



County of Fresno

DEPARTMENT OF PUBLIC WORKS AND PLANNING
STEVEN E. WHITE, DIRECTOR

DATE: January 14, 2022

TO: Development Services and Capital Projects, Attn: William M. Kettler, Division Manager
Development Services and Capital Projects, Attn: Chris Motta, Principal Planner
Development Services and Capital Projects, Current Planning, Attn: David A. Randall, Senior Planner
Development Services and Capital Projects, Policy Planning, ALCC,
Attn: Mohammad Khorsand, Senior Planner
Development Services and Capital Projects, Zoning & Permit Review, Attn: Daniel Gutierrez/James Anders
Development Services and Capital Projects, Site Plan Review, Attn: Hector Luna
Development Services and Capital Projects, Building & Safety/Plan Check, CASp,
Attn: Dan Mather
Resources Division, Solid Waste, Attn: Amina Flores-Becker
Development Engineering, Attn: Kevin Nehring, Senior Engineer
Development Engineering, Attn: Laurie Kennedy, Grading/Mapping
Road Maintenance and Operations, Attn: Nadia Lopez/Martin Querin/Wendy Nakagawa
Design Division, Transportation Planning, Attn: Mohammad Alimi/Brian Spaunhurst/Gloria Hensley
Water and Natural Resources Division, Attn: Glenn Allen, Division Manager; Roy Jimenez
Department of Public Health, Environmental Health Division, Attn: Kevin Tsuda/Deep Sidhu/Steven Rhodes
Agricultural Commissioner, Attn: Melissa Cregan
Sheriff's Office, Attn: Captain Mark Padilla, Captain Ryan Hushaw, Lt. Brent Stalker, Lt. Ron Hayes, Lt. Robert Salazar, Lt. Kathy Curtice
County Counsel, Attn: Alison Samarin, Deputy County Counsel
U.S. Fish and Wildlife Service, San Joaquin Valley Division,
Attn: Matthew Nelson, Biologist
CA Regional Water Quality Control Board, Attn: Lewis Lummen Engineering Geologist Confined Animals/centralvalleyfresno@waterboards.ca.gov
CALTRANS, Attn: David Padilla, Branch Chief
CA Department of Fish and Wildlife, Attn: Craig Bailey, Environmental Scientist/R4CEQA@wildlife.ca.gov
State Water Resources Control Board, Division of Drinking Water, Fresno District,
Attn: Jose Robledo/Cynthia Reyes
San Joaquin Valley Unified Air Pollution Control District (PIC-CEQA Division),
Attn: PIC Supervisor-ceqa@valleyair.org
Fresno County Fire Protection District/CALFIRE, Attn: FKU.Prevention-Planning@fire.ca.gov
North Fork Kings GSA, Attn: Charlotte Gallock, P.E., Director of Water Resources
Laguna Irrigation District, Attn: Scott Sills, General Manager

FROM: Jeremy Shaw, Planner
Development Services and Capital Projects Division

SUBJECT: Director Review and Approval Application No. 4688/Initial Study Application No. 8185

APPLICANT: John Zonneveld

DUE DATE: **January 28, 2022**

The Department of Public Works and Planning, Development Services and Capital Projects Division is reviewing the subject applications proposing to allow a herd size increase of 500 cattle, to an existing herd of 6,200 animals, for a total permitted herd size of 6,700 animals, associated with the operation of an existing dairy, on a 140.89-acre parcel in the AE-20 (Exclusive Agricultural, 20-acre minimum parcel size) Zone District.

The Department is also reviewing for environmental effects, as mandated by the California Environmental Quality Act (CEQA) and for conformity with plans and policies of the County.

The subject parcel is generally located on the north side E. Harlan Avenue, between S. Maple Avenue and Cedar Street, and approximately 3.34 miles west-northwest of the unincorporated community of Laton (APN: 055-150-22S) (19860 S. Maple Avenue) (Sup. Dist. 4).

We must have your comments by **January 28, 2022**. Any comments received after this date may not be used.

If you do not have comments, please provide a “NO COMMENT” response to our office by the above deadline (e-mail is also acceptable; see email address below).

Please address any correspondence or questions related to environmental and/or policy/design issues to me, Jeremy Shaw, Planner, Development Services and Capital Projects Division, Fresno County Department of Public Works and Planning, 2220 Tulare Street, Sixth Floor, Fresno, CA 93721, or call (559) 600-4207 or jshaw@fresnocountyca.gov via email.

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Activity Code (Internal Review): 2395

Enclosures



Fresno County Department of Public Works and Planning

Date Received: 12/13/21 DRA 4688 (Application No.)

MAILING ADDRESS: Department of Public Works and Planning Development Services and Capital Projects Division 2220 Tulare St., 6th Floor Fresno, Ca. 93721

LOCATION: Southwest corner of Tulare & "M" Streets, Suite A Street Level Fresno Phone: (559) 600-4497

APPLICATION FOR:

- Pre-Application (Type)
Amendment Application
Amendment to Text
Conditional Use Permit
Variance (Class)/Minor Variance
Site Plan Review/Occupancy Permit
No Shoot/Dog Leash Law Boundary
General Plan Amendment/Specific Plan/SP Amendment
Time Extension for
Director Review and Approval
for 2nd Residence
Determination of Merger
Agreements
ALCC/RLCC
Other

DESCRIPTION OF PROPOSED USE OR REQUEST:

Proposing to establish a permitted herd size of 6,200 animals, utilizing existing permitted herd size at the RWQCB and SJVAPCD, and permit for established on-site composting. Through the DRA process, increase the herd size by 500, to total a permitted herd size of 6,700.

CEQA DOCUMENTATION: Initial Study PER N/A

PLEASE USE FILL-IN FORM OR PRINT IN BLACK INK. Answer all questions completely. Attach required site plans, forms, statements, and deeds as specified on the Pre-Application Review. Attach Copy of Deed, including Legal Description.

LOCATION OF PROPERTY: West side of Maple Avenue between Harlan and Barrett Street address: 19680 S. Maple Avenue, Laton, Ca 93242

APN: APN: 055-150-22s Parcel size: 140.89 Section(s)-Twp/Rg: S 13 - T 17 S/R 20 E

ADDITIONAL APN(s):

I, John Zonneveld (signature), declare that I am the owner, or authorized representative of the owner, of the above described property and that the application and attached documents are in all respects true and correct to the best of my knowledge. The foregoing declaration is made under penalty of perjury.

Table with 5 columns: Name, Address, City, Zip, Phone. Rows include John Zonneveld (Owner and Applicant) and Innovative Ag Services (Representative).

CONTACT EMAIL:

OFFICE USE ONLY (PRINT FORM ON GREEN PAPER)

Application Type / No.: DRA 4688 Fee: \$2,660.00
Application Type / No.: Pre-Application Credit Fee: \$-247.00
PER/Initial Study No.: IS 8185 Fee: \$3,901.00
Ag Department Review: Fee: \$67.00
Health Department Review: Fee: \$770.00
Received By: J.S. Invoice No.: 223511 TOTAL: \$7,151.00

UTILITIES AVAILABLE:

WATER: Yes [checked] / No [X] Agency:
SEWER: Yes [checked] / No [X] Agency:

STAFF DETERMINATION: This permit is sought under Ordinance Section: Sect-Twp/Rg: - T S/R E

Related Application(s):
Zone District:
Parcel Size:

APN # - - -
APN # - - -
APN # - - -
APN # - - -

over.....



**Development Services
and
Capital Projects
Division**

Mail To: Department of Public Works and Planning
Innovative Ag Services
1201 Delta View Rd., Ste 5
Hanford, CA 93230

Pre-Application Review

NUMBER: 21-003961
APPLICANT: Dixie Lobmeyer
PHONE: (559) 587-2800

PROPERTY LOCATION: 19680 S. Maple Ave., Laton, CA 93242 email: dlobmeyer@innovativeag.net
APN: 055 - 150 - 22s **ALCC:** No Yes #4134,6063 **VIOLATION NO.** None
CNEL: No Yes (level) **LOW WATER:** No Yes **WITHIN 1/2 MILE OF CITY:** No Yes
ZONE DISTRICT: AE-20; **SRA:** No Yes **HOMESITE DECLARATION REQ'D.:** No Yes
LOT STATUS:

Zoning: (X) Conforms; () Legal Non-Conforming lot; () Deed Review Req'd (see Form #236)
Merger: May be subject to merger: No Yes ZM# Initiated In process
Map Act: (X) Lot of Rec. Map; () On '72 rolls; () Other; () Deeds Req'd (see Form #236)

SCHOOL FEES: No Yes **DISTRICT:** Laton Unified, SCDD Trst Area 3 **PERMIT JACKET:** No Yes
FMFCD FEE AREA: (X) Outside () District No.: **FLOOD PRONE:** No Yes
PROPOSAL Director Review and Approval to allow the expansion of an existing Dairy permitted prior to the adoption of the Dairy Ordinance 10-23-2007.

COMMENTS: APN: 055-150-22s is two parcels with one parcel number. Previous APNs 055-150-09s & 11s.
ORD. SECTION(S): 816.AA, 869.3 **BY:** Daniel Gutierrez **DATE:** 4/29/2021

GENERAL PLAN POLICIES:

LAND USE DESIGNATION: Agriculture () GPA:
COMMUNITY PLAN: () AA:
REGIONAL PLAN: () CUP:
SPECIFIC PLAN: (X) DRA: \$2,660.00
SPECIAL POLICIES: () VA:
SPHERE OF INFLUENCE: () AT:
ANNEX REFERRAL (LU-G17/MOU): () TT:

PROCEDURES AND FEES:

() MINOR VA:
(X) HD: \$770.00
(X) JAG COMM: \$67.00
() ALCC:
(X) IS/PER*: \$3,901.00
() Viol. (35%):
() Other:
Filing Fee: \$7,398.00
Pre-Application Fee: - \$247.00
Total County Filing Fee: \$7,151.00

COMMENTS:

FILING REQUIREMENTS:

- Land Use Applications and Fees
- This Pre-Application Review form
- Copy of Deed / Legal Description
- Photographs
- () Letter Verifying Deed Review
- IS Application and Fees* * Upon review of project materials, an Initial Study (IS) with fees may be required.
- Site Plans - 4 copies (folded to 8.5"x11") + 1 - 8.5"x11" reduction
- () Floor Plan & Elevations - 4 copies (folded to 8.5"x11") + 1 - 8.5"x11" reduction
- Project Description / Operational Statement (Typed)
- () Statement of Variance Findings
- () Statement of Intended Use (ALCC)
- () Dependency Relationship Statement
- () Resolution/Letter of Release from City of _____
Referral Letter # _____

OTHER FILING FEES:

- Archaeological Inventory Fee: \$75 at time of filing
(Separate check to Southern San Joaquin Valley Info. Center)
- CA Dept. of Fish & Wildlife (CDFW): (\$50) (\$50+\$2,406.75)
(Separate check to Fresno County Clerk for pass-thru to CDFW.
Must be paid prior to IS closure and prior to setting hearing date.)

BY: JEREMY SHAW **DATE:** 5-5-21
PHONE NUMBER: (559) 600-4207

NOTE: THE FOLLOWING REQUIREMENTS MAY ALSO APPLY:

- () COVENANT
- () MAP CERTIFICATE
- () PARCEL MAP
- () FINAL MAP
- () FMFCD FEES
- ALUC or ALCC
- () SITE PLAN REVIEW
- () BUILDING PLANS
- () BUILDING PERMITS
- () WASTE FACILITIES PERMIT
- () SCHOOL FEES
- OTHER (see reverse side)

PLU # 113 Fee: \$247.00
Note: This fee will apply to the application fee if the application is submitted within six (6) months of the date on this receipt.



County of Fresno

DEPARTMENT OF PUBLIC WORKS AND PLANNING

INITIAL STUDY APPLICATION

INSTRUCTIONS

Answer all questions completely. An incomplete form may delay processing of your application. Use additional paper if necessary and attach any supplemental information to this form. Attach an operational statement if appropriate. This application will be distributed to several agencies and persons to determine the potential environmental effects of your proposal. Please complete the form in a legible and reproducible manner (i.e., USE BLACK INK OR TYPE).

OFFICE USE ONLY

IS No. _____

Project
No(s). _____

Application Rec'd.:

GENERAL INFORMATION

1. **Property Owner :** _____ **Phone/Fax** _____

Mailing

Address: _____

Street

City

State/Zip

2. **Applicant :** _____ **Phone/Fax:** _____

Mailing

Address: _____

Street

City

State/Zip

3. **Representative:** _____ **Phone/Fax:** _____

Mailing

Address: _____

Street

City

State/Zip

4. **Proposed Project:** _____

5. **Project Location:** _____

6. **Project Address:** _____

7. **Section/Township/Range:** _____ / _____ / _____

8. **Parcel Size:** _____

9. **Assessors Parcel No.** _____

DEVELOPMENT SERVICES DIVISION

10. Land Conservation Contract No. (If applicable): _____

11. What other agencies will you need to get permits or authorization from:

- | | |
|-----------------------------------|---|
| _____ LAFCo (annexation) | _____ SJVUAPCD (Air Pollution Control District) |
| _____ CALTRANS | _____ Reclamation Board |
| _____ Division of Aeronautics | _____ Department of Energy |
| _____ Water Quality Control Board | _____ Airport Land Use Commission |
| _____ Other _____ | |

12. Will the project utilize Federal funds or require other Federal authorization subject to the provisions of the National Environmental Policy Act (NEPA) of 1969? _____ Yes _____ No

If so, please provide a copy of all related grant and/or funding documents, related information and environmental review requirements.

13. Existing Zone District¹: _____

14. Existing General Plan Land Use Designation¹: _____

ENVIRONMENTAL INFORMATION

15. Present land use: _____
Describe existing physical improvements including buildings, water (wells) and sewage facilities, roads, and lighting. Include a site plan or map showing the previously listed improvements:

Describe the major vegetative cover: _____

Any perennial or intermittent water courses? If so, show on map: _____

Is property in a flood prone area? Describe: _____

16. Describe surrounding land uses (e.g., commercial, agricultural, residential, school, etc.):

North: _____

South: _____

East: _____

West: _____

17. *What land use(s) in the area may be impacted by your Project?:* _____

18. *What land use(s) in the area may impact your project?:* _____

19. Transportation:

NOTE: *The information below will be used in determining traffic impacts from this project. The data may also show the need for a Traffic Impact Study (TIS) for the project.*

A. *Will additional driveways from the proposed project site be necessary to access public roads?*
_____ Yes _____ No

B. Daily traffic generation:

I. Residential - Number of Units _____
Lot Size _____
Single Family _____
Apartments _____

II. Commercial - Number of Employees _____
Number of Salesmen _____
Number of Delivery Trucks _____
Total Square Footage of Building _____

III. Describe and quantify other traffic generation activities: _____

20. *Describe any source(s) of noise from your project that may affect the surrounding area:* _____

21. *Describe any source(s) of noise in the area that may affect your project:* _____

22. *Describe the probable source(s) of air pollution from your project:* _____

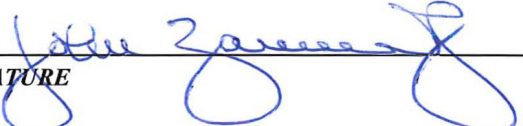
23. Proposed source of water:

() *private well*

() *community system*³ --name: _____

24. Anticipated volume of water to be used (gallons per day)²: Increase of 32,500 gallons per day
25. Proposed method of liquid waste disposal:
 septic system/individual
 community system³-name Liquid manure will be land applied
26. Estimated volume of liquid waste (gallons per day)²: 32,500 gallon increase
27. Anticipated type(s) of liquid waste: Animal Waste
28. Anticipated type(s) of hazardous wastes²: N/A
29. Anticipated volume of hazardous wastes²: N/A
30. Proposed method of hazardous waste disposal²: N/A
31. Anticipated type(s) of solid waste: Manure
32. Anticipated amount of solid waste (tons or cubic yards per day): 2.75 Tons per day
33. Anticipated amount of waste that will be recycled (tons or cubic yards per day): 2.75 Tons per day
34. Proposed method of solid waste disposal: Land Application or exported
35. Fire protection district(s) serving this area: Fresno County Fire Protection District
36. Has a previous application been processed on this site? If so, list title and date: No
37. Do you have any underground storage tanks (except septic tanks)? Yes _____ No _____
38. If yes, are they currently in use? Yes _____ No _____

TO THE BEST OF MY KNOWLEDGE, THE FOREGOING INFORMATION IS TRUE.


SIGNATURE

9-16-2021
DATE

¹Refer to Development Services Conference Checklist

²For assistance, contact Environmental Health System, (559) 445-3357

³For County Service Areas or Waterworks Districts, contact the Resources Division, (559) 600-4259

NOTICE AND ACKNOWLEDGMENT

INDEMNIFICATION AND DEFENSE

The Board of Supervisors has adopted a policy that applicants should be made aware that they may be responsible for participating in the defense of the County in the event a lawsuit is filed resulting from the County's action on your project. You may be required to enter into an agreement to indemnify and defend the County if it appears likely that litigation could result from the County's action. The agreement would require that you deposit an appropriate security upon notice that a lawsuit has been filed. In the event that you fail to comply with the provisions of the agreement, the County may rescind its approval of the project.

STATE FISH AND WILDLIFE FEE

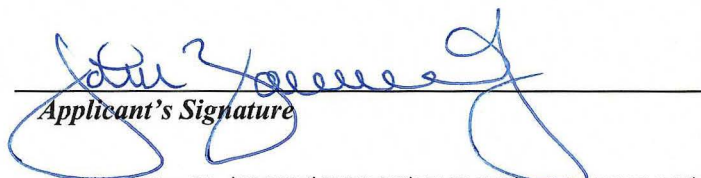
State law requires that specified fees (effective January 1, 2021: \$3,445.25 for an EIR; \$2,480.25 for a Mitigated/Negative Declaration) be paid to the California Department of Fish and Wildlife (CDFW) for projects which must be reviewed for potential adverse effect on wildlife resources. The County is required to collect the fees on behalf of CDFW. A \$50.00 handling fee will also be charged, as provided for in the legislation, to defray a portion of the County's costs for collecting the fees.

The following projects are exempt from the fees:

- 1. All projects statutorily exempt from the provisions of CEQA (California Environmental Quality Act).*
- 2. All projects categorically exempt by regulations of the Secretary of Resources (State of California) from the requirement to prepare environmental documents.*

A fee exemption may be issued by CDFW for eligible projects determined by that agency to have "no effect on wildlife." That determination must be provided in advance from CDFW to the County at the request of the applicant. You may wish to call the local office of CDFW at (559) 222-3761 if you need more information.

Upon completion of the Initial Study you will be notified of the applicable fee. Payment of the fee will be required before your project will be forwarded to the project analyst for scheduling of any required hearings and final processing. The fee will be refunded if the project should be denied by the County.


Applicant's Signature

11-2-2021
Date

G:\4360Evs&Pln\PROJSEC\PROJDOCS\TEMPLATES\IS-CEQA TEMPLATES\INITIAL STUDY APP.DOTX



19270
19272
19274
19276
19278
19280
19282
19284
19286

AVE.

14

E. BARRETT AVE.

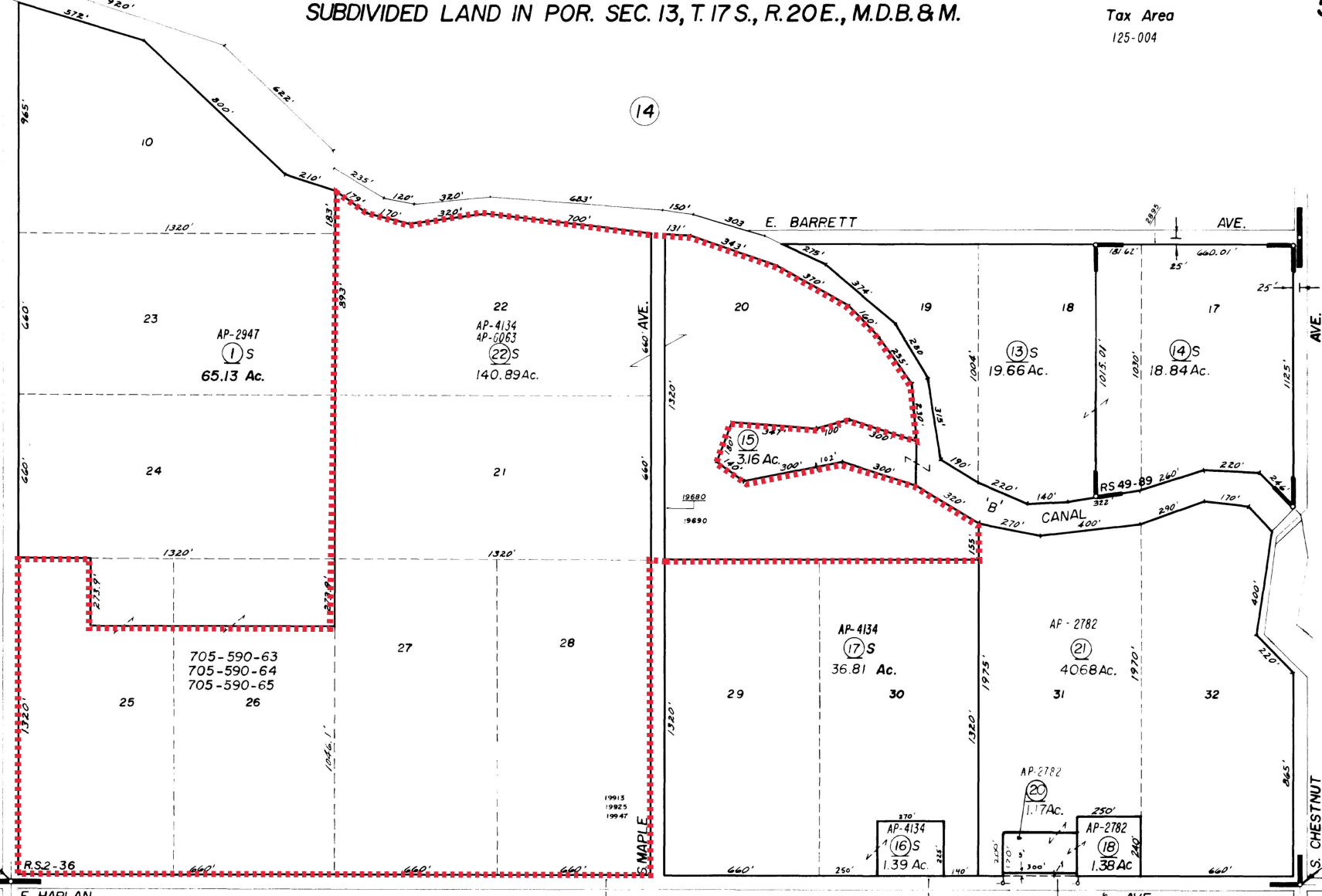
AVE.

AVE.

Bk.
56

NOTE
This map is for Assessment purposes only.
It is not to be construed as portraying legal
ownership or divisions of land for purposes
of zoning or subdivision law.

34



E. HARLAN

37

Assessor's Map Bk. 55-Pg. 15

Agricultural Preserve
Laguna De Tache Grant-R.S. Bk. 2, Pg.36
Record of Survey - Bk. 49, Pg. 89

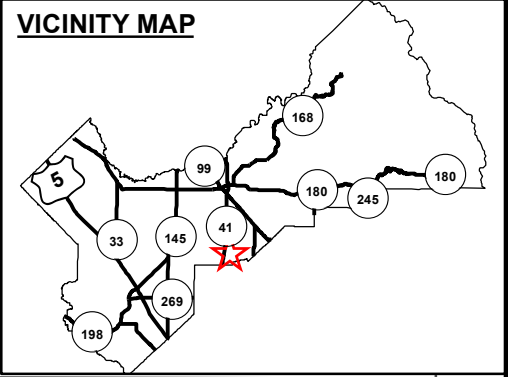
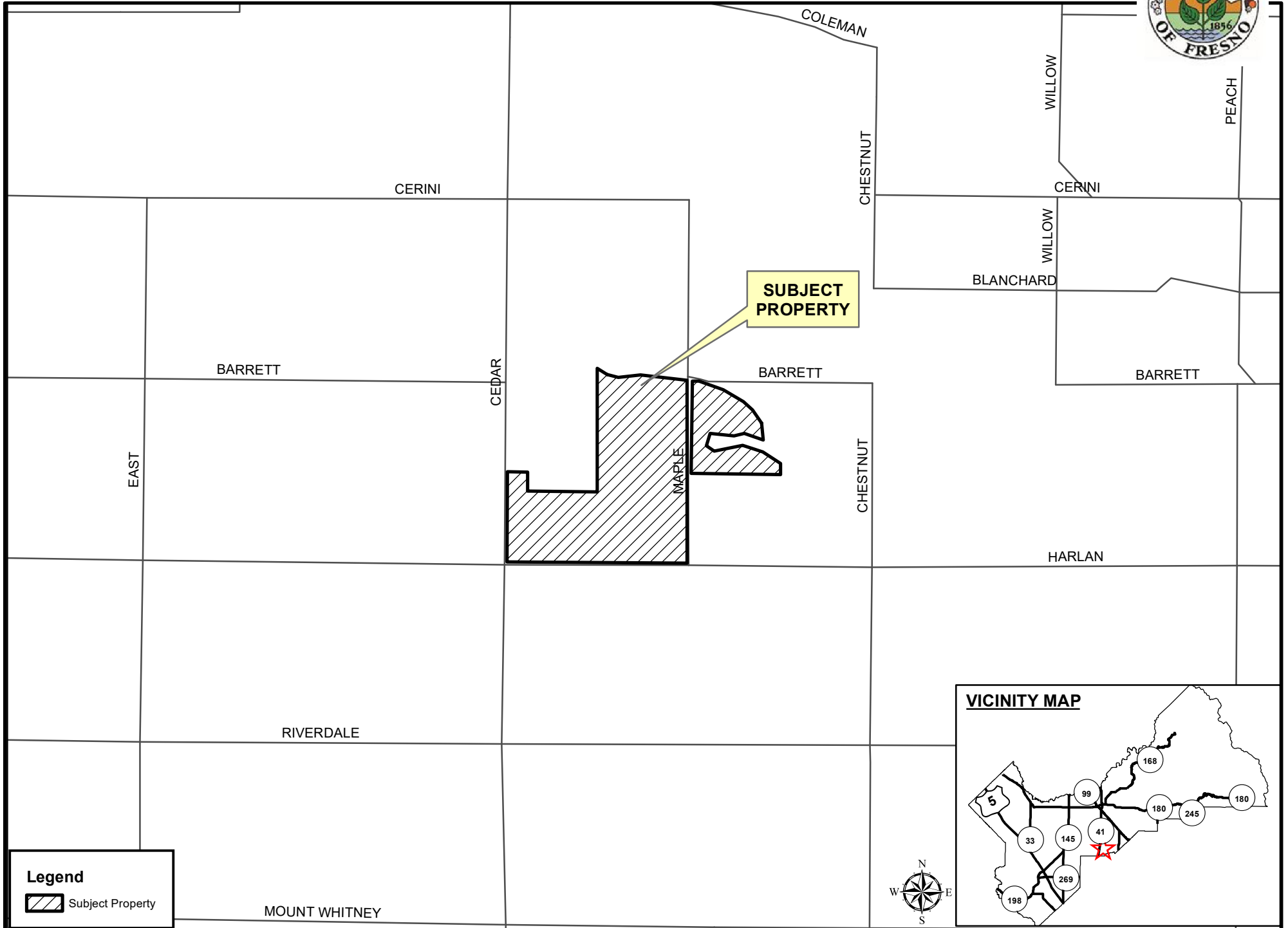
NOTE-Assessor's Block Numbers Shown in Ellipses
Assessor's Parcel Numbers Shown in Circles.

County of Fresno, Calif.



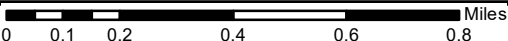
R. 20 E.
R. 21 E.

LOCATION MAP



Legend

 Subject Property





EXISTING LAND USE MAP

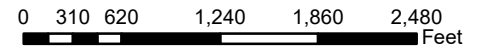


LEGEND

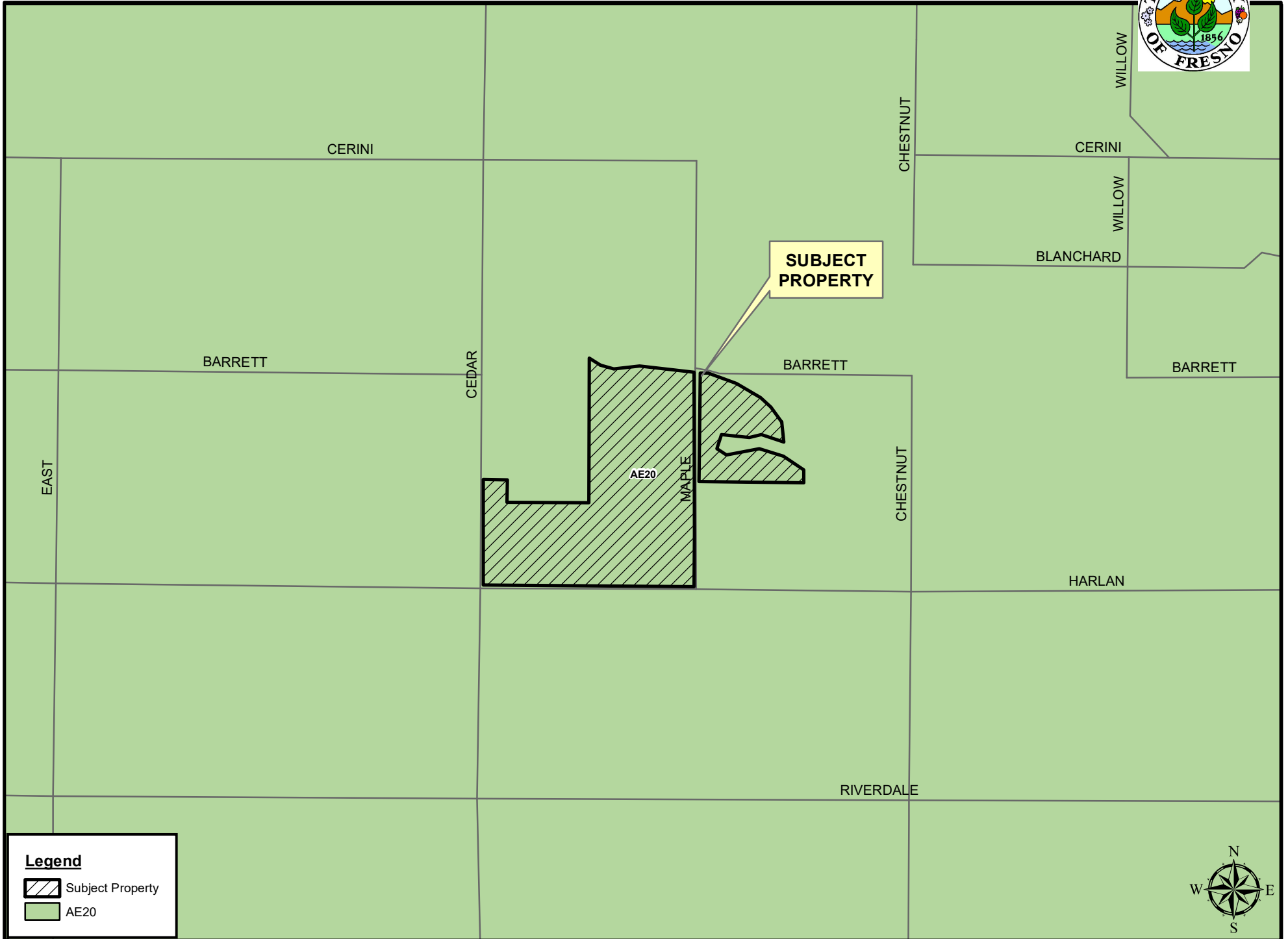
- DAIRY
- FC - FIELD CROP
- ORC - ORCHARD
- SF#- SINGLE FAMILY RESIDENCE
- V - VACANT
- VIN - VINEYARD

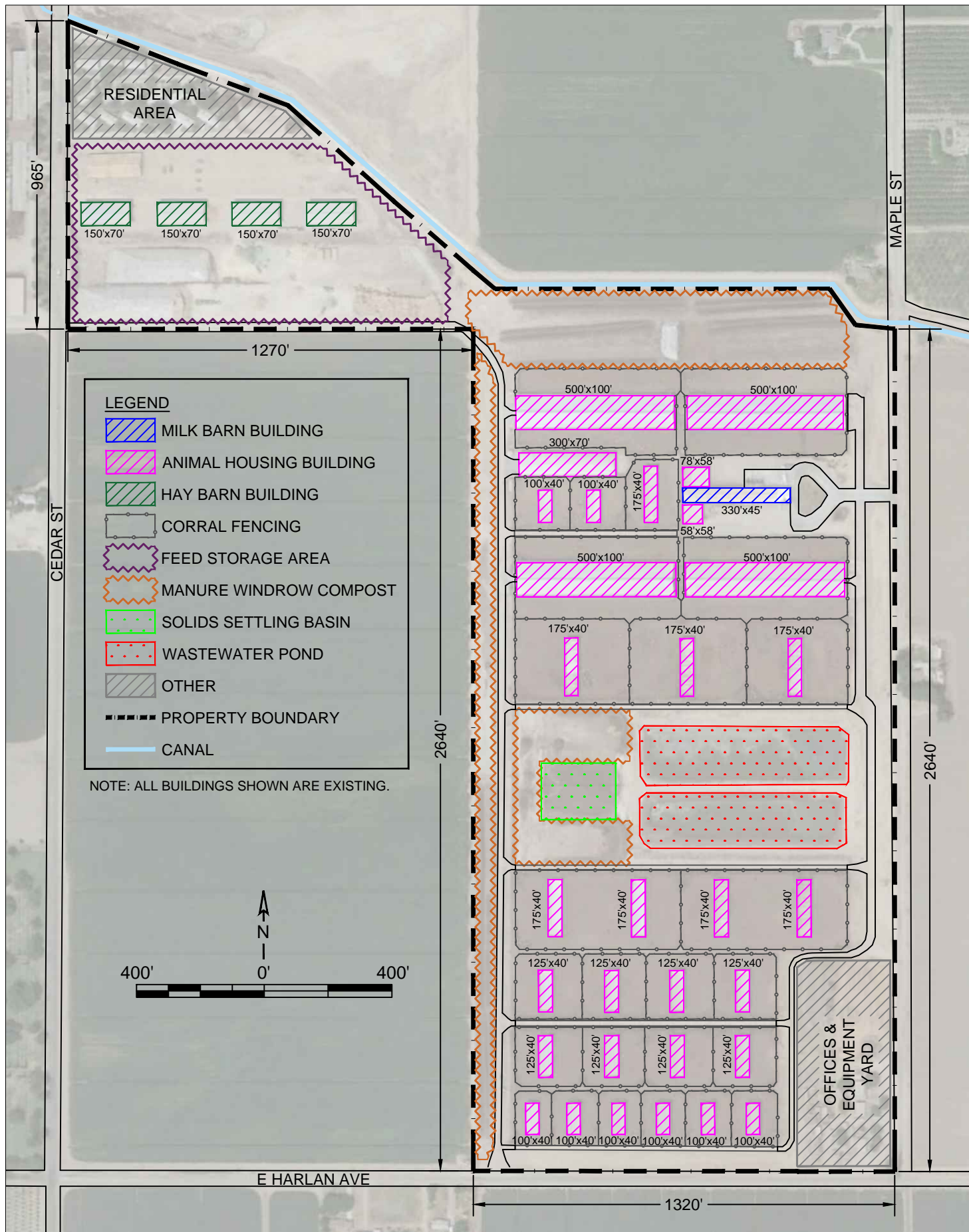
LEGEND:

-  Subject Property
-  Ag Contract Land



EXISTING ZONING MAP





DATE
11/16/2021

MAPLE DAIRY SITE MAP
INNOVATIVE AG SERVICES

FIGURE
1



INNOVATIVE AG SERVICES

1201 Delta View Road, Suite 5, Hanford, CA 93230
 P (559) 587-2800 | F (559) 587-2801 | www.innovativeag.net

Facility Name - Maple Dairy

Animal	Head
Milk Cows	3,000
Milk Cows	-
Dry Cows	500
Bred Heifers	1,550
Heifers (1yr to breeding)	200
Calves (3-12 mo.)	1,450
Baby Calves (Milk Fed)	-
Total	6,700

Zonneveld Complex	Head of Animals	Milk	Total Mature	Support	New	Increase
County Permitted	6200	N/A	N/A	N/A	6700	500
RWQCB Permitted	N/A	N/A	3450	N/A		
SJVAPCD Permitted	N/A	2500	3000	3200		

The RWQCB permit only looks at Mature animals (Milk & Dry) and does not limit support stock.

The SJVAPCD permit looks at Milk, total Mature (Milk & Dry) and support stock

In this case the lowest limits are SJVAPCD Mature animals at 3000 and support at 3200 animals.

These animals total 6200 as of 2007

pre expansion	Animal	post
2500	Milk Cows	3,000
500	Dry Cows	500
1550	Bred Heifers	1,550
200	Heifers (1yr to breeding)	200
1450	Calves (3-12 mo.)	1,450
0	Baby Calves (Milk Fed)	-
6200	Total	6,700



Operational Statement Questions

Facility Name: _____

County: _____

1. Detailed Description of the existing nature of the operation.
2. What is the proposed operation and how does it relate to the existing operation?
3. How many cattle are on site?
4. Will the proposal increase the number cattle? _____ If so by how many? _____
5. Number of customers or visitors per day.
6. Number of employees _____.
Will the proposal increase the number of employees? _____
7. Number of services and delivery vehicles per day or per week. _____
8. Are any goods to be sold on-site? _____ If so, are these goods grown or produced on-site or at some other location?



9. What equipment is used on the entire site?

10. What supplies or materials are used and how are they stored?

11. Does the use cause an unsightly appearance?

12. List and describe any solid or liquid wastes to be produced on site.

13. Estimated volume of water to be used (gallons per day). _____
Source of water? _____

14. Describe any proposed advertising including size, appearance, and placement.

15. Will all existing buildings continue to be used or will new buildings be constructed?



INNOVATIVE AG SERVICES

1201 Delta View Road, Suite 5, Hanford, CA 93230
P (559) 587-2800 | F (559) 587-2801 | www.innovativeag.net

16. Explain which buildings or what portion of buildings will be used in the operation.

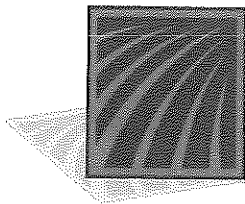
17. Add any additional information that will provide a clear understanding of the project or operation.

18. Identify all Owners.

Nutrient Management Plan

MAPLE DAIRY
19860 S. MAPLE AVENUE
LATON, CA 93242

Prepared by:



Innovative Ag Services, LLC

1201 Delta View Road, Suite 5 Hanford, CA 93230

Office (559) 587-2800 Fax (559) 587-2801

NUTRIENT MANAGEMENT PLAN

A Nutrient Management Plan (NMP) is required for all existing milk cow dairies subject to Waste Discharge Requirements General Order No. R5-2013-0122. This NMP has been prepared in accordance with the General Order requirements as outlined in Attachment C, Sections I. – VII. and Technical Standards for Nutrient Management Sections I. – X. The purpose of the NMP is to budget and manage the nutrients applied to the land application area(s) considering all sources of nutrients, crop requirements, soil types, climate, and local conditions to prevent adverse impacts to surface water and groundwater quality. This NMP takes the site-specific conditions into consideration in identifying steps that will minimize nutrient movement through surface runoff or leaching past the root zone.

MAPLE DAIRY

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and attachments. 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.

OPERATOR:

OWNER:

SIGNATURE OF OPERATOR

SIGNATURE OF OWNER

PRINT NAME

PRINT NAME

DATE

DATE

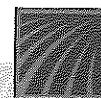
**CERTIFIED NUTRIENT MANAGEMENT PLAN
SPECIALIST:**



SIGNATURE



DATE



DAIRY FACILITY INFORMATION

A. Name of the Facility & County Location

Facility Name: MAPLE DAIRY
County: FRESNO COUNTY

B. Facility Location

Address: 19860 S. MAPLE AVENUE
LATON, CA 93242

C. Responsible Party:

Operator: JOSH ZONNEVELD
1560 E. CERINI AVENUE
LATON, CA 93242
CONTACT: JOSH ZONNEVELD
CONTACT PHONE: (559) 923-4546

Owner: JACK & JOHN ZONNEVELD
1560 E. CERINI AVENUE
LATON, CA 93242
(559) 923-4546



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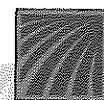
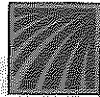


FIGURE 1 – SOIL SAMPLING GUIDE9

- ATTACHMENT A. LAND APPLICATION AREA MAP
- ATTACHMENT B. GENERAL NUTRIENT PRODUCTION & BALANCE ANALYSIS
- ATTACHMENT C. GENERAL SALT PRODUCTION & LOADING ANALYSIS
- ATTACHMENT D. WASTE APPLICATION SUMMARY
- ATTACHMENT E. FIELD-BY-FIELD NUTRIENT BUDGET

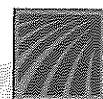


I. LAND APPLICATION AREA INFORMATION

A. Land Application Area Map (Attachment A)

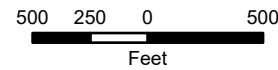
This map identifies of all land application areas (under the control of the discharger, whether it is owned, rented or leased, to which manure or process wastewater from the production area is or may be applied for nutrient recycling) on a single published base map (topographical map or aerial photo) at an appropriate scale which includes:

- i. A field identification system (Assessor's Parcel Number; land application area by name or number; total acreage of each land application area; indication if each land application area is owned, rented or leased by the Discharger; indication what type of waste is applied; drainage flow direction in each field, nearby surface waters, and storm water discharge points; tailwater and storm water drainage controls; subsurface (tile) drainage systems; irrigation supply wells and groundwater monitoring wells; sampling locations for discharges of storm water and tailwater to surface water from the field; and
- ii. 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.



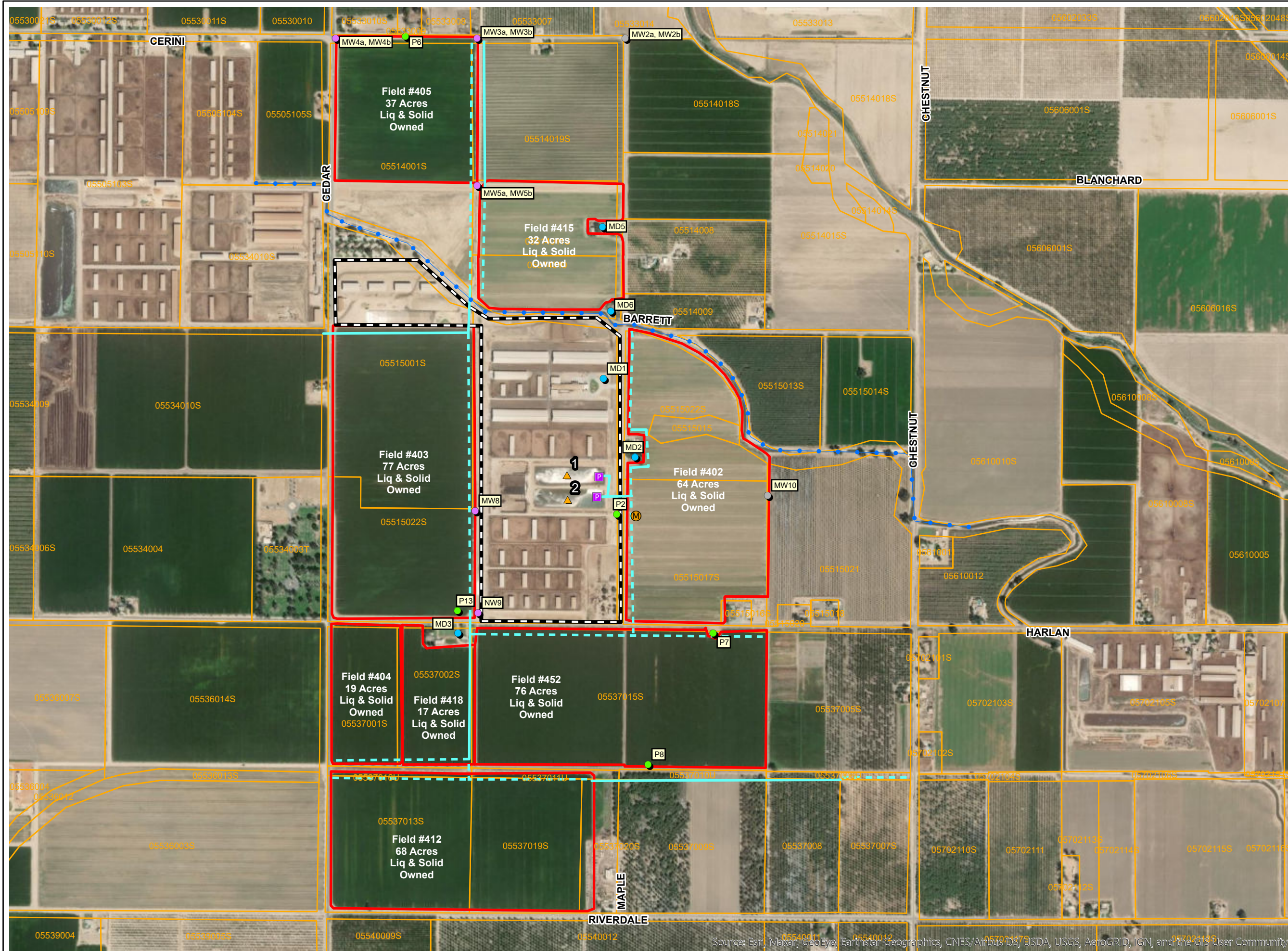
Maple Dairy

Land Area Map



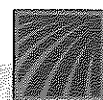
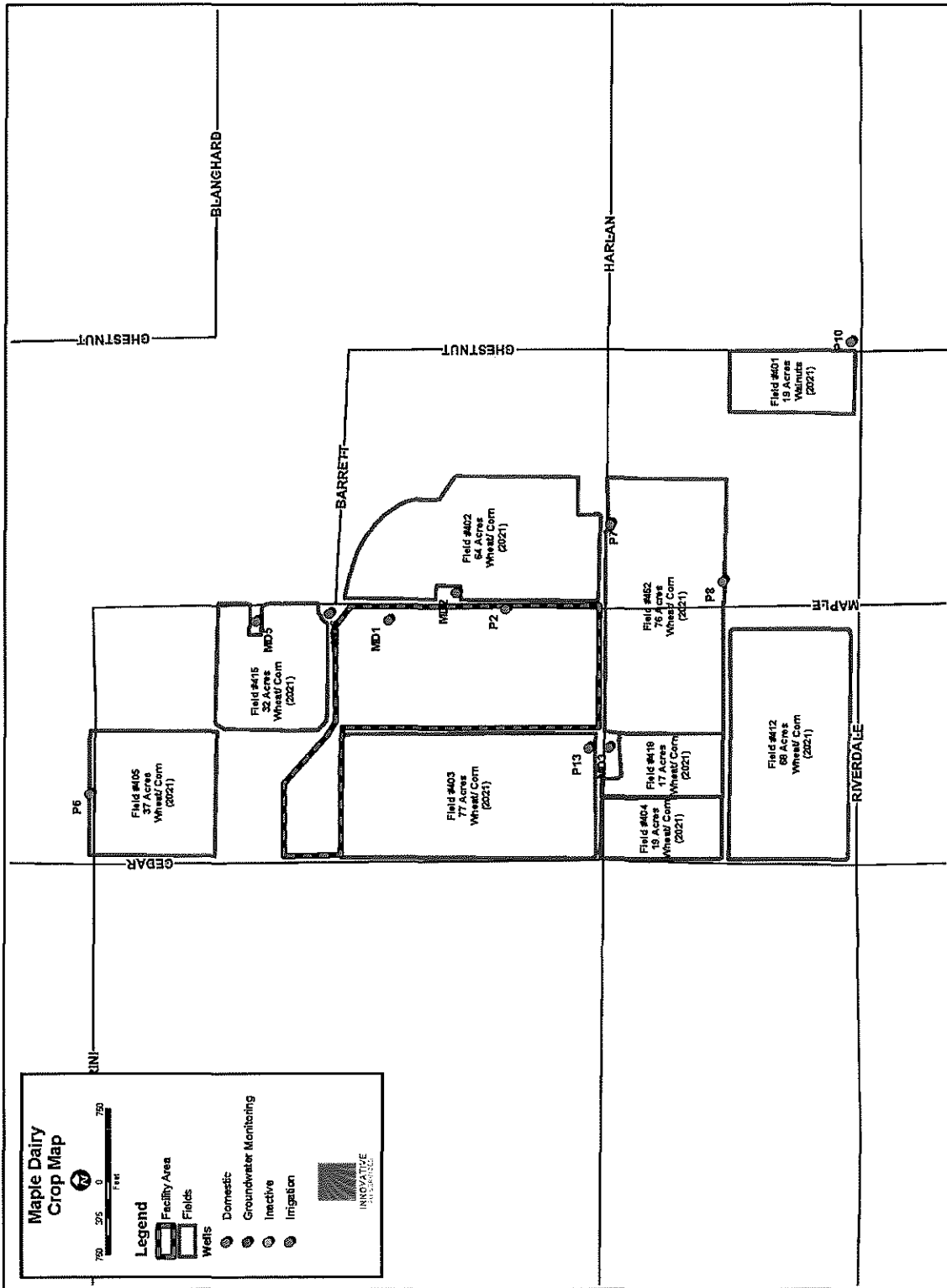
Legend

- Fields
- Contracted Field(s) / Acres
- Facility Area
- Wastewater Agreement
- Vulnerable Area
- APN Parcels
- Flow Meter
- Mixing Point
- Pumping Station
- Discharge Point
- Tailwater Point
- Tailwater Line
- Surface Water
- Transfer Canal
- Wastewater Transfer Canal
- Transfer Pipe
- Transfer Pipe with Discharge Points
- WW Transfer Pipe
- WW Transfer Pipe with Discharge Points
- Wells (Controlled)
- Domestic
- Groundwater Monitoring
- Inactive
- Irrigation
- Wells (Not Controlled)
- + Domestic
- + Irrigation
- ← Drainage Flow Direction



B. Crop Map

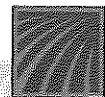
This map identifies each field's common name, total acreage, crops grown, and crop rotation.



C. Wastewater Agreements

Copies of written agreements with third parties that receive process wastewater for their own use from the discharger's dairy are attached, if applicable.

This facility does NOT transfer process wastewater to any third party sources.



D. Vicinity Map

Identify each field under the control of the discharger and within five miles of the dairy where neither process wastewater nor manure are applied. Each field shall be identified on a single published base map at an appropriate scale by the following: Assessors' Parcel Number, total acreage, and information regarding who owns or leases the field



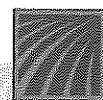
MAP KEY



- Dairy Facility & Land Application Area



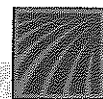
- Additional Land under the control of the Discharger, within five miles of the dairy, which does not receive process wastewater or manure.



II. SAMPLING AND ANALYSIS PLAN

A. Approved Sampling Procedures for Nutrients and Groundwater Monitoring

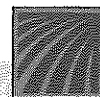
Soil, manure, process wastewater, irrigation water, and plant tissue shall be monitored, sampled, and analyzed as required in Monitoring and Reporting Program R5-2013-0122, and any future revisions thereto. The results of these analyses shall be used during the development and implementation of the NMP.



B. Process Wastewater

<p><i>Process Wastewater shall be sampled and analyzed as follows:</i></p>
<p><u>Each application:</u> Record the volume (gallons or acre-inches) and date of process wastewater application to each land application area.</p>
<p><u>Quarterly during one application event:</u> Field measurement of electrical conductivity.</p> <p>Laboratory analyses for nitrate-nitrogen (only when retention pond is aerated), un-ionized ammonia-nitrogen, total Kjeldahl nitrogen, total phosphorus, total potassium, and total dissolved solids.</p>
<p><u>Once every two years (biennially):</u> Laboratory analyses for general minerals (calcium, magnesium, sodium, bicarbonate, carbonate, sulfate, and chloride).</p>
<p><u>Annually</u> Laboratory analyses of liquid process wastewater, prior to blending with irrigation water, for pH, total dissolved solids, electrical conductivity, nitrate-nitrogen, ammonium-nitrogen, total Kjeldahl nitrogen, total phosphorus, and total potassium.</p>

- i. Process wastewater shall be collected as follows:
 - a. A representative sample must be collected during an application event. Containers that are reused shall be cleaned between sampling events.
 - b. The samples shall be collected at a point that is prior to any dilution or blending with irrigation water and shall be representative of the process wastewater applied to the land application area.
 - c. A minimum of 1 liter (or an amount as specified by the laboratory), must be collected in a clean container, kept cool, and be delivered to the laboratory within 24 hours.
- ii. Laboratory analysis of process wastewater shall be conducted by a laboratory that is either accredited for such analyses by the California Department of Health Services or that is participating in the manure analysis proficiency (MAP) program. These laboratory analyses shall be conducted in accordance with the Title 40 Code of Federal Regulations Part 136 (Guidelines Establishing Test Procedures for the Analysis of Pollutants), MAP program-approved methods or other test methods approved by the Executive Officer.
- iii. If a management change is made on the facility that affects processed wastewater, a sample shall be taken to test for a change in the processed wastewater. Examples: Freshwater is added to the lagoon, Herd size/type modifications, New or Modified Solid Separating System.



C. Solid Manure

<p><i>Solid Manure shall be sampled and analyzed as follows:</i></p>
<p><u>Once every two years (biennially):</u> Laboratory analyses for general minerals (calcium, magnesium, sodium, sulfur, chloride) and fixed solids (ash).</p>
<p><u>Twice per year:</u> Laboratory analyses for total nitrogen, total phosphorus, total potassium, and percent moisture.</p>
<p><u>Each application to each land application area:</u> Record the percent moisture and total weight (tons) applied.</p>
<p><u>Each offsite export of manure:</u> Record the percent moisture and total weight (tons) exported. Laboratory analyses for percent moisture.</p>
<p><u>Annually:</u> Record the total dry weight (tons) of manure applied annually to each land application area and the total dry weight (tons) of manure exported offsite.</p>

- i. Manure shall be collected as follows:
 - a. Equal-size samples of manure shall be collected from a minimum of three locations around the manure pile. These samples shall be collected from a depth of no less than one foot below the surface of the manure pile.
 - b. The three samples shall be combined and thoroughly mixed to make a single composite sample and delivered to a laboratory within 72 hours.
 - c. Sample containers that are reused shall be cleaned between sampling events.
- ii. Manure analyses shall be conducted by methods utilized by the Manure Analyses Proficiency (MAP) Testing Program or accepted by the University of California and laboratories participating in the MAP Testing Program or other programs whose tests are accepted by the University of California.
- iii. Samples shall be taken within 30 days of the application or export of the manure to ensure representation of the manure. Each type of solid manure shall be sampled twice a year if available for land application or export. Example: Solid Separator Manure, Mature Cow Corral Manure, Heifer Corral Manure, Calf Manure, Sludge, ...



D. Plant Tissue

Plant Tissue shall be sampled and analyzed as follows:

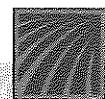
At harvest:

Record the percent moisture and total weight (tons) of harvested material removed from each land application area.

Laboratory analyses for total nitrogen, total phosphorus, total potassium (expressed on a dry weight basis), fixed solids (ash), and percent moisture.

The following test is only required if the Discharger wants to add fertilizer in excess of 1.4 times the nitrogen expected to be removed by the harvested portion of the crop (see Attachment C of Order No. R5-2013-0122 for details): Mid-season, laboratory analysis for total nitrogen, expressed on a dry weight basis if necessary to assess the need for additional nitrogen fertilizer during the growing season.

- i. Plant tissue shall be collected as follows:
 - a. Five to ten representative samples shall be combined and thoroughly mixed to make a single composite sample.
 - b. Samples shall be obtained from a minimum depth of one foot below the silage pile surface.
 - c. This single composite sample shall be placed into a minimum of one-quart size bag, kept cool, and be delivered to the laboratory within 72 hours.
 - d. At least 10 equal-size samples (for example, using a two or three-pound coffee can) of the harvested portion of the crop shall be collected from the storage area. These samples shall be combined and thoroughly mixed in a plastic bag, taking care not to allow drying.
 - e. Any mid-season plant tissue samples taken to evaluate the agronomic needs of the crop in-season shall be collected following University of California recommendations for the specific plant being tested.
- ii. Plant tissue analyses shall be conducted by: methods utilized by the North American Proficiency Testing (NAPT) Program or accepted by the University of California; and laboratories participating in the NAPT Program or other programs whose test are accepted by the University of California.
- iii. Samples must represent the land application management area. A land application management area is defined as a land application area that is managed as a single unit, in which all planting, nutrient applications, and harvest events occur as single events, and not over separate time periods. If nutrient applications, planting dates, or harvest dates are managed separately within a land application area, then the area must be sampled separately in accordance to the management differences.
- iv. Each type of plant tissue removed from the field must be sampled to represent each type of plant tissue remove that year. For example: For an 'Alfalfa' crop, each type of harvest must be sampled independently each year it is harvested, thus if Alfalfa Hay, Alfalfa Green Chop, Alfalfa Dry Chop, and/or Alfalfa/Oat Hay Blend is harvested – then each type must be sample to reflect the changes in nutrient extraction that they may present. Corn Grain and Corn Fodder or Wheat Grain and Wheat Straw will both need to be harvested if they are harvested independently to represent the differences they will create in nutrient extraction.



E. Soil

Soil shall be sampled and analyzed as follows:

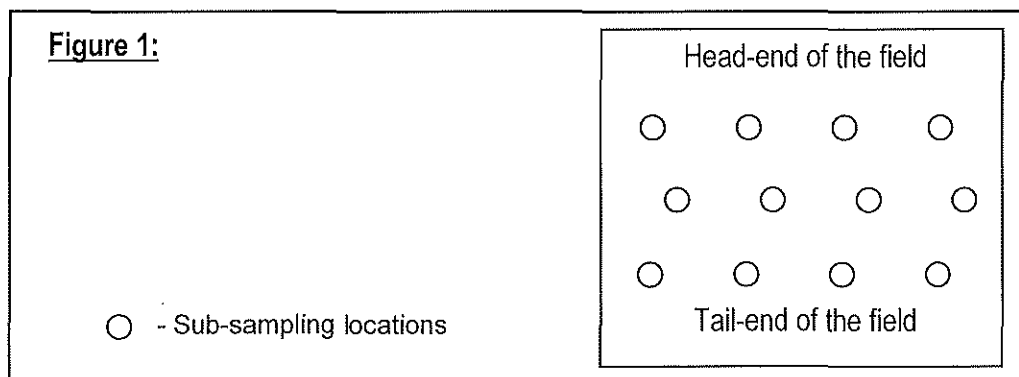
Once every 5 years from each land application area (may be distributed over a 5-year period by sampling 20% of the land application areas annually):
Laboratory analyses for soluble phosphorus

The following soil tests are recommended but not required:

Spring pre-plant for each crop:
Laboratory analyses for:
0 to 1 foot: Nitrate-nitrogen and organic matter.
1 to 2 feet: Nitrate-nitrogen

Fall pre-plant for each crop:
Laboratory analyses at depths below ground surface of:
0 to 1 foot: Electrical conductivity, nitrate-nitrogen, soluble phosphorus, potassium and organic matter.
1 to 2 feet: Nitrate-nitrogen

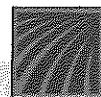
- i. Soil samples shall be collected as follows:
 - a. Dischargers with less than 400 acres shall collect a composite sample for every 40 acres of land application area. Dischargers with 400 or more acres shall collect a composite soil sample for every 80 acres.
 - b. In fields that are larger than the 40/80 acres soil sampling requirements, the field must be split perpendicular to the head-end of the field. This will still facilitate the proper collection of samples in relation to the head and tail ends of the field.
 - c. Each sample shall be composed of 12 sub-samples. Four from the head end of the field, four from the center of the field, and four from the tail end of the field (Figure 1).



- d. Soil samples shall be collected with soil probes or augers to a depth of 18" and composited as described below:
- ii. In fields where soil texture, crop yield, or other soil-related factors vary, at least 10 samples shall be collected from each different area and composites from each area shall be analyzed separately.
- iii. Sample locations in each land application area shall be recorded on a sketch for future sampling consistency.
- iv. Soil probes or augers shall be cleaned between sample depth intervals.
- v. Each composite sample shall be composited by doing the following:
 - a. Placing equal volumes of soil from each of 10 or more sample sites for each 40 or 80-acre composite area and for each sample depth, in a clean plastic bucket. Moist soils may be air dried until they can be mixed easily



- b. Thoroughly mixing the sample and placing at least one pint of the composite sample in a clean plastic container.
- vi. Soils shall be sampled and analyzed for:
 - a. Saturation Percentage (SP%), pH, Electrical Conductivity (EC), Calcium, Magnesium, Sodium, Potassium, Chloride, Exchangeable Sodium Percentage (ESP), Lime Presence, Boron, Nitrate-Nitrogen (NO₃-N), Phosphorus (PO₄-P), Soluble Potassium (K-AA), Zinc, Maganese, Iron, Copper and Sulfate (SO₄S).
- vii. Analyses of the soil shall be conducted by: methods utilized by the North American Proficiency Testing (NAPT) Program or accepted by the University of California; and laboratories participating in the NAPT Program or other programs whose test are accepted by the University of California. This shall include analysis for nitrate-nitrogen and ammonium-nitrogen utilizing the 2 M potassium chloride extract on soil.
- viii. Analyses of phosphorus in soil samples shall be performed using the method recommended by the University of California or the bicarbonate-P or Olsen-P test.
- ix. Soils shall be sampled from each land application area after the harvest of a crop and before nutrients are added for the next crop, and:
 - a. At least once every five (5) years.
 - b. Recommended annually when there is a change in the cropping pattern/rotations or field management techniques.
 - c. Fields/soils that have been in alfalfa production, or other legume crops, shall be sampled before the production of the next crop to determine any nitrogen fixing by the legume crop.



F. Irrigation Water

Irrigation Water¹ shall be sampled and analyzed as follows:

Each irrigation event for each land application area:

Record volume (gallons or acre-inches) ² and source (well or canal) of irrigation water applied and dates applied.

One irrigation event during each irrigation season during actual irrigation events:

For each irrigation water source (well and canal):

Electrical conductivity, total dissolved solids, and total nitrogen. ³

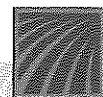
Data collected to satisfy the groundwater monitoring requirements (below) can be used to satisfy this requirement.

¹ The Discharger shall monitor irrigation water (from each water well source and canal) that is used on all land application areas.

² Initial volume measurements may be the total volume for all land application areas.

³ In lieu of sampling the irrigation water, the Discharger may provide equivalent data from the local irrigation district.

- i. Irrigation water shall be collected as follows:
 - a. Samples from irrigation wells shall be collected after the pump has run for a minimum of 30 minutes or after at least three well volumes have been purged from the well.
 - b. Irrigation districts may provide a water analysis of the surface water delivered that will meet the regulatory requirements. If not, then a representative sample must be collected.
 - c. Samples shall be submitted to a laboratory within 24 hours of sampling.
- ii. Laboratory analyses of irrigation water shall be conducted by a laboratory certified for such analyses by the California Department of Health Services. These laboratory analyses shall be conducted in accordance with the Title 40 Code of Federal Regulations Part 136 (Guidelines Established Test Procedures for the Analysis of Pollutants) or other test methods approved by the Executive Officer.



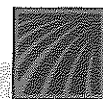
G. Site Specific Instructions

Waste water samples are to be taken from the lagoon near the pump intake.

Domestic wells – MD1, MD2, MD3, MD5, and MD6 are to be sampled from the faucet nearest the well head.

Irrigation wells – P2, P6, P7, P8, and P13 are to be sampled from the well discharge pipe prior to entering the stand pipe

Manure samples are taken randomly from the piles throughout the corrals.

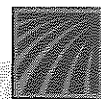


III. NUTRIENT BUDGET

In accordance to the Waste Discharge Requirements as indicated by the General Order, Attachment C, Section III, page C-4, the discharger shall develop a nutrient budget for each land application area. The nutrient budget shall establish planned rates of nutrient application for each crop based on soil test results, manure and process wastewater analyses, irrigation water analyses, crop nutrient requirements and patterns, seasonal and climatic conditions, the use and timing of irrigation water, and the nutrient application restrictions.

The attached Nutrient Budget prepared by Innovative Ag Services, LLC analyzes both the supply and demand of the nutrients for land applications. By utilizing the American Society of Agricultural Engineers excretion factors, an estimated supply of nutrients can be made to determine the nutrient supply from a discharge facility. The supply of nutrients from other sources (atmospheric deposition, irrigation water, residual soils, commercial fertilizer, etc.) can also be estimated using historical records and the best available data. The demands for these nutrients are made using a field-by-field analysis.

The following section contains guidelines for the discharger and the Certified Nutrient Management Plan Specialist regarding general nutrient production and balance analysis, field-by-field nutrient budgeting, general salt production and loading analysis, as well as creating a nutrient budget summary and storage period summary.



A. General Nutrient Production and Balance Analysis (Attachment B)

i. Summary

In compliance with the General Order, the attached General Nutrient Production and Budget Analysis provides an overview of the expected supply of nutrients available from a discharge facility anticipated for land application use or export from the facility. This analysis focuses on the nitrogen, phosphorus and potassium nutrients found and analyzed in the dairy waste through a sampling and analysis program. The General Nutrient Production and Balance Analysis is a guide to assist the discharger and Certified Nutrient Management Specialist to administer the nutrients expected from a facility.

ii. Nutrient Measurement Method, Application, and Export:

- a. The General Nutrient Production and Balance Analysis examines the amount of nitrogen, phosphorus and potassium expected to be generated by dairy waste at the discharger's facility are made using excretion factors based on standards established by the American Society of Agricultural Engineers. This analysis uses a 40 percent atmospheric loss of nitrogen on the production facility and breaks down the capture rate of the nitrogen in either the liquid or solid form. The capture rates of nitrogen are dependent upon the dairy facility's housing system and management practices. The American Society of Agricultural Engineers provides standards used to estimate capture rates between different housing systems (liquid form: 71% under a freestall system, 29% under a flush-lane, and 11% under an open-lot). This analysis allows the capture rate to be customized when site-specific data is available by a civil engineer.
- b. This analysis estimates the pounds of nitrogen, phosphorus and potassium available for land application or export to another user.
- c. Land application of nutrients under the control of the discharger needs to be applied in accordance with the General Order and this Nutrient Management Plan. Exports of dairy waste must be tested and recorded with a "Manure Manifest" documentation provided by the Regional Water Quality Control Board. An approved wastewater agreement is required prior to the export of processing wastewater from the dairy facility.

iii. Results

- a. From the available nutrients for land application, this analysis provides a guideline to estimate the number of acres required to agronomically utilize the nutrients generated at this confined animal feeding operation. This estimate is based on a double cropping system of average yield that would extract 400 pounds of nitrogen per acre, 60 pounds of Phosphorus, and 500 pounds of Potassium per acre.
- b. The nitrogen analysis utilizes agronomic and regulatory standards of a 1.4 nitrogen ratio of applied nitrogen over extracted nitrogen.
- c. The attached General Nutrient Production and Budget Analysis estimates the number of acres needed to agronomically manage the nutrients found in dairy waste. There are many variables that may affect the specific nutrient balance and management on this facility and this analysis is to only serve as a guideline until further data can be collected and analyzed by a Certified Nutrient Management Plan Specialist.



Nutrient Budget

Maple Dairy (Zonneveld) 2021

General Nutrient Production and Balance Analysis

			Nitrogen			
			Liquid		Solid	
Animal	Head	Housing Type	Net Available for Application*	Acres Required **	Net Available for Application*	Acres Required **
Hol Milk Cows	2,400	Freestall 50	260,172.00	464.6	260,172.00	464.6
Hol Milk Cows	600	Scraped Drylot	14,309.46	25.6	115,776.54	206.7
Hol Dry Cows	500	Scraped Drylot	6,022.50	10.8	48,727.50	87.0
Hol Heifers(15-	1,500	Scraped Drylot	13,731.30	24.5	111,098.70	198.4
Hol Heifers (7-14)	200	Scraped Drylot	1,252.68	2.2	10,135.32	18.1
Hol Calves (4-6)	1,450	Scraped Drylot	4,890.27	8.7	39,566.73	70.7
6,650			300,378.21	536.4	585,476.79	1,045.5

Total Liquids & Solids		
Capture	Available	Required
1,476,425.00	885,855.00	1,581.9

* Atmospheric Loss of 40% nitrogen used to calculate Net Available for Application

** Nitrogen Extraction Levels: 400lbs/acre (To meet a 1.4 ratio)

Excretion factors from ASAE D.384.2 March 2005, Table 1b, Page 2. Potassium excretion values for heifers and calves are not available in this study and were extrapolated based upon weight.

Maple Dairy (Zonneveld) 2021 General Nutrient Production and Balance Analysis

Animal	Head	Housing Type	Phosphorus		Potassium	
			Net Available for Application	Acres Required	Net Available for Application	Acres Required
				Extraction		Extraction
Hol Milk Cows	2,400	Freestall 50	148,920.00	2,482.0	201,480.00	403.0
Hol Milk Cows	600	Scraped Drylot	37,230.00	620.5	50,370.00	100.7
Hol Dry Cows	500	Scraped Drylot	12,775.00	212.9	60,225.00	120.4
Hol Heifers(15-24)	1,500	Scraped Drylot	32,850.00	547.5	98,550.00	197.1
Hol Heifers (7-14)	200	Scraped Drylot	3,212.00	53.5	10,950.00	21.9
Hol Calves (4-6)	1,450	Scraped Drylot	21,170.00	352.8	42,340.00	84.7
	6,650		256,157.00	4,269.3	463,915.00	927.8

Phosphorus Extraction Levels: 60lbs/acre (To meet a 1.0 ratio)

Potassium(K) Extraction Levels: 500lbs/acre (To meet a 1.0 ratio)

No atmospheric losses computed and capture rates between liquid and solid forms are unknown

Excretion factors from ASAE D.384.2 March 2005, Table 1b, Page 2. Potassium excretion values for heifers and calves are not available in this study and were extrapolated based upon weight.

B. General Salt Production and Loading Analysis (Attachment C)

i. Guidelines

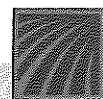
- a. The attached General Salt Production and Loading Analysis estimates the amount of salts generated and estimates the amount of land application area needed to agronomically manage those salts.
- b. Salt production is quantified using the American Society of Agricultural Engineers standards for salt excretion for each classification of animal that is housed at this facility.
- c. This analysis uses the same capture rates as nitrogen to determine the amount of salts in both the liquid and the solid forms.
- d. The total amount of salts is calculated and presented in this report.

ii. Results

- a. This analysis uses a maximum loading rate of salt at 2,000 pounds per acre on a single crop and 3,000 pounds per acre on a double crop.
- b. This analysis shows the number of acres that may be needed to mitigate salts at these maximum loading rates. The Certified Nutrient Management Specialist and the discharger can use this analysis as a guideline for the acres that may be required.
- c. These results do not display the required acres to comply with law, rather the acres needed for common agronomic and environmental practices.

iii. Salt Production and Loading Mitigation

- a. This CAFO facility has prepared and submitted a Salinity Report in compliance with the RWQCB to minimize salt in the dairy waste and certifies that they will implement the approved measure identified to minimize salts in dairy waste.
- b. This Nutrient Management Plan requires the regular testing of the soil for salt content, with a specific analysis for Sodium and other key salts to qualify the salt management on the land application area of this facility.



Maple Dairy (Zonneveld) 2021 General Salt Production and Loading Analysis

Estimated Crop Acre Requirements

Animal	Head	Housing Type	Liquid Salts	Solid Salts	Total Salts
			lbs / year	lbs / year	lbs / year
Hol Milk Cows	2,400	Freestall 50	565,020	565,020	1,130,040
Hol Milk Cows	600	Scraped Drylot	31,076	251,434	282,510
Hol Dry Cows	500	Scraped Drylot	12,647	102,328	114,975
Hol Heifers(15-24)	1,500	Scraped Drylot	37,942	306,983	344,925
Hol Heifers (7-14)	200	Scraped Drylot	5,059	40,931	45,990
Hol Calves (4-6)	1,450	Scraped Drylot	18,339	148,375	166,714
6,650			670,083	1,415,071	2,085,154
Single Crop Acres Required			335	708	1,043
Double Crop Acres Required			223	472	695

*Salt excretion values for milk cows and dry cows were derived from:
Committee of Experts on Dairy Manure Management, 2005 and ASABE 384.2, 2005, Chapter 7 pages 54 and 65
(Excretion values for heifers and calves are not addressed in this study. Excretion values for these animals were
extrapolated based upon animal weight.)*

Acre requirements based on 2,000 lbs of salt per single crop and 3,000 lbs of salt per double crop

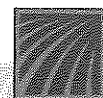
C. Waste Application Summary (Attachment D)

i. Nutrient Budget Summary

- a. The Nutrient Budget Summary provides the estimated supply of nutrient from the facility, the recommended application of nutrients to each field, the expected demand from each field, and the nutrient ratio for nitrogen, phosphorus and potassium for each field.
- b. This summary also reviews the whole farm nutrient balance by totaling the applied recommended application and the expected demand of nutrients. This analysis provides a helpful evaluation by holistically reviewing each discharge facility.
- c. This summary evaluates the nitrogen, phosphorus and potassium nutrient with the different forms of discharge waste (liquid and solid) and estimates the amount of wastewater and solid manure to be exported annually.
- d. The attached Nutrient Budget Summary demonstrates if the recommend applications meet the demand of the crops with the expected supply from the facility.

ii. Storage Period

- a. The storage period is defined as the maximum period of time anticipated between land application events based on proper timing and compliance with the technical standards for a Nutrient Management Plan. The historic and anticipated use of wastewater during the fall and winter months has been evaluated on this facility. This Nutrient Management Plan proposes the application of wastewater during the 120-day period of December through March. The storage period for this facility with the land application available shall be 120 days, unless otherwise noted.



Maple Dairy (Zonneveld) 2021 Waste Application Summary

Field	Acres	N Applied - Liquid Waste	N Applied - Solid Waste	Total N Applied	N Removed	N Ratio	P Applied	P Removed	P Ratio	K Applied	K Removed	K Ratio
402	64	51,943.04	0.00	57,336.96	40,876.80	1.40	7,747.20	8,120.32	0.95	74,353.28	46,038.40	1.62
403	78	58,761.78	0.00	65,932.02	47,119.38	1.40	8,573.18	8,536.22	1.00	84,140.21	51,564.59	1.63
404	19	13,468.91	0.00	15,215.77	10,851.85	1.40	1,855.35	2,289.12	0.81	19,301.53	14,319.92	1.35
405	55	44,318.45	0.00	49,536.85	35,299.00	1.40	6,817.80	6,153.40	1.11	63,408.95	37,925.80	1.67
412	68	45,957.80	0.00	52,129.48	37,208.24	1.40	7,027.80	7,395.00	0.95	65,761.44	50,351.96	1.31
415	34	21,938.50	0.00	25,124.64	17,920.72	1.40	3,255.84	3,829.76	0.85	31,406.48	23,620.14	1.33
418	17	12,089.72	0.00	13,592.52	9,709.72	1.40	1,610.24	2,208.30	0.73	17,332.69	14,190.58	1.22
452	76	53,039.64	0.00	59,624.28	42,455.88	1.40	6,955.52	7,170.60	0.97	76,059.28	46,329.60	1.64
Totals:	411	301,517.84	0.00	338,492.52	241,441.59	1.40	43,842.93	45,702.72	0.96	431,763.86	284,340.99	1.52
Total Available For Application:		300,378.21	585,476.79	885,855.00			256,157.00			463,915.00		
Excess (Deficient) Available:		(1,139.63)	585,476.79	547,362.48			212,314.07			32,151.14		

Gallons of Processed Wastewater to be Exported Annually: 0
Tons of Corral Solids to be Exported Annually: 22,013
Whole Farm Balance: 1.40
Whole Farm Balance without Recommended Exports: 3.67

D. Field-by-Field Nutrient Budget (Attachment E)

i. Data Sources

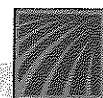
The Field-by-Field Nutrient Budget analysis focuses on each land application area and defines the crop(s) planned for production as required by the General Order. Each field budget is based off the best available data including, but not limited to: harvest lab data, yield records, land application records, manure laboratory data, process wastewater laboratory data, irrigation water laboratory data, expected atmospheric deposition, and soil laboratory data.

ii. Nutrient Application Rate

The nutrient application rates for each application must follow the technical standards established by the General Order for Existing Milk Cow Dairies, R5-2013-0122 (Attachment C – Technical Standards for Nutrient Management V.B.). The quantity of each nutrient source to be utilized for land application and crop production is defined to meet crops demand for the nutrients while complying with the General Order.

iii. Nutrient Application Timing and Methodology

- a. The timing of applications within the field's budget are dependent on field conditions and are to be made using the Technical Standards established within the General Order for Existing Milk Cow Dairies, R5-2013-0122 (Attachment C – Technical Standards for Nutrient Management, Section V. C.).
- b. Each application of nutrients shall be applied uniformly to application areas or as prescribed by precision agricultural techniques. Unless otherwise noted, the method for solid manure applications are to be made with a spreader truck and process wastewater applications are to be made by the mixing with a flood irrigation event.



Maple Dairy (Zonneveld) 2021 Nutrient Applications

Field Name: 402

Acres: 64

Field Summary (in lbs/acre)					
	Nitrogen		Nitrogen	Phosphorus	Potassium
Process Wastewater Applied	811.61	Total Nutrients Applied	895.89	121.05	1,161.77
Solid Manure Applied		Total Nutrients Harvested	(638.70)	(126.88)	(719.35)
		Nutrient Ratio	1.40	0.95	1.62

Crop 1: Wheat (South Valley) **Variety:** Wheat (South Valley) - General **Plant Date:** November 2020 **Acres Planted:** 64

Date	Application	Quantity		N Value	Units	Nitrogen from Process Wastewater	Nitrogen from Solid Manure	Nitrogen (lbs per acre)	Phosphorus (lbs per acre)	Potassium (lbs per acre)
		(per Acre)	Units							
10/20/2020	Ground Water	4.00	Acre Inches	7.83	mg/L			7.08	0.00	0.00
10/20/2020	Waste Water	1.20	Acre Inches	563.16	mg/L	152.86		152.86	24.24	218.60
03/05/2021	Waste Water	1.50	Acre Inches	563.14	mg/L	191.07		191.07	30.30	273.25
03/05/2021	Ground Water	4.00	Acre Inches	9.12	mg/L			8.25	0.00	0.00
04/01/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
04/01/2021	Waste Water	1.50	Acre Inches	563.14	mg/L	191.07		191.07	30.30	273.25
04/15/2021	Harvest	23.50	Tons	0.85	%			(398.22)	(70.27)	(368.10)

535.00	160.95	14.57	397.00
Total Nutrients Applied	559.17	84.84	765.10
Total Nutrients Harvested	(398.22)	(70.27)	(368.10)
Nutrient Ratio	1.40	1.21	2.08

Maple Dairy (Zonneveld) 2021 Nutrient Applications

Field Name: 402

Acres: 64

Crop 2: Corn (Silage) **Variety:** Corn (Silage) - General **Plant Date:** June 2021 **Acres Planted:** 64

Date	Application	Quantity (per Acre)	Units	N Value	Units	Nitrogen from Process Wastewater	Nitrogen from Solid Manure	Nitrogen (lbs per acre)	Phosphorus (lbs per acre)	Potassium (lbs per acre)
05/20/2021	Ground Water	4.00	Acre Inches	9.12	mg/L			8.25	0.00	0.00
05/20/2021	Waste Water	0.70	Acre Inches	608.01	mg/L	96.27		96.27	11.44	138.22
06/15/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
07/01/2021	Ground Water	4.00	Acre Inches	9.12	mg/L			8.25	0.00	0.00
07/01/2021	Waste Water	0.70	Acre Inches	608.01	mg/L	96.27		96.27	11.44	138.22
07/15/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
08/01/2021	Waste Water	0.66	Acre Inches	563.14	mg/L	84.07		84.07	13.33	120.23
08/01/2021	Ground Water	4.00	Acre Inches	9.12	mg/L			8.25	0.00	0.00
08/15/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
09/01/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
09/25/2021	Harvest	32.60	Tons	0.37	%			(240.48)	(56.61)	(351.25)

276.61 96.24 (20.40) 45.42

Total Nutrients Applied	336.72	36.21	396.67
Total Nutrients Harvested	(240.48)	(56.61)	(351.25)
Nutrient Ratio	1.40	0.64	1.13

Maple Dairy (Zonneveld) 2021 Nutrient Applications

Field Name: 403

Acres: 78

Field Summary (in lbs/acre)					
	Nitrogen		Nitrogen	Phosphorus	Potassium
Process Wastewater Applied	763.14	Total Nutrients Applied	856.26	111.34	1,092.73
Solid Manure Applied		Total Nutrients Harvested	(611.94)	(110.86)	(669.67)
		Nutrient Ratio	1.40	1.00	1.63

Crop 1: Wheat (South Valley) **Variety:** Wheat (South Valley) - General **Plant Date:** November 2020 **Acres Planted:** 77

Date	Application	Quantity		N Value	Units	Nitrogen from Process Wastewater	Nitrogen from Solid Manure	Nitrogen (lbs per acre)	Phosphorus (lbs per acre)	Potassium (lbs per acre)
		(per Acre)	Units							
10/20/2020	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
10/20/2020	Waste Water	1.10	Acre Inches	608.00	mg/L	151.28		151.28	17.97	217.20
02/05/2021	Ground Water	3.00	Acre Inches	7.83	mg/L			5.31	0.00	0.00
02/05/2021	Waste Water	1.20	Acre Inches	563.16	mg/L	152.86		152.86	24.24	218.60
03/05/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
04/05/2021	Ground Water	4.00	Acre Inches	9.12	mg/L			8.25	0.00	0.00
04/05/2021	Waste Water	1.10	Acre Inches	563.15	mg/L	140.12		140.12	22.22	200.38
04/15/2021	Harvest	22.90	Tons	0.74	%			(339.85)	(58.37)	(330.24)
						444.26		135.65	6.06	305.94
						Total Nutrients Applied		475.50	64.43	636.18
						Total Nutrients Harvested		(339.85)	(58.37)	(330.24)
						Nutrient Ratio		1.40	1.10	1.93

Maple Dairy (Zonneveld) 2021 Nutrient Applications

Field Name: 403

Acres: 78

Crop 2: Corn (Silage) **Variety:** Corn (Silage) - General **Plant Date:** June 2021 **Acres Planted:** 77

Date	Application	Quantity (per Acre)	Units	N Value	Units	Nitrogen from Process Wastewater	Nitrogen from Solid Manure	Nitrogen (lbs per acre)	Phosphorus (lbs per acre)	Potassium (lbs per acre)
05/20/2021	Waste Water	0.67	Acre Inches	607.98	mg/L	92.14		92.14	10.95	132.29
05/20/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
06/15/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
07/01/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
07/01/2021	Waste Water	1.00	Acre Inches	563.14	mg/L	127.38		127.38	20.20	182.17
07/15/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
08/01/2021	Waste Water	0.78	Acre Inches	563.16	mg/L	99.36		99.36	15.76	142.09
08/01/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
08/15/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
09/01/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
09/20/2021	Harvest	33.20	Tons	0.41	%			(272.09)	(52.49)	(339.43)

	318.88	108.67	(5.58)	117.12
Total Nutrients Applied	380.76	46.91	456.55	
Total Nutrients Harvested	(272.09)	(52.49)	(339.43)	
Nutrient Ratio	1.40	0.89	1.35	

Maple Dairy (Zonneveld) 2021 Nutrient Applications

Field Name: 404

Acres: 19

Field Summary (in lbs/acre)					
	Nitrogen		Nitrogen	Phosphorus	Potassium
Process Wastewater Applied	708.89	Total Nutrients Applied	800.83	97.65	1,015.87
Solid Manure Applied		Total Nutrients Harvested	(571.15)	(120.48)	(753.68)
		Nutrient Ratio	1.40	0.81	1.35

Crop 1: Wheat (South Valley) **Variety:** Wheat (South Valley) - General **Plant Date:** November 2020 **Acres Planted:** 19

Date	Application	Quantity		N Value	Units	Nitrogen from Process Wastewater	Nitrogen from Solid Manure	Nitrogen (lbs per acre)	Phosphorus (lbs per acre)	Potassium (lbs per acre)
		(per Acre)	Units							
10/20/2020	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
10/20/2020	Waste Water	1.00	Acre Inches	608.01	mg/L	137.53		137.53	16.34	197.45
03/05/2021	Ground Water	6.00	Acre Inches	7.82	mg/L			10.61	0.00	0.00
03/05/2021	Waste Water	1.00	Acre Inches	608.01	mg/L	137.53		137.53	16.34	197.45
04/01/2021	Waste Water	1.05	Acre Inches	563.15	mg/L	133.75		133.75	21.21	191.28
04/01/2021	Ground Water	6.00	Acre Inches	7.82	mg/L			10.61	0.00	0.00
04/15/2021	Harvest	22.90	Tons	0.68	%			(312.78)	(62.56)	(445.42)
						408.81		126.09	(8.67)	140.76
						Total Nutrients Applied		438.87	53.89	586.18
						Total Nutrients Harvested		(312.78)	(62.56)	(445.42)
						Nutrient Ratio		1.40	0.86	1.32

Maple Dairy (Zonneveld) 2021 Nutrient Applications

Field Name: 404

Acres: 19

Crop 2: Corn (Silage)	Variety: Corn (Silage) - General	Plant Date: June 2021	Acres Planted: 19
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Date	Application	Quantity (per Acre)	Units	N Value	Units	Nitrogen from Process Wastewater	Nitrogen from Solid Manure	Nitrogen (lbs per acre)	Phosphorus (lbs per acre)	Potassium (lbs per acre)
05/20/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
05/20/2021	Waste Water	0.70	Acre Inches	608.01	mg/L	96.27		96.27	11.44	138.22
06/15/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
07/01/2021	Waste Water	1.00	Acre Inches	563.14	mg/L	127.38		127.38	20.20	182.17
07/01/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
07/15/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
08/01/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
08/01/2021	Waste Water	0.60	Acre Inches	563.16	mg/L	76.43		76.43	12.12	109.30
08/15/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
09/01/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
09/25/2021	Harvest	33.50	Tons	0.39	%			(258.37)	(57.92)	(308.26)

	300.08	103.59	(14.16)	121.43
Total Nutrients Applied	361.96	43.76	429.69	
Total Nutrients Harvested	(258.37)	(57.92)	(308.26)	
Nutrient Ratio	1.40	0.76	1.39	

Maple Dairy (Zonneveld) 2021 Nutrient Applications

Field Name: 405

Acres: 55

Field Summary (in lbs/acre)					
	Nitrogen		Nitrogen	Phosphorus	Potassium
Process Wastewater Applied	805.79	Total Nutrients Applied	900.67	123.96	1,152.89
Solid Manure Applied		Total Nutrients Harvested	(641.80)	(111.88)	(689.56)
		Nutrient Ratio	1.40	1.11	1.67

Crop 1: Wheat (South Valley) **Variety:** Wheat (South Valley) – General **Plant Date:** November 2020 **Acres Planted:** 55

Date	Application	Quantity		N Value	Units	Nitrogen from Process Wastewater	Nitrogen from Solid Manure	Nitrogen (lbs per acre)	Phosphorus (lbs per acre)	Potassium (lbs per acre)
		(per Acre)	Units							
10/20/2020	Ground Water	4.00	Acre Inches	9.12	mg/L			8.25	0.00	0.00
10/20/2020	Waste Water	0.68	Acre Inches	563.15	mg/L	86.62		86.62	13.74	123.87
11/20/2020	Waste Water	0.60	Acre Inches	563.16	mg/L	76.43		76.43	12.12	109.30
11/20/2020	Ground Water	4.00	Acre Inches	9.12	mg/L			8.25	0.00	0.00
03/05/2021	Waste Water	1.25	Acre Inches	563.16	mg/L	159.23		159.23	25.25	227.71
03/05/2021	Ground Water	4.00	Acre Inches	9.12	mg/L			8.25	0.00	0.00
04/01/2021	Waste Water	1.20	Acre Inches	563.16	mg/L	152.86		152.86	24.24	218.60
04/01/2021	Ground Water	4.00	Acre Inches	9.12	mg/L			8.25	0.00	0.00
04/15/2021	Harvest	23.00	Tons	0.79	%			(361.70)	(60.04)	(383.67)

475.14	146.44	15.31	295.81
Total Nutrients Applied	508.14	75.35	679.48
Total Nutrients Harvested	(361.70)	(60.04)	(383.67)
Nutrient Ratio	1.40	1.25	1.77

Maple Dairy (Zonneveld) 2021 Nutrient Applications

Field Name: 405

Acres: 55

Crop 2: Corn (Silage)	Variety: Corn (Silage) - General	Plant Date: June 2021	Acres Planted: 55
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Date	Application	Quantity (per Acre)	Units	N Value	Units	Nitrogen from Process Wastewater	Nitrogen from Solid Manure	Nitrogen (lbs per acre)	Phosphorus (lbs per acre)	Potassium (lbs per acre)
05/20/2021	Waste Water	0.70	Acre Inches	608.01	mg/L	96.27		96.27	11.44	138.22
05/20/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
06/15/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
07/01/2021	Waste Water	1.00	Acre Inches	563.14	mg/L	127.38		127.38	20.20	182.17
07/01/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
07/15/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
08/01/2021	Waste Water	0.84	Acre Inches	563.15	mg/L	107.00		107.00	16.97	153.02
08/01/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
08/15/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
09/01/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
09/20/2021	Harvest	33.00	Tons	0.42	%			(280.10)	(51.84)	(305.89)

	330.65	112.43	(3.23)	167.52
Total Nutrients Applied	392.53	48.61	473.41	
Total Nutrients Harvested	(280.10)	(51.84)	(305.89)	
Nutrient Ratio	1.40	0.94	1.55	

Maple Dairy (Zonneveld) 2021 Nutrient Applications

Field Name: 412

Acres: 68

Field Summary (in lbs/acre)					
	Nitrogen		Nitrogen	Phosphorus	Potassium
Process Wastewater Applied	675.85	Total Nutrients Applied	766.61	103.35	967.08
Solid Manure Applied		Total Nutrients Harvested	(547.18)	(108.75)	(740.47)
		Nutrient Ratio	1.40	0.95	1.31

Crop 1: Wheat (South Valley) **Variety:** Wheat (South Valley) - General **Plant Date:** November 2020 **Acres Planted:** 68

Date	Application	Quantity		N Value	Units	Nitrogen from Process Wastewater	Nitrogen from Solid Manure	Nitrogen (lbs per acre)	Phosphorus (lbs per acre)	Potassium (lbs per acre)
		(per Acre)	Units							
10/20/2020	Waste Water	0.70	Acre Inches	608.01	mg/L			96.27	11.44	138.22
10/20/2020	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
03/05/2021	Ground Water	6.00	Acre Inches	7.82	mg/L			10.61	0.00	0.00
03/05/2021	Waste Water	1.25	Acre Inches	563.16	mg/L		159.23	159.23	25.25	227.71
04/01/2021	Waste Water	0.85	Acre Inches	563.13	mg/L		108.27	108.27	17.17	154.84
04/01/2021	Ground Water	6.00	Acre Inches	7.82	mg/L			10.61	0.00	0.00
04/15/2021	Harvest	23.00	Tons	0.61	%			(280.65)	(56.36)	(386.83)
						363.77		113.18	(2.50)	133.94
Total Nutrients Applied								393.83	53.86	520.77
Total Nutrients Harvested								(280.65)	(56.36)	(386.83)
Nutrient Ratio								1.40	0.96	1.35

Maple Dairy (Zonneveld) 2021 Nutrient Applications

Field Name: 412

Acres: 68

Crop 2: Corn (Silage)	Variety: Corn (Silage) - General	Plant Date: June 2021	Acres Planted: 68
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Date	Application	Quantity (per Acre)	Units	N Value	Units	Nitrogen from Process Wastewater	Nitrogen from Solid Manure	Nitrogen (lbs per acre)	Phosphorus (lbs per acre)	Potassium (lbs per acre)
05/20/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
05/20/2021	Waste Water	0.80	Acre Inches	563.12	mg/L	101.90		101.90	16.16	145.73
06/15/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
07/01/2021	Waste Water	1.00	Acre Inches	563.14	mg/L	127.38		127.38	20.20	182.17
07/01/2021	Ground Water	4.00	Acre Inches	9.12	mg/L			8.25	0.00	0.00
07/15/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
08/01/2021	Ground Water	4.00	Acre Inches	9.12	mg/L			8.25	0.00	0.00
08/01/2021	Waste Water	0.65	Acre Inches	563.16	mg/L	82.80		82.80	13.13	118.41
08/15/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
09/01/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
09/25/2021	Harvest	33.20	Tons	0.40	%			(266.53)	(52.39)	(353.64)

	312.08	106.25	(2.90)	92.67
Total Nutrients Applied	372.78	49.49	446.31	
Total Nutrients Harvested	(266.53)	(52.39)	(353.64)	
Nutrient Ratio	1.40	0.94	1.26	

Maple Dairy (Zonneveld) 2021 Nutrient Applications

Field Name: 415

Acres: 34

Field Summary (in lbs/acre)					
	Nitrogen		Nitrogen	Phosphorus	Potassium
Process Wastewater Applied	645.25	Total Nutrients Applied	738.96	95.76	923.72
Solid Manure Applied		Total Nutrients Harvested	(527.08)	(112.64)	(694.71)
		Nutrient Ratio	1.40	0.85	1.33

Crop 1: Wheat (South Valley) **Variety:** Wheat (South Valley) - General **Plant Date:** November 2020 **Acres Planted:** 34

Date	Application	Quantity		N Value	Units	Nitrogen from Process Wastewater	Nitrogen from Solid Manure	Nitrogen (lbs per acre)	Phosphorus (lbs per acre)	Potassium (lbs per acre)
		(per Acre)	Units							
10/20/2020	Waste Water	0.90	Acre Inches	563.13	mg/L	114.64		114.64	18.18	163.95
10/20/2020	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
03/05/2021	Ground Water	6.00	Acre Inches	7.82	mg/L			10.61	0.00	0.00
03/05/2021	Waste Water	0.97	Acre Inches	563.15	mg/L	123.56		123.56	19.59	176.70
04/01/2021	Ground Water	6.00	Acre Inches	7.82	mg/L			10.61	0.00	0.00
04/01/2021	Waste Water	0.90	Acre Inches	563.13	mg/L	114.64		114.64	18.18	163.95
04/15/2021	Harvest	24.50	Tons	0.56	%			(273.60)	(52.65)	(349.03)

352.84	109.30	3.30	155.57
Total Nutrients Applied	382.90	55.95	504.60
Total Nutrients Harvested	(273.60)	(52.65)	(349.03)
Nutrient Ratio	1.40	1.06	1.45

Maple Dairy (Zonneveld) 2021 Nutrient Applications

Field Name: 415

Acres: 34

Crop 2: Corn (Silage) **Variety:** Corn (Silage) - General **Plant Date:** June 2021 **Acres Planted:** 34

Date	Application	Quantity (per Acre)	Units	N Value	Units	Nitrogen from Process Wastewater	Nitrogen from Solid Manure	Nitrogen (lbs per acre)	Phosphorus (lbs per acre)	Potassium (lbs per acre)
05/20/2021	Ground Water	6.00	Acre Inches	7.82	mg/L			10.61	0.00	0.00
05/20/2021	Waste Water	0.70	Acre Inches	608.01	mg/L	96.27		96.27	11.44	138.22
06/15/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
07/01/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
07/01/2021	Waste Water	1.00	Acre Inches	563.14	mg/L	127.38		127.38	20.20	182.17
07/15/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
08/01/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
08/01/2021	Waste Water	0.50	Acre Inches	607.97	mg/L	68.76		68.76	8.17	98.73
08/15/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
09/01/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
09/25/2021	Harvest	34.20	Tons	0.37	%			(253.48)	(59.99)	(345.68)

	292.41	102.58	(20.18)	73.44
Total Nutrients Applied	356.06	39.81	419.12	
Total Nutrients Harvested	(253.48)	(59.99)	(345.68)	
Nutrient Ratio	1.40	0.66	1.21	

Maple Dairy (Zonneveld) 2021 Nutrient Applications

Field Name: 418

Acres: 17

Field Summary (in lbs/acre)					
	Nitrogen		Nitrogen	Phosphorus	Potassium
Process Wastewater Applied	711.16	Total Nutrients Applied	799.56	94.72	1,019.57
Solid Manure Applied		Total Nutrients Harvested	(571.16)	(129.90)	(834.74)
		Nutrient Ratio	1.40	0.73	1.22

Crop 1: Wheat (South Valley) **Variety:** Wheat (South Valley) - General **Plant Date:** November 2020 **Acres Planted:** 17

Date	Application	Quantity		N Value	Units	Nitrogen from Process Wastewater	Nitrogen from Solid Manure	Nitrogen (lbs per acre)	Phosphorus (lbs per acre)	Potassium (lbs per acre)
		(per Acre)	Units							
10/20/2020	Waste Water	1.00	Acre Inches	608.01	mg/L	137.53		137.53	16.34	197.45
10/20/2020	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
03/05/2021	Waste Water	1.12	Acre Inches	563.16	mg/L	142.67		142.67	22.62	204.03
03/05/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
04/01/2021	Waste Water	1.00	Acre Inches	608.01	mg/L	137.53		137.53	16.34	197.45
04/01/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
04/15/2021	Harvest	23.40	Tons	0.68	%			(317.93)	(66.47)	(481.53)

417.73	126.32	(11.17)	117.40
Total Nutrients Applied	444.25	55.30	598.93
Total Nutrients Harvested	(317.93)	(66.47)	(481.53)
Nutrient Ratio	1.40	0.83	1.24

Maple Dairy (Zonneveld) 2021 Nutrient Applications

Field Name: 418

Acres: 17

Crop 2: Corn (Silage)	Variety: Corn (Silage) - General	Plant Date: June 2021	Acres Planted: 17
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Date	Application	Quantity (per Acre)	Units	N Value	Units	Nitrogen from Process Wastewater	Nitrogen from Solid Manure	Nitrogen (lbs per acre)	Phosphorus (lbs per acre)	Potassium (lbs per acre)
05/20/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
05/20/2021	Waste Water	0.60	Acre Inches	608.03	mg/L	82.52		82.52	9.80	118.47
06/15/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
07/01/2021	Waste Water	0.90	Acre Inches	563.13	mg/L	114.64		114.64	18.18	163.95
07/01/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
07/15/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
08/01/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
08/01/2021	Waste Water	0.70	Acre Inches	608.01	mg/L	96.27		96.27	11.44	138.22
08/15/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
09/01/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
09/25/2021	Harvest	33.50	Tons	0.38	%			(253.23)	(63.43)	(353.21)

	293.43	102.08	(24.01)	67.43
Total Nutrients Applied	355.31	39.42	420.64	
Total Nutrients Harvested	(253.23)	(63.43)	(353.21)	
Nutrient Ratio	1.40	0.62	1.19	

Maple Dairy (Zonneveld) 2021 Nutrient Applications

Field Name: 452

Acres: 76

Field Summary (in lbs/acre)					
	Nitrogen		Nitrogen	Phosphorus	Potassium
Process Wastewater Applied	697.89	Total Nutrients Applied	784.53	91.52	1,000.78
Solid Manure Applied		Total Nutrients Harvested	(558.63)	(94.35)	(609.60)
		Nutrient Ratio	1.40	0.97	1.64

Crop 1: Wheat (South Valley) **Variety:** Wheat (South Valley) - General **Plant Date:** November 2020 **Acres Planted:** 76

Date	Application	Quantity		N Value	Units	Nitrogen from Process Wastewater	Nitrogen from Solid Manure	Nitrogen (lbs per acre)	Phosphorus (lbs per acre)	Potassium (lbs per acre)
		(per Acre)	Units							
10/20/2020	Waste Water	0.90	Acre Inches	607.98	mg/L			123.77	14.70	177.71
10/20/2020	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
03/05/2021	Waste Water	1.00	Acre Inches	608.01	mg/L			137.53	16.34	197.45
03/05/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
04/05/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
04/05/2021	Waste Water	0.90	Acre Inches	607.98	mg/L			123.77	14.70	177.71
05/05/2021	Harvest	23.10	Tons	0.63	%			(293.19)	(49.51)	(318.28)

385.07		118.40	(3.77)	234.59
Total Nutrients Applied		411.59	45.74	552.87
Total Nutrients Harvested		(293.19)	(49.51)	(318.28)
Nutrient Ratio		1.40	0.92	1.74

Maple Dairy (Zonneveld) 2021 Nutrient Applications

Field Name: 452

Acres: 76

Crop 2: Corn (Silage) **Variety:** Corn (Silage) - General **Plant Date:** June 2021 **Acres Planted:** 76

Date	Application	Quantity		N Value	Units	Nitrogen from Process Wastewater	Nitrogen from Solid Manure	Nitrogen (lbs per acre)	Phosphorus (lbs per acre)	Potassium (lbs per acre)
		(per Acre)	Units							
05/10/2021	Ground Water	4.00	Acre Inches	7.83	mg/L			7.08	0.00	0.00
05/20/2021	Waste Water	0.70	Acre Inches	608.01	mg/L	96.27		96.27	11.44	138.22
06/15/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
07/01/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
07/01/2021	Waste Water	1.00	Acre Inches	563.14	mg/L	127.38		127.38	20.20	182.17
07/15/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
08/01/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
08/01/2021	Waste Water	0.70	Acre Inches	563.17	mg/L	89.17		89.17	14.14	127.52
08/15/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
09/01/2021	Ground Water	5.00	Acre Inches	7.82	mg/L			8.84	0.00	0.00
09/25/2021	Harvest	33.40	Tons	0.40	%			(265.44)	(44.84)	(291.32)

312.82	107.50	0.94	156.59
Total Nutrients Applied	372.94	45.78	447.91
Total Nutrients Harvested	(265.44)	(44.84)	(291.32)
Nutrient Ratio	1.40	1.02	1.54

Maple Dairy (Zonneveld) 2021 Nutrient Budget Certification

Signature of Operator of Facility

Signature of Owner of Facility

Print Name

Print Name

Title and Date

Title and Date

Signature of Certified Nutrient Management Plan Specialist

Title and Date

IV. SURFACE WATER PROTECTIVE MEASURES

This section identifies all potential surface waters or conduits to surface water that are within 100 feet of any land application area. For each land application area that is within 100 feet of surface water or a conduit to surface water, the setback, vegetated buffer, or other alternative practice that will be implemented to protect surface water is identified.

Manure and process wastewater shall not be applied closer than 100 feet to any down gradient surface waters unless a 35-foot wide vegetated buffer or physical barriers subsisted for the 100-foot setback or alternative conservation practices or field-specific conditions will provide pollutant reductions equivalent or better than the reductions achieved by the 100-foot setback.

A. Setback

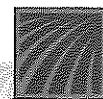
A Setback is a specified distance from surface waters or potential conduits to surface waters where manure and process wastewater may not be land applied, but where crops may continue to be grown.

B. Vegetated Buffer

- i. A vegetated buffer is a narrow, permanent strip of dense perennial vegetation where no crops are grown and which is established parallel to the contours of and perpendicular to the dominant slope of the land application area for the purposes of slowing water runoff, enhancing water infiltration, trapping pollutants bound to sediment, and minimizing the risk of any potential nutrients or pollutants from leaving the land application area and reaching surface waters.
- ii. Removal of vegetation in vegetated buffers will be in accordance with site production limitations, rate of plant growth, and the physiological needs of the plants.
- iii. Do not mow below the recommended height for the plant species.
- iv. Maintain adequate ground cover and plant density to maintain or improve filtering capacity of the vegetation.
- v. Maintain adequate ground cover, litter, and canopy to maintain or improve infiltration and soil condition.
- vi. Periodic rest from mechanical harvesting may be needed to maintain or restore the desired plant community following episodic events such as drought.
- vii. When weeds are a significant problem, implement pest management to protect the desired plant communities.
- viii. Prevent channels from forming.

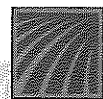
C. Physical Barriers and Alternatives

- ix. Examples of physical barriers and alternative conservation practices as applicable to field specific conditions may used alone or in conjunction with each other to provide a pollutant reduction equivalent or better than the reductions achieved by the 100-foot set back are: a levee, a raised road, a border, a berm, a diversion ditch, a surface water collection system, an uphill gradient, regulated wastewater application system such as drip irrigation or sprinklers.



D. Site Specific Surface Water Protective Measures

There is a canal that runs along the northern edge of field 402 and south edge of fields 405 and 415. This canal is protected by a physical barrier, an elevated road and a canal bank, which provides an equivalent of a 100-foot setback or better.



V. FIELD RISK ASSESSMENT

This section evaluates 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 drainage, or storm water from the land application areas.

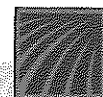
Has this facility had any of the following discharges from any land application areas to surface water in the past twelve (12) months?

- | | | |
|---|-----------|------------|
| • Process wastewater | _____ Yes | ___✓___ No |
| • Manure | _____ Yes | ___✓___ No |
| • Storm Water | _____ Yes | ___✓___ No |
| • Tailwater* (within 60 days of manure or wastewater application) | _____ Yes | ___✓___ No |
| • Subsurface (tile) drainage | _____ Yes | ___✓___ No |

If you answered "No" to all the above, then nitrogen and/or phosphorus have not moved from any of your land application areas to surface water and your Field Risk Assessment is complete.

If you answered "Yes" to any of the above, then the results of the water quality monitoring of the discharges have been used to assess the movement of nitrogen and phosphorus from each land application area for each of the discharges identified above.

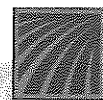
*This only includes a discharge of tailwater that occurs less than 60 days after application of manure and/or process wastewater.



VI. RECORD-KEEPING

The discharger shall maintain records for each land application area as required in the Record-Keeping Requirements of Monitoring and Reporting Program No. R5-2013-0122.

It is the discharger's responsibility to accurately complete these forms for each field and crop grown each year. The records that will be maintained for each land application area are identified in the following form.



VII. NUTRIENT MANAGEMENT PLAN REVIEW

A. Nutrient Management Plan Updates

- i. This Nutrient Management Plan shall be updated when discharges from any land application area exceed water quality objectives, a nutrient source has changes, or site-specific information has become available to replace default values used in the overall nutrient balance or the nutrient budget, nitrogen application rates in any land application area exceed the rates specified or the Field Risk Assessment finds that management practices are not effective in minimizing discharges.
- ii. This Nutrient Management Plan shall be updated prior to any anticipated changes that could affect the overall nutrient balance or the nutrient budget such as, but not limited to, a crop rotation change, changes in the available cropland, or the changes in the amount or type of nutrients generated.

B. Nutrient Management Plan Review & Regional Board Notice

The discharger shall review the Nutrient Management Plan at least once every five years and notify the Regional Board in the annual report of any proposed changes that would affect the Nutrient Management Plan.

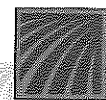
C. Benefits of a Nutrient Management Plan

- i. The Nutrient Management Plan was written to assist the dairy producer and farm management team produce valuable crops. The implementation of sustainable agronomic practices found in this NMP will increase yields, reduce costs, improve quality, mitigate risks, and sustain productivity/profitability.
- ii. To maximize the benefits and the professional agronomic services provided by Innovative Ag Services, LLC, regular reviews of the nutrient supply and demand need to be made throughout the year. The ever-changing dynamics of crop production require constant management, including regular input and alteration of the Nutrient Management Plan.

VIII. REFERENCES

California Regional Water Quality Control Board – Central Valley Region – Order Number R5-2013-0122
"Waste Discharge Requirements General Order for Existing Milk Cow Dairies"

California Regional Water Quality Control Board – Central Valley Region – Sampling and Analysis
"Approved Sampling and Analysis Procedures for Nutrient and Groundwater Monitoring at Existing Milk Cow Dairies"
http://www.waterboards.ca.gov/centralvalley/water_issues/dairies/general_order_guidance/sampling_analysis/index.shtml



SPILL PREVENTION & CONTINGENCY PLAN FOR MAPLE DAIRY

Pre-Application Review No.: 21-003961

Prepared for:

**THE COUNTY OF FRESNO, DEPARTMENT OF PUBLIC
WORKS AND PLANNING**

ATTN: THOMAS KOBAYASHI, PLANNER

2220 TULARE STREET

FRESNO, CA 93271

Prepared by:



**INNOVATIVE
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Prepared: September 2021

SPILL PREVENTION AND CONTINGENCY PLAN

Fresno County zoning ordinance 869.2.E.2.b outlines the requirements for a Spill Prevention and Contingency Plan as follows:

“B. Spill prevention and contingency plan for any unpermitted, accidental discharge of facility wastewater, and corresponding reporting to the Regional Water Quality Control Board within four hours of discovery. The written report shall contain:

- 1. The date the discharge began;*
- 2. Duration and estimated volume of the discharge;*
- 3. Point of discharge;*
- 4. Specific source of discharge (e.g., overflow from holding pond, rainfall runoff from manure storage areas, etc.);*
- 5. Steps taken to mitigate the effects of the discharge;*
- 6. Steps taken to prevent such a discharge in the future;*
- 7. Notification of adjacent and/or affected property owners;*
- 8. In the case of spills affecting crops intended for human consumption, the Agricultural Commissioner and the Fresno County Health Officer shall also be notified.*

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

This plan relies upon the additional regulatory oversight of the California Regional Water Quality Control Board, under General Order No. R5-2013-0122 and the San Joaquin Valley Unified Air Pollution Control District, under Confined Animal Rule (Rule 4570).

Both agencies have monitoring and standards to comply that also facilitate monitoring confined animal facilities.

In the event of release, the facility has equipment available to contain flows - a loader and tractors. If effluent flows offsite the report will be prepared and the contact information for the Fresno County Agricultural Commissioner’s office is:

1720 S. Maple Ave., Fresno, CA 93702

PHONE: 559-600-7510

The Fresno County Health department’s number is:

1221 Fulton Street, 3rd Floor

PHONE (559) 600-3357

This spill prevention and contingency plan will center on four points; Pond Maintenance, Rainfall collection system, corral maintenance, feed storage area maintenance, solid manure storage and maintenance, animal housing and flush water conveyance maintenance. All of these points have monitoring and recordkeeping.

A. POND MAINTENANCE

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 a monthly basis. Pond photos will be labeled and maintained with the dairy monitoring records.

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.

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.

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.

B. RAINFALL COLLECTION SYSTEM MAINTENANCE

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.

C. CORRAL MAINTENANCE

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 run on 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.

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.

Removal of manure and/or regrading, when necessary, will be completed on a semi-annual basis.

Solid manure removal and regrading assessment will occur on or before: 5th of each month

Conditions requiring manure removal and/or regrading: Solid manure is removed from the corral at least twice a year, usually in the Spring and the Fall, after harvest.

Solid manure removal and/or regrading will occur on or before: 5th of November

D. FEED STORAGE AREA MAINTENANCE

During the dry season and prior to the wet season, the perimeter of storage areas will be assessed to ensure all run on 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.

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.

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

E. SOLID MANURE STORAGE AREA MAINTENANCE

During the dry season and prior to the wet season, the perimeter of manure storage areas will be assessed to ensure all run on 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.

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.

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

F. ANIMAL HOUSING AND FLUSH WATER CONVEYANCE SYSTEM MAINTENANCE

Monitoring the animal housing and flush water conveyance system to verify that water is being managed is important. These points will be monitored on a monthly basis maintained at owner, operator, and/or designer specified intervals.

When irrigating, stored process water will be mixed with irrigation water prior to irrigating. The dilution rate shall be adequate to minimize odor levels and maintain the appropriate nutrient content in the effluent. Process water containing ammonia will be applied in such a way to minimize the exposure to air. Manure spills shall be cleaned up upon occurrence. Separation pits and process water lagoons shall be maintained and operated to minimize odor levels.

Off-site transport of manure will be conducted carefully to prevent spillage or loss of material from holes or other openings in the cargo compartment's floor, sides, and/or tailgate. All haul trucks will be loaded such that the freeboard is not less than six (6) inches when material is transported on any paved public access road.

**PEST & VECTOR MANAGEMENT PLAN
FOR MAPLE DAIRY
Pre-Application Review No.: 21-003961**

Prepared for:

**THE COUNTY OF FRESNO, DEPARTMENT OF PUBLIC
WORKS AND PLANNING**

ATTN: THOMAS KOBAYASHI, PLANNER

2220 TULARE STREET

FRESNO, CA 93271

Prepared by:



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Prepared: September 2021

Pest and Vector Management Plan¹

Good housekeeping practices are the primary tool used to combat pest and vector infestation. A good facility design will help facilitate good housekeeping by providing for good drainage of manured areas. *Eliminating moist decaying organic matter should be the cornerstone of every dairy's fly control program*². Corrals shall be sufficiently sloped to drainage swales or concrete alleys to accommodate drainage. In-turn, drainage swales or concrete alleys shall have a slope sufficient to conduct water to storage. Leaking pipes and fixtures shall be repaired promptly. All of these measures will prevent wet, muddy conditions favorable to the fly and mosquito life cycles. Clean up and maintenance along fence lines shall be performed on a regular basis to prevent places for rodents to nest and breed.

Biological controls shall be favored in controlling pests. Parasitic wasps may be used to control fly pupae populations. Other non-chemical approaches will be used to control pests. For example, a torch may be used in the early morning when flies are inactive and tend to congregate. A quick pass with the torch once per day at certain times of the year will be helpful in controlling pest populations. As a last resort when housekeeping and biological controls prove to have limited effectiveness, chemicals may supplement the program. When chemicals are used, special care shall be taken to select and apply chemicals that are compatible with existing biological controls that may be in use. For example, care shall be taken not to interfere with the life cycles of beneficial insects or parasitic wasps.

The wastewater storage lagoons shall be of sufficient width to facilitate treatment by Mosquito Abatement District personnel, when necessary. All wastewater holding and solids separator ponds shall be surrounded by lanes sufficient in width to facilitate vector control equipment. Nothing (i.e. calf pens, utility lines, hay stacks, silage, tires, ag equipment, etc.) shall be placed in the area of the holding ponds which would prevent passage or use of vector control equipment. Fencing around the wastewater and solids ponds shall be placed on the outside of the lanes and gates shall be provided for access.

Vegetative growth shall be inhibited in all areas of the wastewater and solids separation ponds, including access lanes, interior pond embankments, and any weed growth which might become established on pond surfaces. In general, care shall be taken to prevent solids accumulation, weeds, and subsequent harborage for mosquitoes. No drainage lines shall bypass the separator ponds. Record keeping shall consist of documentation kept at the dairy site that includes pest control methods used and the dates of the pest control activities. (See attached Pest and Vector Management Record)

A complaint register shall also be maintained (See attached Pest and Vector Complaint Register.) The complaint register documentation shall indicate who received the complaint, the date a complaint was received, what and when action was taken to determine the cause of the pest problem, action taken to resolve the problem, the results of the action, and whether additional action was required to resolve the problem. The complaint register shall be made available to the Code Compliance personnel upon their request.

¹ Kings County Dairy Element Technical Report for David te Velde Dairy, Provost & Pritchard Engineering Group, Inc., 2006, Page 12.

² [CDQAP Ruminations: Dairy Fly Control & Your Bottom Line - California Dairy Research Foundation \(cdrf.org\)](http://cdrf.org)

PEST AND VECTOR COMPLAINT REGISTER

Date	Person who received the complaint	Action taken to determine cause of the pest problem	Action taken to resolve pest problem	Results of the action	Additional action req'd to prevent the problem from re-occurring

This register is to be made available to the Code Compliance personnel upon their request.

