which will be done using a loader and hauling off-site in a dump truck

Grading - Total area of disturbance for the project will by 4 acres

Off-road Equipment - Site preparation will entail the removal of manure and organics from the construction area prior to grading. This will be done using a dozer, a loader, and 2 dump trucks to haul the material for use as topsoil elsewhere on the project.

Off-road Equipment - There will be 1 backhoe used during grading for small trenching

Off-road Equipment - Values are based on typical dairy construction of a freestall barn

Off-road Equipment - Paving in terms of dairy construction will be concrete - no asphalt. Equipment based on typical dairy construction

Off-road Equipment -

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Off-road Equipment - Based on typical dairy construction

Off-road Equipment - Typical dairy construction

Off-road Equipment - Typical dairy construction

Off-road Equipment - Typical dairy construction

Off-road Equipment - Typical dairy construction

Off-road Equipment - Typical dairy construction

Off-road Equipment - Typical dairy construction

Off-road Equipment - Typical dairy construction

Demolition -

Architectural Coating - The buildings are not enclosed so the interior is exposed to the outside. There will be no parking lot.

Vehicle Trips - Rates based on dairy facility vehicle trip increase anticipated for expansion

Fleet Mix - The facility will see an increase of 2 gas powered medium size vehicles and 2 diesel powered semi trucks

Area Coating -

Landscape Equipment - No landscaping associated with the project

Energy Use - No natural gas associated with this project

Water And Wastewater - Only water consumption for cattle has been calculated using CalEEMod. Wastewater related calculations should be calculated by SJVAPCD using a separate program.

Solid Waste - No human solid waste associated with this project. Cattle waste to be calculated by SJVAPCD using separate program.

Operational Off-Road Equipment - The facility has 1 feed truck, 1 loader used for loading the feed truck and pushing feed, and 1 tractor used for freestall bedding and corral maintenance.

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	65,250.00	130,500.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	195,750.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Interior	150.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	0.00
tblAreaCoating	ReapplicationRatePercent	10	1
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	18.00	3.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstructionPhase	NumDays	230.00	207.00
tblConstructionPhase	NumDays	20.00	1.00
tblConstructionPhase	NumDays	8.00	28.00
tblConstructionPhase	NumDays	18.00	7.00
tblConstructionPhase	NumDays	230.00	85.00
tblConstructionPhase	NumDays	18.00	7.00
tblConstructionPhase	NumDays	230.00	85.00
tblConstructionPhase	NumDays	18.00	7.00
tblConstructionPhase	NumDays	230.00	85.00
tblConstructionPhase	NumDays	18.00	7.00
tblConstructionPhase	NumDays	230.00	86.00
tblConstructionPhase	PhaseEndDate	10/24/2022	9/1/2022
tblConstructionPhase	PhaseEndDate	9/2/2022	8/29/2022
tblConstructionPhase	PhaseEndDate	9/28/2021	9/1/2021
tblConstructionPhase	PhaseEndDate	10/15/2021	10/18/2021
tblConstructionPhase	PhaseEndDate	9/28/2022	11/11/2021
tblConstructionPhase	PhaseEndDate	10/5/2021	9/8/2021
tblConstructionPhase	PhaseStartDate	9/29/2022	8/30/2022
tblConstructionPhase	PhaseStartDate	10/16/2021	11/12/2021
tblConstructionPhase	PhaseStartDate	10/6/2021	9/9/2021
tblConstructionPhase	PhaseStartDate	9/3/2022	10/19/2021
tblConstructionPhase	PhaseStartDate	9/29/2021	9/2/2021
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	T24NG	16.86	0.00
tblFleetMix	HHD	0.02	0.50
tblFleetMix	LDA	0.54	0.00
tblFleetMix	LDT1	0.05	0.00
tblFleetMix	LDT2	0.17	0.50
tblFleetMix	LHD1	0.03	0.00

tblFleetMix	LHD2	7.3820e-003	0.00
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MDV	0.15	0.00
tblFleetMix	MH	3.4670e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	8.1400e-004	0.00
tblFleetMix	SBUS	1.3180e-003	0.00
tblFleetMix	UBUS	3.0000e-004	0.00
tblGrading	AcresOfGrading	84.00	4.00
tblGrading	AcresOfGrading	2.50	4.00
tblLandscapeEquipment	NumberSummerDays	180	0
tblLandUse	LotAcreage	3.00	4.00
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.38	0.38
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tblOffRoadEquipment	LoadFactor	0.31	0.31
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tblOffRoadEquipment	LoadFactor	0.38	0.38
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tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	LoadFactor	0.38	0.38

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Excavators

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	7.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	4.50
tblOperationalOffRoadEquipment	OperLoadFactor	0.38	0.38
tblOperationalOffRoadEquipment	OperLoadFactor	0.37	0.37

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOperationalOffRoadEquipment	OperLoadFactor	0.36	0.36
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblSolidWaste	SolidWasteGenerationRate	161.82	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TTP	13.00	50.00
tblVehicleTrips	CW_TTP	59.00	50.00
tblVehicleTrips	ST_TR	6.42	0.06
tblVehicleTrips	SU_TR	5.09	0.06
tblVehicleTrips	WD_TR	3.93	0.06
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	IndoorWaterUseRate	30,178,125.00	167,816.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1223	1.1736	0.9124	2.1300e-003	0.1924	0.0501	0.2426	0.0714	0.0469	0.1184	0.0000	188.5155	188.5155	0.0416	4.3400e-003	190.8494
2022	0.6177	1.2023	1.4716	2.9500e-003	0.0694	0.0549	0.1243	0.0187	0.0530	0.0717	0.0000	256.5685	256.5685	0.0328	6.3100e-003	259.2681
2023	0.0816	0.6030	0.7833	1.6200e-003	0.0352	0.0258	0.0610	9.4700e-003	0.0249	0.0343	0.0000	140.8095	140.8095	0.0197	2.9900e-003	142.1947
2024	0.0764	0.5691	0.7726	1.6100e-003	0.0352	0.0227	0.0579	9.4700e-003	0.0218	0.0313	0.0000	139.7672	139.7672	0.0194	2.9000e-003	141.1178
2025	0.0715	0.5338	0.7627	1.6000e-003	0.0352	0.0197	0.0549	9.4700e-003	0.0190	0.0284	0.0000	138.7032	138.7032	0.0191	2.8200e-003	140.0207
2026	0.0716	0.5387	0.7648	1.6000e-003	0.0356	0.0199	0.0555	9.5800e-003	0.0192	0.0287	0.0000	139.1709	139.1709	0.0193	2.7700e-003	140.4774
Maximum	**0.6177**	**1.2023**	**1.4716**	**2.9500e-003**	**0.1924**	**0.0549**	**0.2426**	**0.0714**	**0.0530**	**0.1184**	**0.0000**	**256.5685**	**256.5685**	**0.0416**	**6.3100e-003**	**259.2681**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1223	1.1736	0.9124	2.1300e-003	0.1001	0.0501	0.1502	0.0358	0.0469	0.0827	0.0000	188.5153	188.5153	0.0416	4.3400e-003	190.8493
2022	0.6177	1.2023	1.4716	2.9500e-003	0.0694	0.0549	0.1243	0.0187	0.0530	0.0717	0.0000	256.5683	256.5683	0.0328	6.3100e-003	259.2679
2023	0.0816	0.6030	0.7833	1.6200e-003	0.0352	0.0258	0.0610	9.4700e-003	0.0249	0.0343	0.0000	140.8094	140.8094	0.0197	2.9900e-003	142.1945
2024	0.0764	0.5691	0.7726	1.6100e-003	0.0352	0.0227	0.0579	9.4700e-003	0.0218	0.0313	0.0000	139.7671	139.7671	0.0194	2.9000e-003	141.1176
2025	0.0715	0.5338	0.7627	1.6000e-003	0.0352	0.0197	0.0549	9.4700e-003	0.0190	0.0284	0.0000	138.7031	138.7031	0.0191	2.8200e-003	140.0206
2026	0.0716	0.5387	0.7648	1.6000e-003	0.0356	0.0199	0.0555	9.5800e-003	0.0192	0.0287	0.0000	139.1708	139.1708	0.0193	2.7700e-003	140.4773
Maximum	**0.6177**	**1.2023**	**1.4716**	**2.9500e-003**	**0.1001**	**0.0549**	**0.1502**	**0.0358**	**0.0530**	**0.0827**	**0.0000**	**256.5683**	**256.5683**	**0.0416**	**6.3100e-003**	**259.2679**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**22.91**	**0.00**	**15.49**	**27.82**	**0.00**	**11.39**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**9-1-2021**	**11-30-2021**	1.0839	1.0839
2	**12-1-2021**	**2-28-2022**	0.5329	0.5329
3	**3-1-2022**	**5-31-2022**	0.5240	0.5240
4	**6-1-2022**	**8-31-2022**	0.7290	0.7290
5	**9-1-2022**	**11-30-2022**	0.1086	0.1086

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8	**6-1-2023**	**8-31-2023**	0.4799	0.4799
9	**9-1-2023**	**11-30-2023**	0.1885	0.1885
12	**6-1-2024**	**8-31-2024**	0.4640	0.4640
13	**9-1-2024**	**11-30-2024**	0.1878	0.1878
16	**6-1-2025**	**8-31-2025**	0.4333	0.4333
17	**9-1-2025**	**11-30-2025**	0.1722	0.1722
19	**3-1-2026**	**5-31-2026**	0.1720	0.1720
20	**6-1-2026**	**8-31-2026**	0.4267	0.4267
21	**9-1-2026**	**9-30-2026**	0.0046	0.0046
		Highest	1.0839	1.0839

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5187	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	309.8623	309.8623	0.0168	2.0400e-003	310.8903
Mobile	2.3300e-003	0.0516	0.0307	2.6000e-004	0.0115	4.4000e-004	0.0120	3.1100e-003	4.2000e-004	3.5300e-003	0.0000	24.3239	24.3239	2.3000e-004	3.2600e-003	25.3000
Offroad	0.1321	0.9374	1.0091	3.5900e-003		0.0334	0.0334		0.0308	0.0308	0.0000	315.0928	315.0928	0.1019	0.0000	317.6405
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0594	0.1568	0.2162	2.1000e-004	1.3000e-004	0.2603
Total	**0.6532**	**0.9890**	**1.0398**	**3.8500e-003**	**0.0115**	**0.0339**	**0.0454**	**3.1100e-003**	**0.0312**	**0.0343**	**0.0594**	**649.4358**	**649.4951**	**0.1192**	**5.4300e-003**	**654.0910**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5187	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	309.8623	309.8623	0.0168	2.0400e-003	310.8903
Mobile	2.3300e-003	0.0516	0.0307	2.6000e-004	0.0115	4.4000e-004	0.0120	3.1100e-003	4.2000e-004	3.5300e-003	0.0000	24.3239	24.3239	2.3000e-004	3.2600e-003	25.3000
Offroad	0.1321	0.9374	1.0091	3.5900e-003		0.0334	0.0334		0.0308	0.0308	0.0000	315.0928	315.0928	0.1019	0.0000	317.6405
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0594	0.1568	0.2162	2.1000e-004	1.3000e-004	0.2603
Total	**0.6532**	**0.9890**	**1.0398**	**3.8500e-003**	**0.0115**	**0.0339**	**0.0454**	**3.1100e-003**	**0.0312**	**0.0343**	**0.0594**	**649.4358**	**649.4951**	**0.1192**	**5.4300e-003**	**654.0910**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2021	9/1/2021	5	1	Phase 1
2	Site Preparation	Site Preparation	9/2/2021	9/8/2021	5	5	Phase 1

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3	Grading	Grading	9/9/2021	10/18/2021	5	28	Phase 1-5
4	Building Construction	Building Construction	11/12/2021	8/29/2022	5	207	Phase 1
5	Paving	Paving	10/19/2021	11/11/2021	5	18	Phase 1
6	Architectural Coating	Architectural Coating	8/30/2022	9/1/2022	5	3	Phase 1
7	Paving 2	Paving	6/1/2023	6/9/2023	5	7	Phase 2
8	Building Construction 2	Building Construction	6/12/2023	10/6/2023	5	85	Phase 2
9	Paving 3	Paving	6/1/2024	6/11/2024	5	7	Phase 3
10	Building Construction 3	Building Construction	6/12/2024	10/8/2024	5	85	Phase 3
11	Paving 4	Paving	6/1/2025	6/10/2025	5	7	Phase 4
12	Building Construction 4	Building Construction	6/11/2025	10/7/2025	5	85	Phase 4
13	Paving 5	Paving	4/27/2026	5/5/2026	5	7	Phase 5
14	Building Construction 5	Building Construction	5/5/2026	9/1/2026	5	86	Phase 5

Acres of Grading (Site Preparation Phase): 4

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 130,500; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Demolition	Excavators	0	8.00	158	0.38
Grading	Excavators	1	8.00	158	0.38
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Grading	Graders	1	8.00	187	0.41
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	0	6.00	80	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Welders	2	8.00	46	0.45
Paving 4	Cement and Mortar Mixers	0	6.00	9	0.56
Paving 5	Cement and Mortar Mixers	0	6.00	9	0.56
Paving 2	Cement and Mortar Mixers	0	6.00	9	0.56
Paving 3	Cement and Mortar Mixers	0	6.00	9	0.56
Building Construction 3	Cranes	1	4.00	231	0.29
Building Construction 4	Cranes	1	4.00	231	0.29
Building Construction 5	Cranes	1	4.00	231	0.29
Building Construction 2	Cranes	1	4.00	231	0.29
Building Construction 3	Forklifts	2	6.00	89	0.20
Building Construction 4	Forklifts	2	6.00	89	0.20
Building Construction 5	Forklifts	2	6.00	89	0.20
Building Construction 2	Forklifts	2	6.00	89	0.20
Building Construction 3	Generator Sets	1	8.00	84	0.74
Building Construction 4	Generator Sets	1	8.00	84	0.74
Building Construction 5	Generator Sets	1	8.00	84	0.74
Building Construction 2	Generator Sets	1	8.00	84	0.74
Paving 4	Pavers	1	8.00	130	0.42

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Paving 5	Pavers	1	8.00	130	0.42
Paving 2	Pavers	1	8.00	130	0.42
Paving 3	Pavers	1	8.00	130	0.42
Paving 4	Paving Equipment	2	6.00	132	0.36
Paving 5	Paving Equipment	2	6.00	132	0.36
Paving 2	Paving Equipment	2	6.00	132	0.36
Paving 3	Paving Equipment	2	6.00	132	0.36
Paving 4	Rollers	0	6.00	80	0.38
Paving 5	Rollers	0	6.00	80	0.38
Paving 2	Rollers	0	6.00	80	0.38
Paving 3	Rollers	0	6.00	80	0.38
Building Construction 3	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Building Construction 4	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Building Construction 5	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Building Construction 2	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Paving 4	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Paving 5	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Paving 2	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Paving 3	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction 3	Welders	2	8.00	46	0.45
Building Construction 4	Welders	2	8.00	46	0.45
Building Construction 5	Welders	2	8.00	46	0.45
Building Construction 2	Welders	2	8.00	46	0.45
Demolition	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Demolition	Off-Highway Trucks	1	8.00	402	0.38
Site Preparation	Off-Highway Trucks	2	8.00	402	0.38
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Aerial Lifts	2	4.00	63	0.31
Building Construction	Air Compressors	1	6.00	78	0.48

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Building Construction	Excavators	1	2.00	158	0.38
Paving	Concrete/Industrial Saws	2	6.00	81	0.73
Paving	Off-Highway Trucks	2	8.00	402	0.38
Paving 2	Concrete/Industrial Saws	2	6.00	81	0.73
Paving 2	Off-Highway Trucks	2	8.00	402	0.38
Building Construction 2	Aerial Lifts	2	4.00	63	0.31
Building Construction 2	Air Compressors	1	6.00	78	0.48
Building Construction 2	Excavators	1	2.00	158	0.38
Paving 3	Concrete/Industrial Saws	2	6.00	81	0.73
Paving 3	Off-Highway Trucks	2	8.00	402	0.38
Building Construction 3	Aerial Lifts	2	4.00	63	0.31
Building Construction 3	Air Compressors	1	6.00	78	0.48
Building Construction 3	Excavators	1	2.00	158	0.38
Paving 4	Concrete/Industrial Saws	2	6.00	81	0.73
Paving 4	Off-Highway Trucks	2	8.00	402	0.38
Building Construction 4	Aerial Lifts	2	4.00	63	0.31
Building Construction 4	Air Compressors	1	6.00	78	0.48
Building Construction 4	Excavators	1	2.00	158	0.38
Paving 5	Concrete/Industrial Saws	2	6.00	81	0.73
Paving 5	Off-Highway Trucks	2	8.00	402	0.38
Building Construction 5	Aerial Lifts	2	4.00	63	0.31
Building Construction 5	Air Compressors	1	6.00	78	0.48
Building Construction 5	Excavators	1	2.00	158	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	2	5.00	0.00	594.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Site Preparation	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	11	55.00	21.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	11.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving 2	7	18.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction 2	11	55.00	21.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving 3	7	18.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction 3	11	55.00	21.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving 4	7	18.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction 4	11	55.00	21.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving 5	7	18.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction 5	11	55.00	21.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0642	0.0000	0.0642	9.7200e-003	0.0000	9.7200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.0000e-004	3.5900e-003	2.9400e-003	1.0000e-005		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.7188	0.7188	2.3000e-004	0.0000	0.7246
Total	**4.0000e-004**	**3.5900e-003**	**2.9400e-003**	**1.0000e-005**	**0.0642**	**1.5000e-004**	**0.0644**	**9.7200e-003**	**1.4000e-004**	**9.8600e-003**	**0.0000**	**0.7188**	**0.7188**	**2.3000e-004**	**0.0000**	**0.7246**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.7800e-003	0.0527	0.0103	1.9000e-004	5.0700e-003	7.8000e-004	5.8600e-003	1.3900e-003	7.5000e-004	2.1400e-003	0.0000	17.9888	17.9888	1.4000e-004	2.8300e-003	18.8353
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	1.2000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0264	0.0264	0.0000	0.0000	0.0267
Total	**1.7900e-003**	**0.0527**	**0.0104**	**1.9000e-004**	**5.1000e-003**	**7.8000e-004**	**5.8900e-003**	**1.4000e-003**	**7.5000e-004**	**2.1500e-003**	**0.0000**	**18.0152**	**18.0152**	**1.4000e-004**	**2.8300e-003**	**18.8620**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0289	0.0000	0.0289	4.3800e-003	0.0000	4.3800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.0000e-004	3.5900e-003	2.9400e-003	1.0000e-005		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.7188	0.7188	2.3000e-004	0.0000	0.7246
Total	**4.0000e-004**	**3.5900e-003**	**2.9400e-003**	**1.0000e-005**	**0.0289**	**1.5000e-004**	**0.0291**	**4.3800e-003**	**1.4000e-004**	**4.5200e-003**	**0.0000**	**0.7188**	**0.7188**	**2.3000e-004**	**0.0000**	**0.7246**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.7800e-003	0.0527	0.0103	1.9000e-004	5.0700e-003	7.8000e-004	5.8600e-003	1.3900e-003	7.5000e-004	2.1400e-003	0.0000	17.9888	17.9888	1.4000e-004	2.8300e-003	18.8353
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	1.2000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0264	0.0264	0.0000	0.0000	0.0267
Total	**1.7900e-003**	**0.0527**	**0.0104**	**1.9000e-004**	**5.1000e-003**	**7.8000e-004**	**5.8900e-003**	**1.4000e-003**	**7.5000e-004**	**2.1500e-003**	**0.0000**	**18.0152**	**18.0152**	**1.4000e-004**	**2.8300e-003**	**18.8620**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0172	0.0000	0.0172	8.5000e-003	0.0000	8.5000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.1300e-003	0.0586	0.0339	1.0000e-004		2.5800e-003	2.5800e-003		2.3700e-003	2.3700e-003	0.0000	8.3871	8.3871	2.7100e-003	0.0000	8.4549
Total	**6.1300e-003**	**0.0586**	**0.0339**	**1.0000e-004**	**0.0172**	**2.5800e-003**	**0.0198**	**8.5000e-003**	**2.3700e-003**	**0.0109**	**0.0000**	**8.3871**	**8.3871**	**2.7100e-003**	**0.0000**	**8.4549**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	1.0000e-004	1.1500e-003	0.0000	3.1000e-004	0.0000	3.1000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2642	0.2642	1.0000e-005	1.0000e-005	0.2668
Total	**1.3000e-004**	**1.0000e-004**	**1.1500e-003**	**0.0000**	**3.1000e-004**	**0.0000**	**3.1000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2642**	**0.2642**	**1.0000e-005**	**1.0000e-005**	**0.2668**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.7300e-003	0.0000	7.7300e-003	3.8300e-003	0.0000	3.8300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.1300e-003	0.0586	0.0339	1.0000e-004		2.5800e-003	2.5800e-003		2.3700e-003	2.3700e-003	0.0000	8.3871	8.3871	2.7100e-003	0.0000	8.4549
Total	**6.1300e-003**	**0.0586**	**0.0339**	**1.0000e-004**	**7.7300e-003**	**2.5800e-003**	**0.0103**	**3.8300e-003**	**2.3700e-003**	**6.2000e-003**	**0.0000**	**8.3871**	**8.3871**	**2.7100e-003**	**0.0000**	**8.4549**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	1.0000e-004	1.1500e-003	0.0000	3.1000e-004	0.0000	3.1000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2642	0.2642	1.0000e-005	1.0000e-005	0.2668
Total	**1.3000e-004**	**1.0000e-004**	**1.1500e-003**	**0.0000**	**3.1000e-004**	**0.0000**	**3.1000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2642**	**0.2642**	**1.0000e-005**	**1.0000e-005**	**0.2668**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0864	0.0000	0.0864	0.0466	0.0000	0.0466	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0529	0.5929	0.3549	7.5000e-004		0.0248	0.0248		0.0228	0.0228	0.0000	66.1186	66.1186	0.0214	0.0000	66.6532
Total	**0.0529**	**0.5929**	**0.3549**	**7.5000e-004**	**0.0864**	**0.0248**	**0.1112**	**0.0466**	**0.0228**	**0.0694**	**0.0000**	**66.1186**	**66.1186**	**0.0214**	**0.0000**	**66.6532**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0800e-003	8.4000e-004	9.6800e-003	2.0000e-005	2.6100e-003	2.0000e-005	2.6200e-003	6.9000e-004	1.0000e-005	7.1000e-004	0.0000	2.2191	2.2191	7.0000e-005	7.0000e-005	2.2408
Total	**1.0800e-003**	**8.4000e-004**	**9.6800e-003**	**2.0000e-005**	**2.6100e-003**	**2.0000e-005**	**2.6200e-003**	**6.9000e-004**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**2.2191**	**2.2191**	**7.0000e-005**	**7.0000e-005**	**2.2408**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0389	0.0000	0.0389	0.0210	0.0000	0.0210	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0529	0.5929	0.3549	7.5000e-004		0.0248	0.0248		0.0228	0.0228	0.0000	66.1186	66.1186	0.0214	0.0000	66.6532
Total	**0.0529**	**0.5929**	**0.3549**	**7.5000e-004**	**0.0389**	**0.0248**	**0.0637**	**0.0210**	**0.0228**	**0.0438**	**0.0000**	**66.1186**	**66.1186**	**0.0214**	**0.0000**	**66.6532**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0800e-003	8.4000e-004	9.6800e-003	2.0000e-005	2.6100e-003	2.0000e-005	2.6200e-003	6.9000e-004	1.0000e-005	7.1000e-004	0.0000	2.2191	2.2191	7.0000e-005	7.0000e-005	2.2408
Total	**1.0800e-003**	**8.4000e-004**	**9.6800e-003**	**2.0000e-005**	**2.6100e-003**	**2.0000e-005**	**2.6200e-003**	**6.9000e-004**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**2.2191**	**2.2191**	**7.0000e-005**	**7.0000e-005**	**2.2408**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0319	0.2518	0.2650	4.4000e-004		0.0131	0.0131		0.0126	0.0126	0.0000	36.8823	36.8823	6.6800e-003	0.0000	37.0492
Total	**0.0319**	**0.2518**	**0.2650**	**4.4000e-004**		**0.0131**	**0.0131**		**0.0126**	**0.0126**	**0.0000**	**36.8823**	**36.8823**	**6.6800e-003**	**0.0000**	**37.0492**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1900e-003	0.0230	6.5300e-003	7.0000e-005	2.2600e-003	3.9000e-004	2.6600e-003	6.5000e-004	3.7000e-004	1.0300e-003	0.0000	7.0551	7.0551	7.0000e-005	1.0700e-003	7.3750
Worker	5.0800e-003	3.9800e-003	0.0456	1.1000e-004	0.0123	8.0000e-005	0.0124	3.2700e-003	7.0000e-005	3.3400e-003	0.0000	10.4613	10.4613	3.2000e-004	3.2000e-004	10.5638
Total	**6.2700e-003**	**0.0270**	**0.0522**	**1.8000e-004**	**0.0146**	**4.7000e-004**	**0.0150**	**3.9200e-003**	**4.4000e-004**	**4.3700e-003**	**0.0000**	**17.5163**	**17.5163**	**3.9000e-004**	**1.3900e-003**	**17.9388**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0319	0.2518	0.2650	4.4000e-004		0.0131	0.0131		0.0126	0.0126	0.0000	36.8822	36.8822	6.6800e-003	0.0000	37.0492
Total	**0.0319**	**0.2518**	**0.2650**	**4.4000e-004**		**0.0131**	**0.0131**		**0.0126**	**0.0126**	**0.0000**	**36.8822**	**36.8822**	**6.6800e-003**	**0.0000**	**37.0492**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1900e-003	0.0230	6.5300e-003	7.0000e-005	2.2600e-003	3.9000e-004	2.6600e-003	6.5000e-004	3.7000e-004	1.0300e-003	0.0000	7.0551	7.0551	7.0000e-005	1.0700e-003	7.3750
Worker	5.0800e-003	3.9800e-003	0.0456	1.1000e-004	0.0123	8.0000e-005	0.0124	3.2700e-003	7.0000e-005	3.3400e-003	0.0000	10.4613	10.4613	3.2000e-004	3.2000e-004	10.5638
Total	**6.2700e-003**	**0.0270**	**0.0522**	**1.8000e-004**	**0.0146**	**4.7000e-004**	**0.0150**	**3.9200e-003**	**4.4000e-004**	**4.3700e-003**	**0.0000**	**17.5163**	**17.5163**	**3.9000e-004**	**1.3900e-003**	**17.9388**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1380	1.0926	1.2468	2.0800e-003		0.0534	0.0534		0.0516	0.0516	0.0000	175.2041	175.2041	0.0311	0.0000	175.9824
Total	**0.1380**	**1.0926**	**1.2468**	**2.0800e-003**		**0.0534**	**0.0534**		**0.0516**	**0.0516**	**0.0000**	**175.2041**	**175.2041**	**0.0311**	**0.0000**	**175.9824**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.5200e-003	0.0912	0.0260	3.4000e-004	0.0108	9.8000e-004	0.0117	3.1100e-003	9.3000e-004	4.0400e-003	0.0000	32.6746	32.6746	2.2000e-004	4.9400e-003	34.1528
Worker	0.0221	0.0163	0.1954	5.2000e-004	0.0584	3.4000e-004	0.0588	0.0155	3.1000e-004	0.0158	0.0000	48.1380	48.1380	1.3600e-003	1.3700e-003	48.5789
Total	**0.0256**	**0.1076**	**0.2214**	**8.6000e-004**	**0.0692**	**1.3200e-003**	**0.0705**	**0.0186**	**1.2400e-003**	**0.0199**	**0.0000**	**80.8126**	**80.8126**	**1.5800e-003**	**6.3100e-003**	**82.7317**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1380	1.0926	1.2468	2.0800e-003		0.0534	0.0534		0.0516	0.0516	0.0000	175.2038	175.2038	0.0311	0.0000	175.9822
Total	**0.1380**	**1.0926**	**1.2468**	**2.0800e-003**		**0.0534**	**0.0534**		**0.0516**	**0.0516**	**0.0000**	**175.2038**	**175.2038**	**0.0311**	**0.0000**	**175.9822**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.5200e-003	0.0912	0.0260	3.4000e-004	0.0108	9.8000e-004	0.0117	3.1100e-003	9.3000e-004	4.0400e-003	0.0000	32.6746	32.6746	2.2000e-004	4.9400e-003	34.1528
Worker	0.0221	0.0163	0.1954	5.2000e-004	0.0584	3.4000e-004	0.0588	0.0155	3.1000e-004	0.0158	0.0000	48.1380	48.1380	1.3600e-003	1.3700e-003	48.5789
Total	**0.0256**	**0.1076**	**0.2214**	**8.6000e-004**	**0.0692**	**1.3200e-003**	**0.0705**	**0.0186**	**1.2400e-003**	**0.0199**	**0.0000**	**80.8126**	**80.8126**	**1.5800e-003**	**6.3100e-003**	**82.7317**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0209	0.1853	0.1749	4.2000e-004		8.2300e-003	8.2300e-003		7.7600e-003	7.7600e-003	0.0000	36.6821	36.6821	9.9400e-003	0.0000	36.9305
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0209**	**0.1853**	**0.1749**	**4.2000e-004**		**8.2300e-003**	**8.2300e-003**		**7.7600e-003**	**7.7600e-003**	**0.0000**	**36.6821**	**36.6821**	**9.9400e-003**	**0.0000**	**36.9305**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.3000e-004	6.5000e-004	7.4700e-003	2.0000e-005	2.0100e-003	1.0000e-005	2.0200e-003	5.3000e-004	1.0000e-005	5.5000e-004	0.0000	1.7118	1.7118	5.0000e-005	5.0000e-005	1.7286
Total	**8.3000e-004**	**6.5000e-004**	**7.4700e-003**	**2.0000e-005**	**2.0100e-003**	**1.0000e-005**	**2.0200e-003**	**5.3000e-004**	**1.0000e-005**	**5.5000e-004**	**0.0000**	**1.7118**	**1.7118**	**5.0000e-005**	**5.0000e-005**	**1.7286**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0209	0.1853	0.1749	4.2000e-004		8.2300e-003	8.2300e-003		7.7600e-003	7.7600e-003	0.0000	36.6821	36.6821	9.9400e-003	0.0000	36.9305
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0209**	**0.1853**	**0.1749**	**4.2000e-004**		**8.2300e-003**	**8.2300e-003**		**7.7600e-003**	**7.7600e-003**	**0.0000**	**36.6821**	**36.6821**	**9.9400e-003**	**0.0000**	**36.9305**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.3000e-004	6.5000e-004	7.4700e-003	2.0000e-005	2.0100e-003	1.0000e-005	2.0200e-003	5.3000e-004	1.0000e-005	5.5000e-004	0.0000	1.7118	1.7118	5.0000e-005	5.0000e-005	1.7286
Total	**8.3000e-004**	**6.5000e-004**	**7.4700e-003**	**2.0000e-005**	**2.0100e-003**	**1.0000e-005**	**2.0200e-003**	**5.3000e-004**	**1.0000e-005**	**5.5000e-004**	**0.0000**	**1.7118**	**1.7118**	**5.0000e-005**	**5.0000e-005**	**1.7286**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4537					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1000e-004	2.1100e-003	2.7200e-003	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	0.3830	0.3830	2.0000e-005	0.0000	0.3836
Total	**0.4540**	**2.1100e-003**	**2.7200e-003**	**0.0000**		**1.2000e-004**	**1.2000e-004**		**1.2000e-004**	**1.2000e-004**	**0.0000**	**0.3830**	**0.3830**	**2.0000e-005**	**0.0000**	**0.3836**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	6.0000e-005	6.9000e-004	0.0000	2.0000e-004	0.0000	2.1000e-004	5.0000e-005	0.0000	6.0000e-005	0.0000	0.1689	0.1689	0.0000	0.0000	0.1705
Total	**8.0000e-005**	**6.0000e-005**	**6.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.1000e-004**	**5.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.1689**	**0.1689**	**0.0000**	**0.0000**	**0.1705**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4537					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1000e-004	2.1100e-003	2.7200e-003	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	0.3830	0.3830	2.0000e-005	0.0000	0.3836
Total	**0.4540**	**2.1100e-003**	**2.7200e-003**	**0.0000**		**1.2000e-004**	**1.2000e-004**		**1.2000e-004**	**1.2000e-004**	**0.0000**	**0.3830**	**0.3830**	**2.0000e-005**	**0.0000**	**0.3836**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	6.0000e-005	6.9000e-004	0.0000	2.0000e-004	0.0000	2.1000e-004	5.0000e-005	0.0000	6.0000e-005	0.0000	0.1689	0.1689	0.0000	0.0000	0.1705
Total	**8.0000e-005**	**6.0000e-005**	**6.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.1000e-004**	**5.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.1689**	**0.1689**	**0.0000**	**0.0000**	**0.1705**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.8 Paving 2 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.8600e-003	0.0537	0.0659	1.6000e-004		2.3000e-003	2.3000e-003		2.1700e-003	2.1700e-003	0.0000	14.3151	14.3151	3.8600e-003	0.0000	14.4115
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.8600e-003**	**0.0537**	**0.0659**	**1.6000e-004**		**2.3000e-003**	**2.3000e-003**		**2.1700e-003**	**2.1700e-003**	**0.0000**	**14.3151**	**14.3151**	**3.8600e-003**	**0.0000**	**14.4115**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	1.9000e-004	2.3700e-003	1.0000e-005	7.8000e-004	0.0000	7.9000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.6241	0.6241	2.0000e-005	2.0000e-005	0.6294
Total	**2.7000e-004**	**1.9000e-004**	**2.3700e-003**	**1.0000e-005**	**7.8000e-004**	**0.0000**	**7.9000e-004**	**2.1000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.6241**	**0.6241**	**2.0000e-005**	**2.0000e-005**	**0.6294**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.8 Paving 2 - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.8600e-003	0.0537	0.0659	1.6000e-004		2.3000e-003	2.3000e-003		2.1700e-003	2.1700e-003	0.0000	14.3151	14.3151	3.8600e-003	0.0000	14.4115
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.8600e-003**	**0.0537**	**0.0659**	**1.6000e-004**		**2.3000e-003**	**2.3000e-003**		**2.1700e-003**	**2.1700e-003**	**0.0000**	**14.3151**	**14.3151**	**3.8600e-003**	**0.0000**	**14.4115**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	1.9000e-004	2.3700e-003	1.0000e-005	7.8000e-004	0.0000	7.9000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.6241	0.6241	2.0000e-005	2.0000e-005	0.6294
Total	**2.7000e-004**	**1.9000e-004**	**2.3700e-003**	**1.0000e-005**	**7.8000e-004**	**0.0000**	**7.9000e-004**	**2.1000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.6241**	**0.6241**	**2.0000e-005**	**2.0000e-005**	**0.6294**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.9 Building Construction 2 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0635	0.5055	0.6159	1.0400e-003		0.0231	0.0231		0.0223	0.0223	0.0000	87.0969	87.0969	0.0152	0.0000	87.4761
Total	**0.0635**	**0.5055**	**0.6159**	**1.0400e-003**		**0.0231**	**0.0231**		**0.0223**	**0.0223**	**0.0000**	**87.0969**	**87.0969**	**0.0152**	**0.0000**	**87.4761**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.0000e-004	0.0366	0.0112	1.6000e-004	5.3500e-003	2.3000e-004	5.5700e-003	1.5400e-003	2.2000e-004	1.7600e-003	0.0000	15.6189	15.6189	7.0000e-005	2.3600e-003	16.3236
Worker	0.0101	7.0500e-003	0.0881	2.5000e-004	0.0290	1.6000e-004	0.0292	7.7200e-003	1.5000e-004	7.8600e-003	0.0000	23.1545	23.1545	6.0000e-004	6.2000e-004	23.3540
Total	**0.0110**	**0.0436**	**0.0992**	**4.1000e-004**	**0.0344**	**3.9000e-004**	**0.0348**	**9.2600e-003**	**3.7000e-004**	**9.6200e-003**	**0.0000**	**38.7734**	**38.7734**	**6.7000e-004**	**2.9800e-003**	**39.6776**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.9 Building Construction 2 - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0635	0.5055	0.6159	1.0400e-003		0.0231	0.0231		0.0223	0.0223	0.0000	87.0968	87.0968	0.0152	0.0000	87.4760
Total	**0.0635**	**0.5055**	**0.6159**	**1.0400e-003**		**0.0231**	**0.0231**		**0.0223**	**0.0223**	**0.0000**	**87.0968**	**87.0968**	**0.0152**	**0.0000**	**87.4760**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.0000e-004	0.0366	0.0112	1.6000e-004	5.3500e-003	2.3000e-004	5.5700e-003	1.5400e-003	2.2000e-004	1.7600e-003	0.0000	15.6189	15.6189	7.0000e-005	2.3600e-003	16.3236
Worker	0.0101	7.0500e-003	0.0881	2.5000e-004	0.0290	1.6000e-004	0.0292	7.7200e-003	1.5000e-004	7.8600e-003	0.0000	23.1545	23.1545	6.0000e-004	6.2000e-004	23.3540
Total	**0.0110**	**0.0436**	**0.0992**	**4.1000e-004**	**0.0344**	**3.9000e-004**	**0.0348**	**9.2600e-003**	**3.7000e-004**	**9.6200e-003**	**0.0000**	**38.7734**	**38.7734**	**6.7000e-004**	**2.9800e-003**	**39.6776**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.10 Paving 3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.6500e-003	0.0500	0.0657	1.6000e-004		2.0900e-003	2.0900e-003		1.9700e-003	1.9700e-003	0.0000	14.3179	14.3179	3.8500e-003	0.0000	14.4142
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.6500e-003**	**0.0500**	**0.0657**	**1.6000e-004**		**2.0900e-003**	**2.0900e-003**		**1.9700e-003**	**1.9700e-003**	**0.0000**	**14.3179**	**14.3179**	**3.8500e-003**	**0.0000**	**14.4142**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	1.7000e-004	2.1800e-003	1.0000e-005	7.8000e-004	0.0000	7.9000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.6031	0.6031	1.0000e-005	2.0000e-005	0.6081
Total	**2.5000e-004**	**1.7000e-004**	**2.1800e-003**	**1.0000e-005**	**7.8000e-004**	**0.0000**	**7.9000e-004**	**2.1000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.6031**	**0.6031**	**1.0000e-005**	**2.0000e-005**	**0.6081**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.10 Paving 3 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.6500e-003	0.0500	0.0657	1.6000e-004		2.0900e-003	2.0900e-003		1.9700e-003	1.9700e-003	0.0000	14.3179	14.3179	3.8500e-003	0.0000	14.4142
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.6500e-003**	**0.0500**	**0.0657**	**1.6000e-004**		**2.0900e-003**	**2.0900e-003**		**1.9700e-003**	**1.9700e-003**	**0.0000**	**14.3179**	**14.3179**	**3.8500e-003**	**0.0000**	**14.4142**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	1.7000e-004	2.1800e-003	1.0000e-005	7.8000e-004	0.0000	7.9000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.6031	0.6031	1.0000e-005	2.0000e-005	0.6081
Total	**2.5000e-004**	**1.7000e-004**	**2.1800e-003**	**1.0000e-005**	**7.8000e-004**	**0.0000**	**7.9000e-004**	**2.1000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.6031**	**0.6031**	**1.0000e-005**	**2.0000e-005**	**0.6081**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.11 Building Construction 3 - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0593	0.4761	0.6130	1.0400e-003		0.0202	0.0202		0.0195	0.0195	0.0000	87.1019	87.1019	0.0149	0.0000	87.4752
Total	**0.0593**	**0.4761**	**0.6130**	**1.0400e-003**		**0.0202**	**0.0202**		**0.0195**	**0.0195**	**0.0000**	**87.1019**	**87.1019**	**0.0149**	**0.0000**	**87.4752**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.8000e-004	0.0366	0.0109	1.6000e-004	5.3400e-003	2.3000e-004	5.5700e-003	1.5400e-003	2.2000e-004	1.7600e-003	0.0000	15.3658	15.3658	7.0000e-005	2.3200e-003	16.0590
Worker	9.3100e-003	6.1700e-003	0.0809	2.4000e-004	0.0290	1.5000e-004	0.0292	7.7200e-003	1.4000e-004	7.8600e-003	0.0000	22.3784	22.3784	5.4000e-004	5.7000e-004	22.5613
Total	**0.0102**	**0.0428**	**0.0918**	**4.0000e-004**	**0.0344**	**3.8000e-004**	**0.0348**	**9.2600e-003**	**3.6000e-004**	**9.6200e-003**	**0.0000**	**37.7443**	**37.7443**	**6.1000e-004**	**2.8900e-003**	**38.6203**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.11 Building Construction 3 - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0593	0.4761	0.6130	1.0400e-003		0.0202	0.0202		0.0195	0.0195	0.0000	87.1018	87.1018	0.0149	0.0000	87.4751
Total	**0.0593**	**0.4761**	**0.6130**	**1.0400e-003**		**0.0202**	**0.0202**		**0.0195**	**0.0195**	**0.0000**	**87.1018**	**87.1018**	**0.0149**	**0.0000**	**87.4751**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.8000e-004	0.0366	0.0109	1.6000e-004	5.3400e-003	2.3000e-004	5.5700e-003	1.5400e-003	2.2000e-004	1.7600e-003	0.0000	15.3658	15.3658	7.0000e-005	2.3200e-003	16.0590
Worker	9.3100e-003	6.1700e-003	0.0809	2.4000e-004	0.0290	1.5000e-004	0.0292	7.7200e-003	1.4000e-004	7.8600e-003	0.0000	22.3784	22.3784	5.4000e-004	5.7000e-004	22.5613
Total	**0.0102**	**0.0428**	**0.0918**	**4.0000e-004**	**0.0344**	**3.8000e-004**	**0.0348**	**9.2600e-003**	**3.6000e-004**	**9.6200e-003**	**0.0000**	**37.7443**	**37.7443**	**6.1000e-004**	**2.8900e-003**	**38.6203**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.12 Paving 4 - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.2900e-003	0.0443	0.0651	1.6000e-004		1.8000e-003	1.8000e-003		1.6900e-003	1.6900e-003	0.0000	14.3123	14.3123	3.8400e-003	0.0000	14.4083
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.2900e-003**	**0.0443**	**0.0651**	**1.6000e-004**		**1.8000e-003**	**1.8000e-003**		**1.6900e-003**	**1.6900e-003**	**0.0000**	**14.3123**	**14.3123**	**3.8400e-003**	**0.0000**	**14.4083**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	1.5000e-004	2.0100e-003	1.0000e-005	7.8000e-004	0.0000	7.9000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.5826	0.5826	1.0000e-005	1.0000e-005	0.5871
Total	**2.3000e-004**	**1.5000e-004**	**2.0100e-003**	**1.0000e-005**	**7.8000e-004**	**0.0000**	**7.9000e-004**	**2.1000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.5826**	**0.5826**	**1.0000e-005**	**1.0000e-005**	**0.5871**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.12 Paving 4 - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.2900e-003	0.0443	0.0651	1.6000e-004		1.8000e-003	1.8000e-003		1.6900e-003	1.6900e-003	0.0000	14.3123	14.3123	3.8400e-003	0.0000	14.4083
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.2900e-003**	**0.0443**	**0.0651**	**1.6000e-004**		**1.8000e-003**	**1.8000e-003**		**1.6900e-003**	**1.6900e-003**	**0.0000**	**14.3123**	**14.3123**	**3.8400e-003**	**0.0000**	**14.4083**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	1.5000e-004	2.0100e-003	1.0000e-005	7.8000e-004	0.0000	7.9000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.5826	0.5826	1.0000e-005	1.0000e-005	0.5871
Total	**2.3000e-004**	**1.5000e-004**	**2.0100e-003**	**1.0000e-005**	**7.8000e-004**	**0.0000**	**7.9000e-004**	**2.1000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.5826**	**0.5826**	**1.0000e-005**	**1.0000e-005**	**0.5871**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.13 Building Construction 4 - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0555	0.4475	0.6103	1.0400e-003		0.0175	0.0175		0.0169	0.0169	0.0000	87.1085	87.1085	0.0147	0.0000	87.4765
Total	**0.0555**	**0.4475**	**0.6103**	**1.0400e-003**		**0.0175**	**0.0175**		**0.0169**	**0.0169**	**0.0000**	**87.1085**	**87.1085**	**0.0147**	**0.0000**	**87.4765**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.6000e-004	0.0365	0.0107	1.6000e-004	5.3400e-003	2.3000e-004	5.5700e-003	1.5400e-003	2.2000e-004	1.7600e-003	0.0000	15.0840	15.0840	7.0000e-005	2.2800e-003	15.7641
Worker	8.6400e-003	5.4500e-003	0.0747	2.4000e-004	0.0290	1.4000e-004	0.0292	7.7200e-003	1.3000e-004	7.8500e-003	0.0000	21.6158	21.6158	4.8000e-004	5.3000e-004	21.7846
Total	**9.5000e-003**	**0.0419**	**0.0854**	**4.0000e-004**	**0.0344**	**3.7000e-004**	**0.0348**	**9.2600e-003**	**3.5000e-004**	**9.6100e-003**	**0.0000**	**36.6998**	**36.6998**	**5.5000e-004**	**2.8100e-003**	**37.5487**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.13 Building Construction 4 - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0555	0.4475	0.6103	1.0400e-003		0.0175	0.0175		0.0169	0.0169	0.0000	87.1084	87.1084	0.0147	0.0000	87.4764
Total	**0.0555**	**0.4475**	**0.6103**	**1.0400e-003**		**0.0175**	**0.0175**		**0.0169**	**0.0169**	**0.0000**	**87.1084**	**87.1084**	**0.0147**	**0.0000**	**87.4764**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.6000e-004	0.0365	0.0107	1.6000e-004	5.3400e-003	2.3000e-004	5.5700e-003	1.5400e-003	2.2000e-004	1.7600e-003	0.0000	15.0840	15.0840	7.0000e-005	2.2800e-003	15.7641
Worker	8.6400e-003	5.4500e-003	0.0747	2.4000e-004	0.0290	1.4000e-004	0.0292	7.7200e-003	1.3000e-004	7.8500e-003	0.0000	21.6158	21.6158	4.8000e-004	5.3000e-004	21.7846
Total	**9.5000e-003**	**0.0419**	**0.0854**	**4.0000e-004**	**0.0344**	**3.7000e-004**	**0.0348**	**9.2600e-003**	**3.5000e-004**	**9.6100e-003**	**0.0000**	**36.6998**	**36.6998**	**5.5000e-004**	**2.8100e-003**	**37.5487**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.14 Paving 5 - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.2900e-003	0.0443	0.0651	1.6000e-004		1.8000e-003	1.8000e-003		1.6900e-003	1.6900e-003	0.0000	14.3123	14.3123	3.8400e-003	0.0000	14.4083
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.2900e-003**	**0.0443**	**0.0651**	**1.6000e-004**		**1.8000e-003**	**1.8000e-003**		**1.6900e-003**	**1.6900e-003**	**0.0000**	**14.3123**	**14.3123**	**3.8400e-003**	**0.0000**	**14.4083**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	1.3000e-004	1.8600e-003	1.0000e-005	7.8000e-004	0.0000	7.9000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.5644	0.5644	1.0000e-005	1.0000e-005	0.5686
Total	**2.2000e-004**	**1.3000e-004**	**1.8600e-003**	**1.0000e-005**	**7.8000e-004**	**0.0000**	**7.9000e-004**	**2.1000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.5644**	**0.5644**	**1.0000e-005**	**1.0000e-005**	**0.5686**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.14 Paving 5 - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.2900e-003	0.0443	0.0651	1.6000e-004		1.8000e-003	1.8000e-003		1.6900e-003	1.6900e-003	0.0000	14.3123	14.3123	3.8400e-003	0.0000	14.4083
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.2900e-003**	**0.0443**	**0.0651**	**1.6000e-004**		**1.8000e-003**	**1.8000e-003**		**1.6900e-003**	**1.6900e-003**	**0.0000**	**14.3123**	**14.3123**	**3.8400e-003**	**0.0000**	**14.4083**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	1.3000e-004	1.8600e-003	1.0000e-005	7.8000e-004	0.0000	7.9000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.5644	0.5644	1.0000e-005	1.0000e-005	0.5686
Total	**2.2000e-004**	**1.3000e-004**	**1.8600e-003**	**1.0000e-005**	**7.8000e-004**	**0.0000**	**7.9000e-004**	**2.1000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.5644**	**0.5644**	**1.0000e-005**	**1.0000e-005**	**0.5686**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.15 Building Construction 5 - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0561	0.4527	0.6175	1.0500e-003		0.0177	0.0177		0.0171	0.0171	0.0000	88.1333	88.1333	0.0149	0.0000	88.5057
Total	**0.0561**	**0.4527**	**0.6175**	**1.0500e-003**		**0.0177**	**0.0177**		**0.0171**	**0.0171**	**0.0000**	**88.1333**	**88.1333**	**0.0149**	**0.0000**	**88.5057**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.5000e-004	0.0367	0.0106	1.6000e-004	5.4100e-003	2.3000e-004	5.6300e-003	1.5600e-003	2.2000e-004	1.7800e-003	0.0000	14.9739	14.9739	7.0000e-005	2.2600e-003	15.6487
Worker	8.1500e-003	4.9300e-003	0.0698	2.3000e-004	0.0294	1.4000e-004	0.0295	7.8100e-003	1.3000e-004	7.9300e-003	0.0000	21.1870	21.1870	4.4000e-004	5.0000e-004	21.3461
Total	**9.0000e-003**	**0.0416**	**0.0805**	**3.9000e-004**	**0.0348**	**3.7000e-004**	**0.0352**	**9.3700e-003**	**3.5000e-004**	**9.7100e-003**	**0.0000**	**36.1609**	**36.1609**	**5.1000e-004**	**2.7600e-003**	**36.9948**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.15 Building Construction 5 - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0561	0.4527	0.6175	1.0500e-003		0.0177	0.0177		0.0171	0.0171	0.0000	88.1332	88.1332	0.0149	0.0000	88.5055
Total	**0.0561**	**0.4527**	**0.6175**	**1.0500e-003**		**0.0177**	**0.0177**		**0.0171**	**0.0171**	**0.0000**	**88.1332**	**88.1332**	**0.0149**	**0.0000**	**88.5055**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.5000e-004	0.0367	0.0106	1.6000e-004	5.4100e-003	2.3000e-004	5.6300e-003	1.5600e-003	2.2000e-004	1.7800e-003	0.0000	14.9739	14.9739	7.0000e-005	2.2600e-003	15.6487
Worker	8.1500e-003	4.9300e-003	0.0698	2.3000e-004	0.0294	1.4000e-004	0.0295	7.8100e-003	1.3000e-004	7.9300e-003	0.0000	21.1870	21.1870	4.4000e-004	5.0000e-004	21.3461
Total	**9.0000e-003**	**0.0416**	**0.0805**	**3.9000e-004**	**0.0348**	**3.7000e-004**	**0.0352**	**9.3700e-003**	**3.5000e-004**	**9.7100e-003**	**0.0000**	**36.1609**	**36.1609**	**5.1000e-004**	**2.7600e-003**	**36.9948**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.3300e-003	0.0516	0.0307	2.6000e-004	0.0115	4.4000e-004	0.0120	3.1100e-003	4.2000e-004	3.5300e-003	0.0000	24.3239	24.3239	2.3000e-004	3.2600e-003	25.3000
Unmitigated	2.3300e-003	0.0516	0.0307	2.6000e-004	0.0115	4.4000e-004	0.0120	3.1100e-003	4.2000e-004	3.5300e-003	0.0000	24.3239	24.3239	2.3000e-004	3.2600e-003	25.3000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	8.00	8.00	8.00	28,927	28,927
Total	8.00	8.00	8.00	28,927	28,927

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	14.70	6.60	6.60	50.00	0.00	50.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.000000	0.000000	0.500000	0.000000	0.000000	0.000000	0.000000	0.500000	0.000000	0.000000	0.000000	0.000000	0.000000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	309.8623	309.8623	0.0168	2.0400e-003	310.8903
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	309.8623	309.8623	0.0168	2.0400e-003	310.8903
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	1.12361e+006	309.8623	0.0168	2.0400e-003	310.8903
Total		**309.8623**	**0.0168**	**2.0400e-003**	**310.8903**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	1.12361e+006	309.8623	0.0168	2.0400e-003	310.8903
Total		**309.8623**	**0.0168**	**2.0400e-003**	**310.8903**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5187	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.5187	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	9.0700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5097					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.5187**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	9.0700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5097					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.5187**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.2162	2.1000e-004	1.3000e-004	0.2603
Unmitigated	0.2162	2.1000e-004	1.3000e-004	0.2603

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	0.167816 / 0	0.2162	2.1000e-004	1.3000e-004	0.2603
Total		**0.2162**	**2.1000e-004**	**1.3000e-004**	**0.2603**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	0.167816 / 0	0.2162	2.1000e-004	1.3000e-004	0.2603
Total		**0.2162**	**2.1000e-004**	**1.3000e-004**	**0.2603**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Off-Highway Trucks	1	7.00	365	402	0.38	Diesel

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Tractors/Loaders/Backhoes	1	4.50	365	97	0.37	Diesel
Rubber Tired Loaders	1	8.00	365	203	0.36	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Off-Highway Trucks	0.0766	0.4600	0.5112	2.1200e-003		0.0164	0.0164		0.0151	0.0151	0.0000	186.3082	186.3082	0.0603	0.0000	187.8146
Rubber Tired Loaders	0.0419	0.3409	0.2699	1.1500e-003		0.0115	0.0115		0.0105	0.0105	0.0000	100.7687	100.7687	0.0326	0.0000	101.5835
Tractors/Loaders/Backhoes	0.0135	0.1365	0.2280	3.2000e-004		5.5300e-003	5.5300e-003		5.0900e-003	5.0900e-003	0.0000	28.0158	28.0158	9.0600e-003	0.0000	28.2424
Total	**0.1321**	**0.9374**	**1.0091**	**3.5900e-003**		**0.0334**	**0.0334**		**0.0308**	**0.0308**	**0.0000**	**315.0928**	**315.0928**	**0.1019**	**0.0000**	**317.6405**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Machado Dairy

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Stanislaus County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction 3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction 4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction 5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demolition	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving 3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving 4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving 5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Machado Dairy

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Air Compressors	Diesel	No Change	0	6	No Change	0.00
Cement and Mortar Mixers	Diesel	No Change	0	0	No Change	0.00
Concrete/Industrial Saws	Diesel	No Change	0	10	No Change	0.00
Cranes	Diesel	No Change	0	5	No Change	0.00
Forklifts	Diesel	No Change	0	10	No Change	0.00
Graders	Diesel	No Change	0	1	No Change	0.00
Pavers	Diesel	No Change	0	5	No Change	0.00
Rollers	Diesel	No Change	0	0	No Change	0.00
Rubber Tired Dozers	Diesel	No Change	0	2	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	8	No Change	0.00
Excavators	Diesel	No Change	0	6	No Change	0.00
Generator Sets	Diesel	No Change	0	5	No Change	0.00
Paving Equipment	Diesel	No Change	0	10	No Change	0.00
Welders	Diesel	No Change	0	10	No Change	0.00
Off-Highway Trucks	Diesel	No Change	0	13	No Change	0.00
Aerial Lifts	Diesel	No Change	0	10	No Change	0.00
Scrapers	Diesel	No Change	0	2	No Change	0.00

Machado Dairy

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Unmitigated tons/yr						Unmitigated mt/yr					
Aerial Lifts	9.55000E-003	1.47380E-001	2.97630E-001	4.60000E-004	2.62000E-003	2.41000E-003	0.00000E+000	4.01875E+001	4.01875E+001	1.30000E-002	0.00000E+000	4.05124E+001
Air Compressors	5.21700E-002	3.55140E-001	4.99080E-001	8.20000E-004	1.88100E-002	1.88100E-002	0.00000E+000	7.03421E+001	7.03421E+001	4.21000E-003	0.00000E+000	7.04475E+001
Cement and Mortar Mixers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Concrete/Industrial Saws	1.16900E-002	9.10800E-002	1.26230E-001	2.20000E-004	4.57000E-003	4.57000E-003	0.00000E+000	1.85492E+001	1.85492E+001	9.40000E-004	0.00000E+000	1.85727E+001
Cranes	4.75500E-002	5.13500E-001	2.49670E-001	7.90000E-004	2.14400E-002	1.97200E-002	0.00000E+000	6.94523E+001	6.94523E+001	2.24600E-002	0.00000E+000	7.00138E+001
Excavators	1.61200E-002	1.35820E-001	2.70200E-001	4.30000E-004	6.61000E-003	6.08000E-003	0.00000E+000	3.75904E+001	3.75904E+001	1.21600E-002	0.00000E+000	3.78944E+001
Forklifts	4.17500E-002	3.89610E-001	4.70510E-001	6.30000E-004	2.38700E-002	2.19600E-002	0.00000E+000	5.51937E+001	5.51937E+001	1.78500E-002	0.00000E+000	5.56400E+001
Generator Sets	8.25400E-002	7.35720E-001	1.00517E+000	1.80000E-003	3.38900E-002	3.38900E-002	0.00000E+000	1.54867E+002	1.54867E+002	6.63000E-003	0.00000E+000	1.55033E+002
Graders	6.34000E-003	8.29400E-002	2.47400E-002	9.00000E-005	2.63000E-003	2.42000E-003	0.00000E+000	8.14976E+000	8.14976E+000	2.64000E-003	0.00000E+000	8.21566E+000
Off-Highway Trucks	2.80200E-002	2.12670E-001	1.75620E-001	6.80000E-004	7.73000E-003	7.12000E-003	0.00000E+000	5.99620E+001	5.99620E+001	1.93900E-002	0.00000E+000	6.04468E+001
Pavers	4.75000E-003	4.71200E-002	6.66300E-002	1.10000E-004	2.24000E-003	2.06000E-003	0.00000E+000	9.49535E+000	9.49535E+000	3.07000E-003	0.00000E+000	9.57212E+000
Paving Equipment	5.90000E-003	5.57400E-002	8.79600E-002	1.40000E-004	2.74000E-003	2.52000E-003	0.00000E+000	1.23444E+001	1.23444E+001	3.99000E-003	0.00000E+000	1.24442E+001
Rollers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Rubber Tired Dozers	1.72600E-002	1.81030E-001	6.66200E-002	1.40000E-004	8.79000E-003	8.08000E-003	0.00000E+000	1.23843E+001	1.23843E+001	4.01000E-003	0.00000E+000	1.24844E+001
Scrapers	2.60200E-002	2.99680E-001	1.96130E-001	4.20000E-004	1.16600E-002	1.07300E-002	0.00000E+000	3.72867E+001	3.72867E+001	1.20600E-002	0.00000E+000	3.75882E+001
Tractors/Loaders/Backhoes	2.38300E-002	2.41400E-001	3.44670E-001	4.80000E-004	1.20900E-002	1.11300E-002	0.00000E+000	4.21248E+001	4.21248E+001	1.36200E-002	0.00000E+000	4.24654E+001
Welders	1.37480E-001	7.72080E-001	9.18330E-001	1.40000E-003	2.93100E-002	2.93100E-002	0.00000E+000	1.03145E+002	1.03145E+002	1.11700E-002	0.00000E+000	1.03424E+002

Machado Dairy

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Mitigated tons/yr						Mitigated mt/yr					
Aerial Lifts	9.55000E-003	1.47380E-001	2.97630E-001	4.60000E-004	2.62000E-003	2.41000E-003	0.00000E+000	4.01874E+001	4.01874E+001	1.30000E-002	0.00000E+000	4.05124E+001
Air Compressors	5.21700E-002	3.55140E-001	4.99080E-001	8.20000E-004	1.88100E-002	1.88100E-002	0.00000E+000	7.03421E+001	7.03421E+001	4.21000E-003	0.00000E+000	7.04474E+001
Cement and Mortar Mixers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Concrete/Industrial Saws	1.16900E-002	9.10800E-002	1.26230E-001	2.20000E-004	4.57000E-003	4.57000E-003	0.00000E+000	1.85491E+001	1.85491E+001	9.40000E-004	0.00000E+000	1.85727E+001
Cranes	4.75500E-002	5.13500E-001	2.49670E-001	7.90000E-004	2.14400E-002	1.97200E-002	0.00000E+000	6.94522E+001	6.94522E+001	2.24600E-002	0.00000E+000	7.00138E+001
Excavators	1.61200E-002	1.35820E-001	2.70200E-001	4.30000E-004	6.61000E-003	6.08000E-003	0.00000E+000	3.75904E+001	3.75904E+001	1.21600E-002	0.00000E+000	3.78943E+001
Forklifts	4.17500E-002	3.89610E-001	4.70510E-001	6.30000E-004	2.38700E-002	2.19600E-002	0.00000E+000	5.51937E+001	5.51937E+001	1.78500E-002	0.00000E+000	5.56399E+001
Generator Sets	8.25400E-002	7.35720E-001	1.00517E+000	1.80000E-003	3.38900E-002	3.38900E-002	0.00000E+000	1.54867E+002	1.54867E+002	6.63000E-003	0.00000E+000	1.55032E+002
Graders	6.34000E-003	8.29400E-002	2.47400E-002	9.00000E-005	2.63000E-003	2.42000E-003	0.00000E+000	8.14975E+000	8.14975E+000	2.64000E-003	0.00000E+000	8.21565E+000
Off-Highway Trucks	2.80200E-002	2.12670E-001	1.75620E-001	6.80000E-004	7.73000E-003	7.12000E-003	0.00000E+000	5.99619E+001	5.99619E+001	1.93900E-002	0.00000E+000	6.04467E+001
Pavers	4.75000E-003	4.71200E-002	6.66300E-002	1.10000E-004	2.24000E-003	2.06000E-003	0.00000E+000	9.49534E+000	9.49534E+000	3.07000E-003	0.00000E+000	9.57211E+000
Paving Equipment	5.90000E-003	5.57400E-002	8.79600E-002	1.40000E-004	2.74000E-003	2.52000E-003	0.00000E+000	1.23444E+001	1.23444E+001	3.99000E-003	0.00000E+000	1.24442E+001
Rollers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Rubber Tired Dozers	1.72600E-002	1.81030E-001	6.66200E-002	1.40000E-004	8.79000E-003	8.08000E-003	0.00000E+000	1.23843E+001	1.23843E+001	4.01000E-003	0.00000E+000	1.24844E+001
Scrapers	2.60200E-002	2.99680E-001	1.96130E-001	4.20000E-004	1.16600E-002	1.07300E-002	0.00000E+000	3.72866E+001	3.72866E+001	1.20600E-002	0.00000E+000	3.75881E+001
Tractors/Loaders/Backhoes	2.38300E-002	2.41400E-001	3.44670E-001	4.80000E-004	1.20900E-002	1.11300E-002	0.00000E+000	4.21248E+001	4.21248E+001	1.36200E-002	0.00000E+000	4.24654E+001
Welders	1.37480E-001	7.72080E-001	9.18330E-001	1.40000E-003	2.93100E-002	2.93100E-002	0.00000E+000	1.03145E+002	1.03145E+002	1.11700E-002	0.00000E+000	1.03424E+002

Machado Dairy

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Aerial Lifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.24417E-006	1.24417E-006	0.00000E+000	0.00000E+000	1.23419E-006
Air Compressors	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.13730E-006	1.13730E-006	0.00000E+000	0.00000E+000	1.27755E-006
Cement and Mortar Mixers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Concrete/Industrial Saws	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.07822E-006	1.07822E-006	0.00000E+000	0.00000E+000	1.07685E-006
Cranes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.15187E-006	1.15187E-006	0.00000E+000	0.00000E+000	1.28546E-006
Excavators	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.33013E-006	1.33013E-006	0.00000E+000	0.00000E+000	1.31946E-006
Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.26826E-006	1.26826E-006	0.00000E+000	0.00000E+000	1.25809E-006
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.16229E-006	1.16229E-006	0.00000E+000	0.00000E+000	1.22555E-006
Graders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.22703E-006	1.22703E-006	0.00000E+000	0.00000E+000	1.21719E-006
Off-Highway Trucks	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.33418E-006	1.33418E-006	0.00000E+000	0.00000E+000	1.15804E-006
Pavers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.05315E-006	1.05315E-006	0.00000E+000	0.00000E+000	1.04470E-006
Paving Equipment	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.62017E-006	1.62017E-006	0.00000E+000	0.00000E+000	1.60717E-006
Rollers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	8.07477E-007	8.07477E-007	0.00000E+000	0.00000E+000	8.01000E-007
Scrapers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.07277E-006	1.07277E-006	0.00000E+000	0.00000E+000	1.33021E-006
Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18695E-006	1.18695E-006	0.00000E+000	0.00000E+000	1.17743E-006
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.16341E-006	1.16341E-006	0.00000E+000	0.00000E+000	1.25696E-006

Fugitive Dust Mitigation

Machado Dairy

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Yes/No	Mitigation Measure	Mitigation Input		Mitigation Input		Mitigation Input	
No	Soil Stabilizer for unpaved Roads	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
Yes	Water Exposed Area	PM10 Reduction	55.00	PM2.5 Reduction	55.00	Frequency (per day)	2.00
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	15.00		
No	Clean Paved Road	% PM Reduction	0.00				

		Unmitigated		Mitigated		Percent Reduction	
Phase	Source	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Architectural Coating	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	Roads	0.08	0.02	0.08	0.02	0.00	0.00
Building Construction 2	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction 2	Roads	0.03	0.01	0.03	0.01	0.00	0.00
Building Construction 3	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction 3	Roads	0.03	0.01	0.03	0.01	0.00	0.00
Building Construction 4	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction 4	Roads	0.03	0.01	0.03	0.01	0.00	0.00

Machado Dairy

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Building Construction 5	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction 5	Roads	0.03	0.01	0.03	0.01	0.00	0.00
Demolition	Fugitive Dust	0.06	0.01	0.03	0.00	0.55	0.55
Demolition	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Grading	Fugitive Dust	0.09	0.05	0.04	0.02	0.55	0.55
Grading	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Paving 2	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving 2	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Paving 3	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving 3	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Paving 4	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving 4	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Paving 5	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving 5	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	Fugitive Dust	0.02	0.01	0.01	0.00	0.55	0.55
Site Preparation	Roads	0.00	0.00	0.00	0.00	0.00	0.00

Operational Percent Reduction Summary

Machado Dairy

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	-0.01	0.13		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			
No	Land Use	Integrate Below Market Rate Housing	0.00			
	Land Use	Land Use SubTotal	0.00			

Machado Dairy

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

No	Neighborhood Enhancements	Improve Pedestrian Network				
No	Neighborhood Enhancements	Provide Traffic Calming Measures				
No	Neighborhood Enhancements	Implement NEV Network	0.00			
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00			
No	Parking Policy Pricing	Limit Parking Supply	0.00			
No	Parking Policy Pricing	Unbundle Parking Costs	0.00			
No	Parking Policy Pricing	On-street Market Pricing	0.00			
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00			
No	Transit Improvements	Provide BRT System	0.00			
No	Transit Improvements	Expand Transit Network	0.00			
No	Transit Improvements	Increase Transit Frequency	0.00			
	Transit Improvements	Transit Improvements Subtotal	0.00			
		Land Use and Site Enhancement Subtotal	0.00			
No	Commute	Implement Trip Reduction Program				
No	Commute	Transit Subsidy				
No	Commute	Implement Employee Parking "Cash Out"				
No	Commute	Workplace Parking Charge				
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00			
No	Commute	Market Commute Trip Reduction Option	0.00			
No	Commute	Employee Vanpool/Shuttle	0.00		2.00	

Machado Dairy

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

No	Commute	Provide Ride Sharing Program				
	Commute	Commute Subtotal	0.00			
No	School Trip	Implement School Bus Program	0.00			
		Total VMT Reduction	0.00			

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
No	Use Low VOC Paint (Residential Interior)	150.00
No	Use Low VOC Paint (Residential Exterior)	150.00
No	Use Low VOC Paint (Non-residential Interior)	150.00
No	Use Low VOC Paint (Non-residential Exterior)	150.00
No	Use Low VOC Paint (Parking)	150.00
No	% Electric Lawnmower	
No	% Electric Leafblower	
No	% Electric Chainsaw	

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Exceed Title 24		

Machado Dairy

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy		
No	Use Reclaimed Water		
No	Use Grey Water		
No	Install low-flow bathroom faucet	32.00	
No	Install low-flow Kitchen faucet	18.00	
No	Install low-flow Toilet	20.00	
No	Install low-flow Shower	20.00	
No	Turf Reduction		
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape		

Solid Waste Mitigation

Machado Dairy

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigation Measures	Input Value
Institute Recycling and Composting Services Percent Reduction in Waste Disposed	