

contain runoff from the 25-year, 24-hour storm event, thereby precluding discharges to surface water except in extreme circumstances.

The three storm water retention ponds (Ponds 12B, 13N, and 13S) are located in the northwest area of the facility and had a total combined capacity of 32 acre-feet based on measurements in 1974. These ponds have since been enlarged by approximately 8 to 10 acre-feet. Ponds 12B, 13N, and 13S receive runoff from drainage areas of 68, 88, and 47 acres, respectively.

The centrally located irrigation holding ponds (Lake Crandall East and West) and the irrigation holding pond located in the northeast area of the facility (Pond 12A) had a total combined capacity of at least 24 acre-feet, based on 1974 measurements. These ponds have since been enlarged by 5 to 6 acre-feet, for a total capacity of approximately 30 acre-feet. Lake Crandall East and West, and Pond 12A receive wastewater pumped from the wastewater holding ponds, overflow from the northeasterly ponds (if necessary), and runoff from a drainage area of 152 acres (which includes the 64-acre spray disposal site, two mill buildings, and approximately 4 acres of paved areas).

Some wastewater disposal occurs by evaporation in ponds 1, 2; 146, 12A, and Lake Crandall East and West., although the principle means of disposal is land application via spray irrigation on 64 acres of regularly harvested oat fields.

Manure generated from the concentrated animal pens is allowed to air dry and is then scraped for removal. Once removed from the pens, manure is temporarily stored and composted onsite until it is hauled offsite for use as fertilizer.

## **B. Discharge Points and Receiving Waters**

The facility land applies wastewater via spray irrigation on 64 acres of oat fields. The facility contains adequate storage capacity, pumping facilities, and irrigated cropland to contain and provide onsite disposal for the direct precipitation and runoff anticipated from up to a 25-year, 24-hour storm event.

From information developed at the adjacent landfill, staff extrapolates that three hydrogeologic units underlie the feedlot: crystalline bedrock, weathered bedrock, and Quaternary Alluvium/Colluvium. Granodiorite of the Salinian Block lies at increasing depth westward below the feedlot. This granitic basement rock below the feedlot is highly fractured to massive and is variably weathered. Fresh (unweathered) bedrock has low permeability, and contains and transmits water only through joints and fractures. Groundwater beneath the feedlot occurs primarily in alluvium and generally flows from northeast to southwest. The water table occurs at approximately 190 to 285 feet below ground surface, and ranges in elevation from approximately 85 to 150 feet above mean sea level. According to monitoring reports, groundwater is estimated to flow between 0.017 and 0.47 feet per day beneath the site. Based on monitoring results from the adjacent landfill's background monitoring well JC-3, upgradient inorganic constituent concentrations average approximately 120 mg/L of chloride, 22 mg/L of sulfate, 6.5 mg/L of nitrate, and 540 mg/L of total dissolved solids. Monitoring results from wells closer to the feedlot have similar chemical quality.

If a discharge to surface water were to occur, that discharge would occur at Discharge Point 002, which is the outfall from Pond 2 to Johnson Creek.

Johnson Creek, tributary to the Salinas River within the Salinas River Watershed, flows east to west approximately 200 to 1,000 feet south of the facility. The facility is located above the East Side Aquifer Subarea of the Salinas River Sub-basin. Depth to groundwater in the area is estimated to be 200 feet.

### **C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data**

The existing Order does not contain numeric effluent limitations but (1) prohibits discharges to surface waters except during a 25 year, 24 hour storm event, (2) limits the total amount of wastewater handled onsite to that which could be generated by 30,000 cattle plus runoff from the production area, and (3) requires development and implementation of a Nutrient Management Plan. The existing Order also establishes specific objectives to prevent degradation of surface and ground water quality attributable to activities at the feedlot, and it establishes numerous requirements regarding feedlot operation and water/wastewater management, meant to protect local surface and ground water quality.

### **D. Compliance Summary**

The facility has maintained compliance with the terms and conditions of Order No. R3-2003-0126 during the term of that Order.

### **E. Planned Changes**

There are no planned changes, which could impact water/wastewater management, for the facility during the anticipated five year term of the proposed Order.

## **III. APPLICABLE PLANS, POLICIES, AND REGULATIONS**

The requirements contained in the proposed Order are based on the requirements and authorities described in this section.

### **A. Legal Authorities**

This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

## **B. California Environmental Quality Act (CEQA)**

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100 through 21177.

## **C. State and Federal Regulations, Policies, and Plans**

**1. Water Quality Control Plans.** The Regional Water Board has adopted a *Water Quality Control Plan for the Central Coast Region* (the Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for receiving waters within the Region. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. In accordance with Chapter 2 of the Basin Plan, surface water bodies that do not have beneficial uses specifically identified by the Basin Plan, like Johnson Creek, are assigned the beneficial uses of:

- Municipal and domestic supply
- Protection of both recreation and aquatic life.

Requirements of this Order implement the Basin Plan.

**2. National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the State. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

**3. State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

**4. Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards become effective for CWA purposes [65 Fed. Reg. 24641 (April 27, 2000) (codified at 40 C.F.R. 131.21)]. Under the revised regulation (also known as the Alaska Rule), new and revised

standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

- 5. Antidegradation Policy.** NPDES regulations at 40 CFR 131.12 require that State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16, which incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that the existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements and incorporates by reference both the State and federal antidegradation policies. As discussed herein, the permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16.
- 6. Anti-Backsliding Requirements.** CWA Sections 402 (o) (2) and 303 (d) (4) and NPDES regulations at 40 CFR 122.44 (l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. As discussed in this Fact Sheet, effluent limitations and other requirements established by this Order satisfy applicable anti-backsliding provisions of the CWA and NPDES regulations.

#### **D. Impaired Water Bodies on CWA 303(d) List**

CWA section 303 (d) requires states to identify specific water bodies where water quality standards are not expected to be met after implementation of technology based limitations on point sources. For all 303 (d) listed water bodies, the Regional Water Board must develop and implement TMDLs (total maximum daily loads) that specify WLAs (waste load allocations) for point sources and load allocations for non-point sources.

The State's 2006 303 (d) list of impaired water bodies, which was approved by USEPA in June 2008, does not identify Johnson Creek as impaired but does identify the Lower Salinas River (below Gonzales Road to the estuary) as impaired by fecal coliform bacteria, nitrate, nutrients, pesticides, salinity / TDS / chlorides, and toxaphene; and the Middle Salinas River (above Gonzales Road to the confluence with the Nacimiento River) as impaired by pesticides, and salinity / TDS / chlorides. TMDLs for the Salinas River have not been developed.

#### **E. Other Plans, Policies and Regulations**

This section of the standardized permit template is not applicable.

#### IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. NPDES regulations establish two principal bases for effluent limitations. At 40 CFR 122.44 (a) permits are required to include applicable technology-based limitations and standards; and at 40 CFR 122.44 (d) permits are required to include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. When numeric water quality objectives have not been established, but a discharge has the reasonable potential to cause or contribute to an excursion above a narrative criterion, WQBELs may be established using one or more of three methods described at 40 CFR 122.44 (d) - 1) WQBELs may be established using a calculated water quality criterion derived from a proposed State criterion or an explicit State policy or regulation interpreting its narrative criterion; 2) WQBELs may be established on a case-by-case basis using U.S. EPA criteria guidance published under CWA Section 304 (a); or 3) WQBELs may be established using an indicator parameter for the pollutant of concern.

##### A. Discharge Prohibitions

- 1. Discharge Prohibition III. A.** (Land application of wastewater to areas other than land application areas, identified by the site-specific NMP, is prohibited.) This discharge prohibition is retained from the previous permit. The application of wastewater to land not described by the Discharger to the Regional Water Board would represent an unauthorized application of wastewater in violation of this permit.
- 2. Discharge Prohibition III. B.** (Land application of wastewater other than feedlot wastewater and runoff, is prohibited.) This discharge prohibition is retained from the previous permit. Because the permit is written based on a specific understanding of the nature of the wastewaters to be applied to land, land application of wastewaters not contemplated during the drafting of the permit would represent an unauthorized application of wastewater in violation of this permit. The prohibition restricts the land application of nutrients to the form and source described in the Discharger's Nutrient Management Plan. Other forms and sources of nutrients may be land applied only following approval of changes to the Nutrient Management Plan prepared in accordance with NPDES regulations at 40 CFR 122.42 (e) (6).
- 3. Discharge Prohibition III. C.** (Discharges, including overflow, bypass, seepage, and overspray from transport, treatment, storage, or disposal systems to adjacent drainage ways or adjacent properties, except as described by section IV. A. 1. B of the permit, are prohibited.) This discharge prohibition is retained from the previous permit and reflects the fundamental tenet of the *Effluent Limitations Guidelines for the Concentrated Animal Feeding Operation Point Source Category* prohibiting discharges from CAFOs to surface waters except during extreme circumstances.

4. **Discharge Prohibition III. D.** (Animals within confined areas shall be prohibited from entering surface waters.) This discharge prohibition is retained from the previous permit and is a restatement of the requirement established by NPDES regulations at 40 CFR 122.42 (e) (1) (iv) that animals at CAFOS shall not have direct contact with waters of the U.S..
5. **Discharge Prohibition III. E.** (Mortalities must not be placed in any liquid manure or process wastewater system and must be handled in a way to prevent the discharge of pollutants to surface water.) This discharge prohibition is a restatement of the *Effluent Limitations Guidelines for the Concentrated Animal Feeding Operation Point Source Category* at 40 CFR 412.37 (a) (4).
6. **Discharge Prohibition III. F.** (Application of wastewater to land shall not cause degradation of any water supply.) This discharge prohibition is retained from the previous permit and reflects the mandate of the Basin Plan that activities at the concentrated animal feeding operation not adversely impact the designated water supply use of local groundwater.
7. **Discharge Prohibition III. G.** (Application of wastewater to land for other than nutrient recycling and/or crop production is prohibited.) This discharge prohibition is retained from the previous permit and reflects the goal of the permit that land application of wastewater occur in a controlled manner suitable for efficient crop production.

## **B. Technology-Based Effluent Limitations**

### **1. Scope and Authority**

NPDES regulations at 40 CFR 122.44 (a) require that permits include applicable technology-based limitations and standards. Where the USEPA has not yet developed technology based standards for a particular industry or a particular pollutant, CWA Section 402 (a) (1) and USEPA regulations at 40 CFR 125.3 authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis. When BPJ is used, the permit writer must consider specific factors outlined at 40 CFR 125.3.

U.S. EPA has established applicable standards of performance (technology-based limitations and standards) at 40 CFR 412, *Effluent Limitations Guidelines for the Concentrated Animal Feeding Operation Point Source Category*. The Effluent Limitations Guidelines for CAFOs were first promulgated in 1974 and underwent significant revision in 2003. In response to legal challenges, the 2003 Effluent Limitations Guidelines were most recently revised in 2008, with the revised rules becoming effective on December 22, 2008.

### **2. Applicable Technology-Based Effluent Limitations**

As described above, applicable technology-based requirements, which have been promulgated by EPA and must be incorporated into the provisions of this discharge

permit are established at 40 CFR Part 412. Some technology-based requirements for CAFOs have also been established within EPA's NPDES permitting rules at 40 CFR 122. Technology based requirements, applicable to the Joseph Gallo Farms Feedlot, from 40 CFR Parts 122 and 412 are summarized in Attachment G of this Order. This summary reflects the work of Regional Water Board staff in developing this permit and provides a cross reference to sections of the Order where provisions of the Effluent Limitations Guidelines have been incorporated. Attachment G is included for guidance and explanation only, and, if necessary, interested parties should consult the full text of the Effluent Limitations Guidelines from the appropriate legal resources.

As a result of legal challenges to EPA's CAFO rules established at 40 CFR Parts 122 and 412, these technology-based requirements were revised as recently as December 2008, with two significant revisions being: (1) at the time that an application is submitted for an NPDES permit, the Regional Water Board must now review a CAFO's Nutrient Management Plan (NMP) and provide the public with an opportunity for meaningful review of and comment regarding the NMP, and (2) the Regional Water Board is now required to incorporate certain terms of a CAFO's NMP into the NPDES permit as enforceable permit conditions. The Permittee's NMP therefore accompanies this draft permit as Attachment H. The NMP was submitted to the Regional Water Board as part of the application to renew NPDES Permit No. CA-0050601, and Regional Water Board staff have reviewed the NMP and found it consistent with current regulatory requirements.

NPDES rules at 40 CFR 122.42 (e) (5) describe what terms of the NMP shall become enforceable permit conditions.

*Any permit issued to a CAFO must require compliance with the terms of the CAFO's site-specific nutrient management plan. The terms of the nutrient management plan are the information, protocols, best management practices, and other conditions in the nutrient management plan determined by the Director to be necessary to meet the requirements of paragraph (e)(1) of this section.*

The requirements of "paragraph (e) (1)," which refers to 40 CFR 122.42 (e) (1), are summarized below, although the NPDES rules expand and clarify upon these specific requirements and should be consulted if a thorough understanding of the requirements is necessary. From 40 CFR 122.42 (e) (1), the terms of the NMP which shall be enforceable terms of the permit are those "protocols, best management practices, and other conditions" of the NMP necessary to:

- (i) *Ensure adequate storage of manure, litter, and process wastewater, including procedures to ensure proper operation and maintenance of the storage facilities;*
- (ii) *Ensure proper management of mortalities (i.e., dead animals) to ensure that they are not disposed of in a liquid manure, storm water, or process*

*wastewater storage or treatment system that is not specifically designed to treat animal mortalities;*

- (iii) Ensure that clean water is diverted, as appropriate, from the production area;*
- (iv) Prevent direct contact of concentrated animals with waters of the United States;*
- (v) Ensure that chemicals and other contaminants handled on-site are not disposed of in any manure, litter, process wastewater, or storm water storage or treatment system unless specifically designed to treat such chemicals and other contaminants;*
- (vi) Identify appropriate site specific conservation practices to be implemented, including as appropriate buffers or equivalent practices, to control runoff of pollutants to waters of the United States;*
- (vii) Identify protocols for appropriate testing of manure, litter, process wastewater, and soil;*
- (viii) Establish protocols to land apply manure, litter or process wastewater in accordance with site specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the manure, litter or process wastewater; and*
- (ix) Identify specific records that will be maintained to document the implementation and management of the minimum elements described in paragraphs (e)(1)(i) through (e)(1)(viii) of this section.*

As required by NPDES rules at 40 CFR 122.42 (e) (5), certain specific terms of the Discharger's NMP have been incorporated directly into the permit. (See Table F-2 of this Fact Sheet.)

## **C. Water Quality-Based Effluent Limitations (WQBELs)**

### **1. Scope and Authority**

NPDES regulations at 40 CFR 122.44 (d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards, including numeric and narrative objectives within a standard.

The process for determining "reasonable potential" and calculating WQBELs, when necessary, is intended to protect the designated uses of receiving waters as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in the Basin Plan and in other applicable State and federal

rules, plans, and policies, including applicable water quality criteria from the CTR and the NTR.

Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established in accordance with the requirements of 40 CFR 122.44 (d) (1) (vi), using (1) USEPA criteria guidance under CWA section 304 (a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed State criterion or policy interpreting the State's narrative criterion, supplemented with other relevant information.

## **2. Applicable Beneficial Uses and Water Quality Criteria and Objectives**

In accordance with Chapter 2 of the Basin Plan, surface water bodies that do not have beneficial uses specifically identified by the Basin Plan, like the receiving water for potential discharges from this facility (Johnson Creek), are assigned the beneficial uses of municipal and domestic supply, recreation, and aquatic life habitat. Water quality criteria applicable to this receiving water are established by the CTR, the NTR, and by the Basin Plan.

## **3. Determining the Need for WQBELs**

NPDES regulations at 40 CFR 122.44 (d) require effluent limitations to control all pollutants which are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard.

Because the feedlot has been designed to contain production wastewaters plus runoff from the 25-year, 24 hour rainfall event, the Regional Water Board has determined that there is no reasonable potential for discharges to cause or contribute to excursions from applicable water quality criteria applicable to Johnson Creek and established by the CTR, the NTR, and by the Basin Plan; and therefore, specific water quality based effluent limitations are not established by the Order. A discharge during the 25-year, 24-hour rainfall event must, however, not cause exceedances of receiving water limitations, which reflect water quality objectives of the Basin Plan, and which are established in section V. A of the Order.

Regarding possible runoff and discharge of pollutants to surface waters from the land application area, NPDES regulations at 40 CFR 122.23 (e) exempt such discharges (as agricultural storm water runoff) from NPDES regulation, if they occur from land where manure, litter or process wastewater has been applied in accordance with site specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients [in accordance with specifications established at 40 CFR 122.42 (e) (1) (vi - ix)]. Because the technology based requirements of the Order require development and implementation of a Nutrient Management Plan, thereby ensuring the appropriate land application of CAFO wastes (in accordance

with site specific nutrient management practices), precipitation-related runoff from the land application area will be viewed as routine agricultural storm water runoff.

#### **4. WQBEL Calculations**

This section of the standardized permit template is not applicable.

#### **5. Whole Effluent Toxicity (WET)**

This section of the standardized permit template is not applicable.

### **D. Final Effluent Limitations**

Final, technology-based and water quality-based effluent limitations established by the Order are discussed in the preceding sections of the Fact Sheet.

#### **1. Satisfaction of Anti-Backsliding Requirements**

The Order satisfies applicable anti-backsliding provisions of the Clean Water Act, as all limitations and requirements of the Order are at least as stringent as those of the previous permit.

#### **2. Satisfaction of Antidegradation Policy**

Provisions of the Order are consistent with applicable anti-degradation policy expressed by NPDES regulations at 40 CFR 131.12 and by State Water Board Resolution No. 68-16, as limitations and conditions of the Order ensure maintenance of the existing quality of receiving waters, ensure that applicable water quality objectives for surface and groundwaters are met at all times, and do not authorize increased rates of discharge or increased pollutant loadings to receiving waters.

#### **3. Stringency of Requirements for Individual Pollutants**

This section of the standardized permit template is not applicable.

### **E. Interim Effluent Limitations**

The Order does not establish interim effluent limitations and schedules for compliance with final effluent limitations.

### **F. Land Discharge Specifications**

This section of the standardized permit template is not applicable.

### **G. Reclamation Specifications**

This section of the standardized permit template is not applicable.

## **VI. RATIONALE FOR RECEIVING WATER LIMITATIONS**

### **A. Surface Water**

Receiving water quality is a result of many factors, some unrelated to the discharge. This Order considers these factors and is designed to minimize the influence of the discharge on the receiving water. Specific water quality objectives established by the Basin Plan to meet this goal for all inland surface waters are included as Receiving Water Limitations in Section V. A of this Order.

### **B. Groundwater**

Groundwater limitations established by the Order include general objectives for groundwater established by the Basin Plan for Central Coast Region.

## **VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS**

NPDES regulations at 40 CFR 122.48 require that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 also authorize the Regional Water Board to require technical and monitoring reports. Rationale for the monitoring and reporting requirements contained in the Monitoring and Reporting Program (MRP), which is presented in Attachment E of this Order, is presented below.

Note that the Discharger may be obligated to perform monitoring in addition to that required by the MRP to satisfactorily implement its Nutrient Management Plan.

### **A. Influent Monitoring**

This section of the standardized permit template is not applicable.

### **B. Effluent Monitoring**

Effluent monitoring requirements are unchanged from the expiring permit.

### **C. Whole Effluent Toxicity Testing Requirements**

This section of the standardized permit template is not applicable.

### **D. Receiving Water Monitoring**

Surface, receiving water monitoring requirements are unchanged from the expiring permit; however, the Order adds requirements for the Discharger to develop and implement a groundwater monitoring plan to ensure that pollutants are not migrating from land application areas and from wastewater holding ponds to groundwater at levels that cause exceedances of applicable water quality objectives. The Discharger must develop a monitoring plan based on knowledge of local groundwater conditions and must implement the plan within 180 days following Regional Water Board staff's approval of the plan. Monitoring results must be submitted annually to Regional Water Board staff.

## **E. Other Monitoring Requirements**

Monitoring requirements for the land application areas and manure are unchanged from the previous permit; however, requirements for soil monitoring in pens has not been retained. Requirements to observe and record pond freeboard are retained from the previous permit.

## **VIII. RATIONALE FOR PROVISIONS**

### **A. Standard Provisions**

Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment D to the Order.

NPDES regulations at 40 CFR 122.41 (a) (1) and (b - n) establish conditions that apply to all state-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. 40 CFR 123.25 (a) (12) allows the State to omit or modify conditions to impose more stringent requirements. In accordance with 40 CFR 123.25, this Order omits federal conditions that address enforcement authority specified in 40 CFR 122.41 (j) (5) and (k) (2), because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387 (e).

### **B. Monitoring and Reporting Program (MRP) Requirements**

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order.

### **C. Special Provisions**

#### **1. Reopener Provisions**

The Order may be modified in accordance with the requirements set forth at 40 CFR 122 and 124, to include appropriate conditions or limits based on newly available information, or to implement any, new State water quality objectives that are approved by the U.S. EPA. If a need for additional effluent limitations and/or requirements becomes apparent, the Order will be reopened to incorporate such limitations.

#### **2. Special Studies and Additional Monitoring Requirements**

This section of the standardized permit template is not applicable.

#### **3. Best Management Practices and Pollution Prevention**

The principal control measures in the permit are a prohibition (permit section IV. A. 1. b) against the discharge of manure and process wastewater to waters of the U.S.

and a requirement (permit section VI. C. 3) to develop and implement a Nutrient Management Plan (NMP). The requirement to develop and implement an NMP reflects a national strategy established by the U.S. Department of Agriculture and EPA in 1999 to bring concentrated animal feeding operations into compliance with CWA requirements and to minimize impacts to groundwater and surface water such facilities by implementation of best management practices.

In accordance with NPDES regulations at 40 CFR 122.42 (e) (1) the NMP must include best management practices (BMPs), limitations, and standards necessary to meet applicable requirements of the *Effluent Limitations Guidelines for the CAFO Point Source Category* at 40 CFR Part 412. The NMP must also address nine specific requirements established by NPDES regulations at 40 CFR 122.42 (e) (1) (i – ix). Table 5 of the permit is a summary of the requirements of the *Effluent Limitations Guidelines*, which must be addressed by “BMPs, limitations, and standards;” and Table 6 is a summary of the nine specific requirements established by NPDES regulations at 40 CFR 122.42 (e) (1) (i – ix), which must also be addressed by “BMPs, limitations, and standards.”

In accordance with 40 CFR 122.42 (e) (5), the terms of the NMP, which address application rates pursuant to of 40 CFR 122.42 (e) (1) (viii), shall become enforceable terms of this Order. In response to this requirement and following review of the Discharger’s NMP, which was revised in July 2009, the Regional Water Board has directly incorporated certain NMP provisions as enforceable terms of the Order. The enforceable NMP provisions are summarized in Table F-2, below. NMP provisions are incorporated into the Order as enforceable terms in the section of the Order indicated in Table F-2. If no section of the Order is identified, the NMP provision is hereby incorporated into this Fact Sheet as information provided by the Discharger as bases for site-specific nutrient management practices established in its NMP.

**Table F-2. NMP Provisions Incorporated Into the Order as Permit Terms**

Regulatory Requirement	NMP Provision (source within the NMP)	Incorporated into the Order as an Enforceable Term at:
40 CFR 122.42 (e) (1) (i) – Regarding storage of manure, litter, and process wastewater, including operation and maintenance of storage facilities	<ul style="list-style-type: none"> <li>The Discharger shall maintain a minimum, 120-day wastewater storage capacity of 13.56 million gallons to accommodate normal precipitation and runoff and direct precipitation for the 25-year, 24-hour rainfall event. (NMP section 3.0)</li> <li>In the event that one of the facility’s storage ponds reaches capacity, water/wastewater shall be pumped to a pond that has storage capacity. (NMP section 3.0)</li> </ul>	Order section VI. C. 4
40 CFR 122.42 (e) (1) (ii) – Regarding mortality management	<ul style="list-style-type: none"> <li>Mortalities shall be placed in a designated, fenced and secure area, where runoff is directed to a wastewater storage pond, until mortalities are removed from the site. (NMP section 3.0)</li> </ul>	Order section VI. C. 4
40 CFR 122.42 (e) (1) (iii) – Regarding diversion of	<ul style="list-style-type: none"> <li>The site shall be managed to ensure that clean “run on” water is diverted from the production area, in a</li> </ul>	Order section VI. C. 4

clean water from the production area	manner as described by the NMP (Ponds 12B, 13N and 13S at the east end of the site serve as retention ponds to keep clean up gradient runoff from entering the production area). (NMP section 3.0)	
40 CFR 122.42 (e) (1) (iv) – Regarding direct contact of concentrated animals with waters of the U.S.	<ul style="list-style-type: none"> <li>• There are no waters of the U.S. within the animal confinement area, and therefore, the NMP does not address this requirement.</li> </ul>	Incorporated into the Fact Sheet as a basis of site-specific nutrient management practices
40 CFR 122.42 (e) (1) (v) – Regarding disposal of chemicals	<ul style="list-style-type: none"> <li>• Chemicals and chemical contaminants, including petroleum products, handled onsite shall not be placed or disposed of within any onsite manure, litter, process wastewater storage or treatment system. Chemicals and chemical contaminants handled on site shall be managed to prevent spills to onsite manure, litter, and process wastewater storage or treatment systems. (NMP section 3.0)</li> </ul>	Order section VI. C. 4
40 CFR 122.42 (e) (1) (vi) – Regarding site specific conservation practices to control runoff of pollutants to waters of the U.S.	<ul style="list-style-type: none"> <li>• The application rates of nutrient to the land application area shall take into account current soil test results, realistic yield goals, and management capabilities. (NMP section 8.0)</li> <li>• Planned application rates shall match nitrogen availability with plant uptake characteristics as closely as possible, taking into account the timing of nutrient application(s) in order to minimize leaching and atmospheric losses. (NMP section 8.0)</li> <li>• The Discharger shall implement, as appropriate, the conservation practices established by <i>NRCS Conservation Practice Standard Code 590 for Nutrient Management (CPS 590)</i> and by <i>NRCS Conservation Practice Standard Code 449 for Irrigation Water Management (CPS 449)</i>. (NMP section 8.0)</li> <li>• There shall be no nitrogen application to land during periods of soil saturation. (NMP section 8.0)</li> <li>• Nutrient materials shall be applied to land uniformly through proper use of irrigation equipment. (NMP section 8.0)</li> <li>• Nitrogen shall be applied in a manner to achieve maximum crop utilization. (NMP section 8.0)</li> <li>• The Discharger shall adhere to rates of application and timing limitations established by the NMP to avoid over-irrigation. (NMP section 8.0)</li> </ul>	Order section VI. C. 4  Order section VI. C. 4
40 CFR 122.42 (e) (1) (vii) – Regarding testing of manure, litter, process wastewater, and soil.	<ul style="list-style-type: none"> <li>• The Discharger shall adhere to the monitoring protocols for manure, process wastewater, and soil described by Appendix E (Sampling and Record Keeping) of its NMP.</li> </ul>	MRP section I. F
40 CFR 122.42 (e) (1) (viii) – Regarding site specific nutrient management practices	<ul style="list-style-type: none"> <li>• The Discharger shall land apply manure, litter, and process wastewater in accordance with the following (in <i>italics</i>) site-specific nutrient management practices.</li> </ul>	Order section VI. C. 4
40 CFR 122.42 (e) (5) –	<ul style="list-style-type: none"> <li>• <i>Wastewater shall be land applied to Field 1 as</i></li> </ul>	Order section VI. C. 4

Regarding identification of fields available for land application	<i>identified by the NMP. (NMP Appendix C)</i>																		
40 CFR 122.42 (e) (5) – Regarding timing limitations	<ul style="list-style-type: none"> <li>• Nitrogen shall not be applied to land during periods of soil saturation. (NMP section 9.0)</li> <li>• Nitrogen shall be land applied in a manner to achieve maximum crop utilization. (NMP section 8.0)</li> </ul>	Order section VI. C. 4 Order section VI. C. 4																	
40 CFR 122.42 (e) (5) – Regarding field-specific rates of land application	<ul style="list-style-type: none"> <li>• In accordance with site-specific nutrient management practices described by the NMP, available nitrogen from wastewater shall not be land applied at a rate greater than 250 pounds N per acre per year.</li> </ul>	Order section VI. C. 4																	
<p>40 CFR 122.42 (e) (5) – Regarding the linear approach to express rates of application of N and P</p> <p>40 CFR 122.42 (e) (5) (i) (A) – Regarding maximum application rates for each year of permit coverage and for each crop identified</p>	<ul style="list-style-type: none"> <li>• NMP rate calculations are based on the crop nitrogen need, and the Discharger has used the linear approach, as described at 40 CFR 122.42 (e) (5) (i), to express land application rates for N.</li> </ul> <p>Section 4.0 of the NMP provides the following annual nutrient loadings to the 64-acre field from wastewater (applied at a rate of 13,560,000 gallons annually and accounting for N residuals from the prior year's manure applications). The amount of nitrogen provided from organic N for the present year's application is not discounted to account for N mineralization. Instead, the NMP assumes that "the minimal mineralization from organic material applied in 2009 is compensated by the cumulative mineralization of organic material applied in previous years."</p> <table border="1" data-bbox="541 1201 1120 1453"> <thead> <tr> <th rowspan="2">Constituent</th> <th colspan="2">Annual Contribution (lbs) from Wastewater</th> </tr> <tr> <th>Total for field</th> <th>Per acre</th> </tr> </thead> <tbody> <tr> <td>P<sub>2</sub>O<sub>5</sub></td> <td>458</td> <td>7.2</td> </tr> <tr> <td>NH<sub>4</sub>-N</td> <td>215</td> <td>3.4</td> </tr> <tr> <td>NO<sub>3</sub>-N</td> <td>1,085</td> <td>17</td> </tr> <tr> <td>Organic N</td> <td>215</td> <td>3.4</td> </tr> </tbody> </table> <p>The data, above, show 23.8 pounds N per acre from wastewater being available to the land application area per year.</p> <p>Based on a total expected crop yield of 36 tons of oats per acre per year (from three plantings of oats per year) and a crop nitrogen requirement of 14 pounds N per ton of crop yield, the facility's total nitrogen requirement is 504 lbs N per acre per year (36 x 14 = 504).</p> <p>NMP section 4.0 indicates that 11,951 pounds of available N is applied to the land application area annually via fresh water (186.7 pounds/acre/year),</p>	Constituent	Annual Contribution (lbs) from Wastewater		Total for field	Per acre	P <sub>2</sub> O <sub>5</sub>	458	7.2	NH <sub>4</sub> -N	215	3.4	NO <sub>3</sub> -N	1,085	17	Organic N	215	3.4	Incorporated into the Fact Sheet as a basis of site-specific nutrient management practices
Constituent	Annual Contribution (lbs) from Wastewater																		
	Total for field	Per acre																	
P <sub>2</sub> O <sub>5</sub>	458	7.2																	
NH <sub>4</sub> -N	215	3.4																	
NO <sub>3</sub> -N	1,085	17																	
Organic N	215	3.4																	

	<p>with no other nutrient sources (besides fresh water and wastewater) being available to the land application area.</p> <p>The figures above indicate a total nitrogen requirement of 504 lbs N per acre per year, with total nitrogen being land applied at a rate of 210.5 lbs per acre per year (23.8 + 186.7 = 210.5). These figures also indicate a deficit of 293.5 lbs N per acre per year (504 - 210.5 = 293.5). Because the Discharger, in NMP section 6.0, reports a deficit of 75 lbs N per acre per crop (75 x 3 = 225 lbs per acre per year with 3 plantings), for determining a maximum nitrogen application rate, the Regional Water Board has used the more conservation figure of 225 lbs N per acre per year to reflect the nitrogen deficit.</p> <p>The Regional Water Board has accounted for the deficit in establishing, at section VI. C. 4 of the Order, the maximum allowable nitrogen application rate of 250 pounds N per acre per year (225 + 23.8 = 248.8).</p>	
40 CFR 122.42 (e) (5) (i) (A) – Regarding nitrogen and phosphorus transport	<ul style="list-style-type: none"> <li>Land application rates are based on nitrogen loadings (not phosphorous), consistent with the Discharger’s determination of a low phosphorous index, or a low potential for phosphorous movement from the land application area. (NMP section 7.0)</li> </ul>	Incorporated into the Fact Sheet as a basis of site-specific nutrient management practices
40 CFR 122.42 (e) (5) (i) (A) – Regarding crops to be planted	<ul style="list-style-type: none"> <li>As described by Appendix C of the NMP, Field 1 shall be triple-cropped (3 plantings) in oats in each year covered by the NMP.</li> </ul>	Order section VI. C. 4.
40 CFR 122.42 (e) (5) (i) (A) – Regarding yield goal for each crop or use	<ul style="list-style-type: none"> <li>Land application rates determined by the NMP are based on an expected crop yield of 12 tons/acre/year. (Gallo plants and harvests oats three times per year from the land application area, establishing a total expected crop yield of 36 tons of oats per acre per year.)</li> </ul>	Incorporated into the Fact Sheet as a basis of site-specific nutrient management practices
40 CFR 122.42 (e) (5) (i) (A) – Regarding nitrogen and phosphorus requirements	<ul style="list-style-type: none"> <li>Land application rates are based on a crop nitrogen requirement of 14 pounds N per ton of crop yield.</li> </ul>	Incorporated into the Fact Sheet as a basis of site-specific nutrient management practices
40 CFR 122.42 (e) (5) (i) (A) – Regarding credits for nitrogen in the field	<ul style="list-style-type: none"> <li>The NMP assumes that, if rates of N application from wastewater are consistent from year to year, credit for residual nitrogen in the field from previous applications will be similar to that portion of organic nitrogen from the current year’s wastewater application that is not mineralized.</li> </ul>	Incorporated into the Fact Sheet as a basis of site-specific nutrient management practices
40 CFR 122.42 (e) (5) (i) (A) – Regarding multi-year phosphorus application	<ul style="list-style-type: none"> <li>Multiyear phosphorous applications are not planned.</li> </ul>	Incorporated into the Fact Sheet as a basis of site-specific nutrient management practices
40 CFR 122.42 (e) (5) (i) (A) – Regarding accounting for other	<ul style="list-style-type: none"> <li>NMP section 4.0 indicates that 11,951 pounds of available N is applied to the land application area annually via freshwater (186.7 pounds/acre/year).</li> </ul>	Incorporated into the Fact Sheet as a basis of site-specific nutrient

additions of plant available nitrogen and phosphorus	No other nutrient sources, in addition to freshwater and wastewater sources, are available to the land application area.	management practices
40 CFR 122.42 (e) (5) (i) (A) – Regarding the form and source of manure, litter, and process wastewater	<ul style="list-style-type: none"> <li>NMP section 3.0 and Appendix C indicate that Pond 12A is the source for all wastewater irrigation. Pond 12A receives wastewater from Pond 2 (and from Ponds 1 and 146 via Pond 2), and from Lake Crandall West. NRCS Code 590 and NMP Appendix E include protocols to ensure representative sampling of the applied wastewater.</li> </ul>	Incorporated into the Fact Sheet as a basis of site-specific nutrient management practices
40 CFR 122.42 (e) (5) (i) (A) – Regarding the timing and method of land application	<ul style="list-style-type: none"> <li>Wastewater shall be land applied via a sprinkler irrigation system in accordance with Table 1 (Crop Watering Requirements for Oats) and Appendix C of the NMP.</li> </ul>	Order section VI. C. 4
40 CFR 122.42 (e) (5) (i) (A) – Regarding methodology to account for the amounts of nitrogen and phosphorus to be land applied.	<ul style="list-style-type: none"> <li>The Discharger shall use the following equation, established by Appendix E, Sampling and Record Keeping Requirements, of its NMP for determining the volume (gallons) of wastewater to apply per acre.</li> </ul> $\text{Volume to apply per 1,000 acres} = \frac{\text{Target application rate}}{[(\text{NO}_3\text{-N} \times 0.008345) + (\text{NH}_4\text{-N} \times 0.008345) + (\text{Organic N} \times 0.008345)]}$	MRP section IX. B
40 CFR 122.42 (e) (1) (ix) – Regarding record keeping	<ul style="list-style-type: none"> <li>The Discharger shall adhere to the record keeping procedures established by Appendix E (Sampling and Record Keeping Requirements) of its NMP.</li> <li>The Discharger shall maintain records to document implementation of operation and maintenance standards included in NRCS Conservation Practice Standard Codes 590 (Nutrient Management) and 449 (Irrigation Water Management)</li> <li>The Discharger shall certify in its Annual Report that, during the previous calendar year, mortalities were placed in a designated, fenced and secure area, where runoff is directed to a wastewater storage pond, until mortalities were removed from the site.</li> <li>The Discharger shall certify in its Annual Report that, during the previous calendar year, no chemicals handled onsite, including petroleum products, were placed, disposed of, or spilled to any onsite manure, litter, process wastewater storage or treatment system.</li> </ul>	<p>MRP section I. G</p> <p>MRP section I. H</p> <p>MRP section X. C</p> <p>MRP section X. C</p>

#### 4. Construction, Operation, and Maintenance Specifications

Most construction, operation, and maintenance specifications have been retained from the previous permit; however, additional specifications have been added as enforceable permit terms as indicated by Table F-2, above. These “additional specifications” have been established pursuant to NPDES regulations at 40 CFR 122.42 (e) (5), which require that terms of the NMP, which address application rates

pursuant to 40 CFR 122.42 (e) (1) (viii) must be established as enforceable terms of the Order.

**5. Special Provisions for Municipal Facilities (POTWs Only)**

This section of the standardized permit template is not applicable.

**6. Compliance Schedules**

This section of the standardized permit template is not applicable.

**7. Transfer of Waste**

This provision of the Order restates the requirements of the NPDES regulations at 40 CFR 122.42 (e) (3), which are applicable when manure and/or process wastewater is transferred from the CAFO to another person.

**IX. PUBLIC PARTICIPATION**

The California Regional Water Quality Control Board, Central Coast Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for the Joseph Gallo Farms Feed Lot. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

**A. Notification of Interested Parties**

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations.

In an October 30, 2009 Regional Water Board letter, staff informed the discharger of our intent to have the Regional Water Board hear this item at its February 4, 2010 meeting. The letter also transmitted instructions (and a Public Notice) for the discharger to publish in a local newspaper. The discharger published the Public Notice on November 11, 2009, in the South County Newspapers, which consists of The King City Rustler, The Greenfield News, The Soledad Bee, and The Gonzales Tribune, stating that comments were due by December 18, 2009.

**B. Written Comments**

Interested persons were invited to submit written comments concerning these tentative WDRs. Monterey Coastkeeper submitted comments. In response to Monterey Coastkeeper's comments, Attachment C was replaced with a figure that shows the location of the on-site irrigation area and supply wells.

No other comments were received on the draft proposed Order.

### **C. Public Hearing**

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: February 4, 2010  
Time: 8:30 am  
Location: Central Coast Water Board Offices  
895 Aerovista Place - Suite 101  
San Luis Obispo, CA 93401

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our Web address is <http://www.waterboards.ca.gov/centralcoast/> where you can access the current agenda for changes in dates and locations.

### **D. Waste Discharge Requirements Petitions**

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

State Water Resources Control Board  
Office of Chief Counsel  
P.O. Box 100, 1001 I Street  
Sacramento, CA 95812-0100

### **E. Information and Copying**

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling 805-549-3147.

**F. Register of Interested Persons**

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference this facility, and provide a name, address, and phone number.

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**G. Additional Information**

Requests for additional information or questions regarding this order should be directed to Tom Kukol at (805) 549-3689 or [Tkukol@waterboards.ca.gov](mailto:Tkukol@waterboards.ca.gov).

**ATTACHMENT G – SUMMARY OF CAFO REQUIREMENTS FROM 40 CFR 122 AND 412**

Federal Rule	Requirement	Addressed by Order R3-2010-0004 at:
40 CFR 122.23 (b) (3)	Land application area is defined as land under control of the CAFO owner or operator, whether it is owned, rented, or leased, to which manure, litter, or process wastewater from the production area is or may be applied.	Attachment A
40 CFR 122.23 (b) (4)	A large CAFO is defined to include an animal feeding operation that confines 1,000 cattle or more, other than mature dairy cattle or veal calves, including heifers, steers, bulls, and cow/calf pairs.	Attachment A
40 CFR 122.23 (b) (7)	Process wastewater is defined to include water directly or indirectly used in the operation of a CAFO, including spillage or overflow from animal watering systems; washing, cleaning, flushing pens, barns, manure pits, or other CAFO facilities; direct contact washing of animals; and any water that comes into contact with raw materials, products, or byproducts such as manure, litter, and bedding.	Attachment A
40 CFR 122.23 (b) (8)	Production area is defined to include the animal confinement area, the manure storage area, the raw materials storage area, and the waste containment areas. The definition provides several examples of animal confinement areas, manure storage areas, raw materials storage areas, and waste containment areas.	Attachment A
40 CFR 122.23 (d) (1)	Requires an NPDES permit if a CAFO discharges or proposes to discharge. A CAFO proposes to discharge if it is designed, constructed, operated, or maintained such that a discharge will occur.	Not directly addressed by the Order. Regional Water Board's requirement for permit coverage does address.
40 CFR 122.23 (i) (3)	Establishes procedures for a CAFO to certify that it does not discharge or propose to discharge. Important to note that 40 CFR 122.23 (i) (3) describes specific submittals that a CAFO owner or operator must submit to the permitting authority to certify that it does not discharge or propose to discharge. (i.e., the onus is on the Discharger to gain a "No Discharge" certification, and therefore fall out of the permit requirement.	Not addressed by the Order
40 CFR 122.42 (e)	All permits issued to CAFOs must include the following 9 requirements.	
40 CFR 122.42 (e) (1)	Permit must require implementation of a Nutrient Management Plan that includes, at a minimum, BMPs and limitations and standards to meet applicable ELGs at 40 CFR Part 412. To the extent applicable, the NMP must address 9 requirements established at 40 CFR 122.42 (e) (1) (i – ix).	VI. C. 3
40 CFR 122.42 (e) (1) (i – viii)	To the extent applicable, the NMP must address 9 requirements established at 40 CFR 122.42 (e) (1) (i – ix). i. Ensure adequate storage of manure, litter, and process wastewater, including procedures to ensure proper operation and maintenance of the storage facilities. ii. Ensure proper management of mortalities to ensure that they are not disposed of in a liquid manure, storm water, or process wastewater storage or treatment system that is not specifically designed to treat animal mortalities.	VI. C. 3. b

	<p>iii. Ensure that clean water is diverted from the production area.</p> <p>iv. Prevent direct contact of concentrated animals with waters of the U.S.</p> <p>v. Ensure that chemicals and other contaminants handled on site are not disposed of in any manure, litter, process wastewater, or storm water storage or treatment system unless specifically designed to treat such chemicals and other contaminants.</p>	
	<p>vi. Identify site-specific conservation practices to be implemented, including appropriate buffers or equivalent practices, to control runoff of pollutants to waters of the U.S.</p> <p>vii. Identify protocols for appropriate testing of manure, litter, process wastewater, and soil.</p> <p>viii. Establish protocols to land apply manure in accordance with site-specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the manure, litter, or process wastewater.</p> <p>ix. Identify specific records that will be maintained to document the implementation and management of the minimum elements described in i through viii, above.</p>	
40 CFR 122.42 (e) (2)	<p>A copy of the Permittee's site-specific Nutrient Management Plan must be maintained onsite and be available to the Regional Water Board upon request. The Permittee must create and maintain for 5 years, and make available to the permitting authority:</p> <p>(A) Applicable records identified pursuant to 40 CFR 122.42 (e) (1) (ix).</p> <p>(B) Records specified in 40 CFR 412.37 (b and c).</p>	MRP X. F
40 CFR 122.42 (e) (3)	<p>Prior to transferring manure, litter, or process wastewater to other persons, large CAFOs must provide the recipient of the manure, litter, or process wastewater with the most current nutrient analysis, which must conform to the requirements of 40 CFR Part 412. Large CAFOs must retain, for 5 years, records of the date, recipient name and address, and approximate amount of manure, litter, or process wastewater transferred.</p>	VI. C. 7
40 CFR 122.42 (e) (4)	<p>Requires submittal of an Annual Report to the Regional Water Board, which must include the following items (i – viii)</p>	MRP X. C
40 CFR 122.42 (e) (4) (i)	<p>The number and type of animals (mature dairy cows, dairy heifers, veal calves, etc) in confinement, whether in open confinement or under roof.</p>	MRP X. C
40 CFR 122.42 (e) (4) (ii)	<p>Estimate of the amount of manure, litter, and process wastewater generated in the previous 12 months.</p>	MRP X. C
40 CFR 122.42 (e) (4) (iii)	<p>Estimate of the amount of manure, litter, and process wastewater transferred to another person in the previous 12 months.</p>	MRP X. C
40 CFR 122.42 (e) (4) (iv)	<p>Number of acres for land application covered by the NMP.</p>	MRP X. C
40 CFR 122.42 (e) (4) (v)	<p>Number of acres under control of the CAFO that were used for land application of manure, litter, and process wastewater in the previous 12 months.</p>	MRP X. C
40 CFR 122.42 (e) (4) (vi)	<p>Summary of discharges of manure, litter, and process wastewater from the production area in the previous 12 months, including date, time, and approximate volume.</p>	MRP X. C
40 CFR 122.42 (e) (4) (vii)	<p>A statement indicating whether the current NMP was developed or approved by a certified nutrient management planner.</p>	MRP X. C
40 CFR 122.42	<p>Crops planted and yield for each field, the nitrogen and phosphorus</p>	MRP X. C

(e) (4) (viii)	<p>content of the manure, litter, and process wastewater, results of calculations conducted in accordance with 40 CFR 122.42 (e)(5)(i)(B) and (e)(5)(ii)(D), and the amount of manure, litter, and process wastewater applied to each field during the previous 12 months. For any CAFO that implements an NMP that addresses rates of application in accordance with 40 CFR 122.42 (e)(5)(ii), the results of any soil testing for nitrogen and phosphorus conducted in the preceding 12 months, data used in calculations conducted in accordance with 40 CFR 122.42 (e)(5)(ii)(D), and the amount of any supplemental fertilizer applied during the previous 12 months.</p>	
40 CFR 122.42 (e) (5)	<p><b>This provision of the new (2008) CAFO rule establishes what terms of the NMP shall become enforceable terms of the NPDES permit.</b></p> <p>The permit must require compliance with information, protocols, BMPs, and other conditions of the NMP, which are necessary to meet the requirements of 40 CFR 122.42 (e)(1). The terms of NMP regarding land application established at 40 CFR 122.42 (e) (1) (viii) and 40 CFR 412.4 (c) must include: the fields available for land application; field-specific rates of application developed in accordance with 40 CFR 122.42 (e)(5)(i and ii); and any timing limitations identified in the NMP regarding land application on the fields available.</p> <p>The NMP must address rates of application using <b>one of the following two approaches (i or ii)</b>, unless the Regional Water Board specifies that only one of these approaches may be used.</p>	See Fact Sheet VIII. C. 3
40 CFR 122.42 (e) (5) (i)	<p>Linear Approach (an approach that expresses rates of application as pounds of nitrogen and phosphorus) – Instruct the Discharger to consult the specific language and requirements established by the USEPA at 40 CFR 122.42 (e) (5) (i). Those requirements are summarized as follows.</p> <p>(A) NMP terms must include maximum application rates for each year of permit coverage - for each crop identified in the NMP, expressed as pounds per acre and pounds per year, for each field to be used for land application. The NMP must identify certain factors necessary to determine application rates, including: the outcome of the field-specific assessment of the potential for nitrogen and phosphorus transport from each field; the crops to be planted in each field or any other uses of a field (e.g., pasture or fallow field); the realistic yield goal for each crop or use identified for each field; the nitrogen and phosphorus recommendations from sources approved by the Regional Water Board for each crop or use identified for each field; credits for all nitrogen in the field that will be plant available; consideration of multi-year phosphorus application; and accounting for all other additions of plant available nitrogen and phosphorus to the field. In addition, NMP terms must include the form and source of manure, litter, and process wastewater to be land-applied; the timing and method of land application; and the methodology by which the NMP accounts for the amount of nitrogen and phosphorus in the manure, litter, and process wastewater to be applied.</p> <p>(B) At least one time each year, large CAFOs must calculate the maximum amount of manure, litter, and process wastewater to be land applied using the results of the most recent representative manure, litter, and process wastewater tests for nitrogen and phosphorus taken within 12 months.</p>	See Fact Sheet VIII. C. 3

<p>40 CFR 122.42                  (e) (5) (ii)</p>	<p>Narrative Approach (an approach that expresses rates of application as a narrative rate of application that results in the amount, in tons or gallons, of manure, litter, and process wastewater to be land applied) - Instruct the Discharger to consult the specific language and requirements established by the USEPA at 40 CFR 122.42 (e) (5) (ii). Those requirements are summarized as follows.</p>	<p>Not Applicable as the Discharger has used the linear approach to express application rates</p>
	<p>(A) NMP terms must include maximum amounts of nitrogen and phosphorus derived from all sources of nutrients, for each crop identified in the nutrient management plan, expressed in pounds per acre for each field. The NMP must identify certain factors necessary to determine application rates, including: the outcome of the field-specific assessment of the potential for nitrogen and phosphorus transport from each field; the crops to be planted in each field or any other uses (e.g., pasture or fallow fields), including alternative crops identified in accordance with 40 CFR 122.42 (e)(5)(ii)(B); the realistic yield goal for each crop or use identified for each field; and the nitrogen and phosphorus recommendations from sources from sources approved by the Regional Water Board for each crop or use identified for each field. In addition, NMP terms must describe the methodology by which the NMP accounts for the following factors when calculating the amounts of manure, litter, and process wastewater to be land applied: results of soil tests conducted in accordance with protocols identified in the NMP, as required by 40 CFR 122.42 (e)(1)(vii); credits for all nitrogen in the field that will be plant available; the amount of nitrogen and phosphorus in the manure, litter, and process wastewater to be applied; consideration of multi-year phosphorus application; accounting for all other additions of plant available nitrogen and phosphorus to the field; the form and source of manure, litter, and process wastewater; the timing and method of land application; and volatilization of nitrogen and mineralization of organic nitrogen.</p> <p>(B) The NMP identifies alternative crops that are not in the planned crop rotation. When alternative crops are identified in the NMP, such crops must be listed by field in addition to the crops identified in the planned crop rotation for that field, and the nutrient management plan must include realistic crop yield goals and the nitrogen and phosphorus recommendations from sources approved by the Regional Water Board for each crop. Maximum amounts of nitrogen and phosphorus from all sources of nutrients and the amounts of manure, litter, and process wastewater to be applied must be determined in accordance with the methodology described at 40 CFR 122.42 (e)(5)(ii)(A).</p> <p>(C) For CAFOs using a narrative approach, the following projections must be included in the NMP but are not terms of the NMP: planned crop rotations for each field for the period of permit coverage; the projected amount of manure, litter, or process wastewater to be applied; projected credits for all nitrogen in the field that will be plant available; consideration of multi-year phosphorus application; accounting for all other additions of plant available nitrogen and phosphorus to the field; and the predicted form, source, and method of application of manure, litter, and process wastewater for each crop. Timing of application for each field, insofar as it concerns the calculation of rates of application, is not a term of the NMP.</p> <p>(D) At least one time each year, CAFOs using the narrative approach must calculate maximum amounts of manure, litter, and</p>	

	<p>process wastewater to be land applied using the methodology established at 40 CFR 122.42 (e)(5)(ii)(A) before land applying manure, litter, and process wastewater and must rely on the following data (1 and 2):</p> <p>(1) A field-specific determination of soil levels of nitrogen and phosphorus, including, for nitrogen, a concurrent determination of nitrogen that will be plant available, consistent with the methodology established by 40 CFR 122.42 (e)(5)(ii)(A), and for phosphorus, the results of the most recent soil test conducted in accordance with soil testing requirements approved by the Regional Water Board; and</p> <p>(2) The results of most recent representative manure, litter, and process wastewater tests for nitrogen and phosphorus taken within 12 months of the date of land application, in order to determine the amount of nitrogen and phosphorus in the manure, litter, and process wastewater to be applied.</p>	
40 CFR 122.42 (e) (6)	Permit must require the following procedures when changes are made to an NMP plan, which has previously been submitted to the Regional Water Board.	VI. C. 3
40 CFR 122.42 (e) (6) (i)	The owner or operator must provide to the Regional Water Board the most current version of the NMP and identify changes from the previous version, except that the results of calculations made in accordance with the requirements of 40 CFR 122.42 (e)(5)(i)(B) and (e)(5)(ii)(D) are not required for this submittal.	VI. C. 3
40 CFR 122.42 (e) (6) (ii)	<p>Based on review of the revised NMP, the Regional Water Board must determine whether the changes to the NMP necessitate revision to the terms of the NMP, which are incorporated into the. If revision to the terms of the NMP is not necessary, the Regional Water Board must notify the owner or operator, and upon such notification the CAFO may implement the revised NMP. If revision to the terms of the NMP is necessary, the Regional Water Board must determine whether such changes are substantial changes as described at 40 CFR 122.42 (e)(6)(iii).</p> <p>(A) If the Regional Water Board determines that changes to the terms of the NMP are not substantial, the Regional Water Board must make the revised NMP publicly available and include it in the permit record, revise the terms of the NMP incorporated into the permit, and notify the owner or operator and inform the public of any changes to the terms of the NMP that are incorporated into the permit.</p> <p>(B) If the Director determines that the changes to the terms of the NMP are substantial, the Director must notify the public and make the proposed changes and the information submitted by the owner or operator available for public review and comment. The process for public comments, hearing requests, and the hearing process must follow procedures applicable to draft permits set forth in 40 CFR 124.11 - 124.13. The Regional Water Board may establish, either by regulation or in the permit, an appropriate period of time for the public to comment and request a hearing on the proposed changes that differs from the time period specified in 40 CFR 124.10. The Regional Water Board must respond to all significant comments received during the comment period as provided in 40 CFR 124.17, and require the owner or operator to further revise the NMP if necessary to approve the revision to the terms of the NMP incorporated into the permit. Once the Regional Water Board incorporates the revised terms of the NMP into the permit, the</p>	These are responsibilities of the Regional Water Board

	Regional Water Board must notify the owner or operator and inform the public of the final decision concerning revisions to the terms and conditions of the permit.	
40 CFR 122.42 (e) (6) (iii)	Substantial changes to the terms of an NMP incorporated as terms and conditions of a permit include, but are not limited to: (A) Addition of new land application areas not previously included in the NMP, except that if the land application area that is being added to the NMP is covered by terms of an NMP incorporated into an existing NPDES permit in accordance with the requirements of 40 CFR 122.42 (e)(5), and the owner or operator applies manure, litter, or process wastewater on the newly added land application area in accordance with the existing field-specific permit terms applicable to the newly added land application area, such addition of new land would be a change to the new owner or operator's NMP but not a substantial change for purposes of this section; (B) Any changes to the field-specific maximum annual rates for land application, as set forth at 40 CFR 122.42 (e)(5)(i), and to the maximum amounts of nitrogen and phosphorus derived from all sources for each crop, as set forth at 40 CFR 122.42 (e)(5)(ii); (C) Addition of any crop or other uses not included in the terms of the NMP and corresponding field-specific rates of application expressed in accordance with 40 CFR 122.42 (e)(5); and (D) Changes to site-specific components of the NMP, where such changes are likely to increase the risk of nitrogen and phosphorus transport to waters of the U.S.	These are definitions which are not incorporated into the permit but are still applicable.
40 CFR 412.4 (c)	CAFOS must land apply manure, litter, and process wastewater in accordance with the following practices (1 – 5)	VI. C. 3
40 CFR 412.4 (c) (1)	CAFOs must develop and implement NMPs that incorporate the requirements of (2 – 5), below, based on a field specific assessment of the potential for nitrogen and phosphorous transport from the field and that addresses the form, source, amount, timing, and method of application of nutrients on each field to achieve realistic production goals, while minimizing nitrogen and phosphorous movement to surface waters.	VI. C. 3. a
40 CFR 412.4 (c) (2)	Application rates for manure, litter, and other process wastewater must minimize phosphorus and nitrogen transport from the field to surface waters in compliance with the technical standards for nutrient management established by the Regional Water Board. Such technical standards for nutrient management shall: (i) Include a field-specific assessment of the potential for nitrogen and phosphorus transport from the field to surface waters, and address the form, source, amount, timing, and method of application of nutrients on each field to achieve realistic production goals, while minimizing nitrogen and phosphorus movement to surface waters; and (ii) Include appropriate flexibilities to implement nutrient management practices to comply with the technical standards, including consideration of multi-year phosphorus application on fields that do not have a high potential for phosphorus runoff to surface water, phased implementation of phosphorus-based nutrient management, and other components, as determined appropriate by the Regional Water Board.	VI. C. 4
40 CFR 412.4 (c) (3)	Manure must be analyzed a minimum of once annually for nitrogen and phosphorus content, and soil analyzed a minimum of once	MRP IX. B

	every five years for phosphorus content. The results of these analyses shall be used in determining application rates for manure, litter, and other process wastewater.	
40 CFR 412.4 (c) (4)	The operator must periodically inspect equipment used for land application of manure, litter, or process wastewater.	VI. C. 4
40 CFR 412.4 (c) (5)	Unless the CAFO exercises one of the compliance alternatives provided for in 40 CFR 412.4 (c) (5) (i or ii), manure, litter, and process wastewater may not be applied closer than 100 feet to any down-gradient surface waters, open tile line intake structures, sinkholes, agricultural well heads, or other conduits to surface water. (i) As an alternative, the CAFO may substitute the 100-foot setback with a 35-foot wide vegetated buffer where applications of manure, litter, or process wastewater are prohibited. (ii) As an alternative, the CAFO may demonstrate that a setback or buffer is not necessary because implementation of alternative conservation practices or field-specific conditions will provide pollutant reductions equivalent or better than the reductions that would be achieved by the 100-foot setback.	VI. C. 4
40 CFR 412.31 (a)	There shall be no discharge of manure, litter, or process wastewater pollutants into waters of the U.S. from the production area. Whenever precipitation causes an overflow of manure, litter, or process wastewater, pollutants in the overflow may be discharged if the production area is designed, constructed, operated; and maintained to contain all manure, litter, and process wastewater including the runoff and the direct precipitation from a 25 year, 24 hour rainfall event.	IV. A. 1. b
40 CFR 412.31 (c)	For the control of discharges from land application areas, CAFOs must develop and implement BMPs required by 40 CFR 412.4 and must maintain records required by 40 CFR 412.37 (c).	VI. C. 3. a
40 CFR 412.37 (a)	Each CAFO subject to this subpart must implement the following requirements:	
40 CFR 412.37 (a) (1)	There must be routine visual inspections of the CAFO production area. At a minimum, the following must be visually inspected: (i) Weekly inspections of all storm water diversion devices, runoff diversion structures, and devices channelling contaminated storm water to the wastewater and manure storage and containment structure; (ii) Daily inspection of water lines, including drinking water or cooling water lines; (iii) Weekly inspections of the manure, litter, and process wastewater impoundments; the inspection will note the level in liquid impoundments as indicated by the depth marker in paragraph (a)(2) of this section.	VI. C. 4
40 CFR 412.37 (a) (2)	Open surface impoundments must have a depth marker which indicates the minimum capacity necessary to contain the runoff and direct precipitation of the 25-year, 24-hour rainfall event.	VI. C. 4
40 CFR 412.37 (a) (3)	Deficiencies found as a result of inspections must be corrected as soon as possible.	VI. C. 4
40 CFR 412.37 (a) (4)	Mortalities must not be placed in any liquid manure or process wastewater system and must be handled in a way to prevent the discharge of pollutants to surface water, unless alternative technologies pursuant to 40 CFR 412.31 (a)(2) and approved by the Regional Water Board are designed to handle mortalities.	III. E

<p>40 CFR 412.37 (b)</p>	<p>Each CAFO must maintain on-site for a period of five years from the date they are created a complete copy of the information required by 40 CFR 122.21(i)(1) and 40 CFR 122.42(e)(1)(ix) and the records specified in 40 CFR 412.37 (b)(1 - 6). These records shall be available to the Regional Water Board upon request.</p> <p>(1) Records documenting the inspections required under paragraph 40 CFR 412.37 (a)(1) of this section;</p>	<p>MRP X. F</p>
	<p>(2) Weekly records of the depth of the manure and process wastewater in liquid impoundments as indicated by the depth marker under 40 CFR 412.37 (a)(2);</p> <p>(3) Records documenting actions taken to correct deficiencies required under 40 CFR 412.37 (a)(3). Deficiencies not corrected within 30 days must be accompanied by an explanation of the factors preventing immediate correction;</p> <p>(4) Records of mortalities management and practices used to meet the requirements of 40 CFR 412.37 (a)(4) of this section;</p> <p>(5) Records documenting the current design of any manure or litter storage structures, including volume for solids accumulation, design treatment volume, total design volume, and approximate number of days of storage capacity;</p> <p>(6) Records of the date, time, and estimated volume of any overflow.</p>	
<p>40 CFR 412.37 (c)</p>	<p>Each CAFO must maintain on-site a copy of its site-specific NMP. Each CAFO must maintain on-site for a period of five years from the date they are created a complete copy of the information required by 40 CFR 412.4 and 40 CFR 122.42(e)(1)(ix) and the records specified in 40 CFR 412.37 (c)(1 - 10). These records must be available to the Regional Water Board upon request.</p> <p>(1) Expected crop yields;</p> <p>(2) The date(s) manure, litter, or process waste water is applied to each field;</p> <p>(3) Weather conditions at time of application and for 24 hours prior to and following application;</p> <p>(4) Test methods used to sample and analyze manure, litter, process waste water, and soil;</p> <p>(5) Results from manure, litter, process waste water, and soil sampling;</p> <p>(6) Explanation of the basis for determining manure application rates, as provided in the technical standards established by the Regional Water Board.</p> <p>(7) Calculations showing the total nitrogen and phosphorus to be applied to each field, including sources other than manure, litter, on process wastewater;</p> <p>(8) Total amount of nitrogen and phosphorus actually applied to each field, including documentation of calculations for the total amount applied;</p> <p>(9) The method used to apply the manure, litter, or process wastewater;</p> <p>(10) Date(s) of manure application equipment inspection.</p>	<p>MRP X. F</p>

**ATTACHMENT H – NUTRIENT MANAGEMENT PLAN**



## **NUTRIENT MANAGEMENT PLAN REVISED**

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**Prepared For:  
Joseph Gallo Farms**

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## 1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) was retained by Joseph Gallo Farms to complete a Nutrient Management Plan (NMP) for their feedlot located at 31701 Johnson Canyon Road, Gonzales California in the County of Monterey (Site).

The NMP will accompany a water discharge permit application and was designed to meet the requirements of the Environmental Protection Agency (EPA) Revised National Pollutant Discharge Elimination System Permit Regulation and Effluent Limitations Guidelines for Concentrated Animal Feeding Operations in Response to the Waterkeeper Decision, Final Rule (EPA, 2008) as shown in Appendix A. The NMP is valid during the 5-year period of 2009 to 2014 as required by the term of the permit. The NMP was developed by Lolita Aumuller of CRA, who is an agronomist and Certified Nutrient Management Planner.

This report is based on information provided by Joseph Gallo Farms outlined in Section 2.0 and a site visit conducted in February 2009. It has been revised to incorporate more detail based on a series of questions and recommendations provided by the Water Board in a Memorandum dated May 27, 2009 prepared by Tetra Tech.

## 2.0 METHODOLOGY

Information for the NMP was obtained by Joseph Gallo Farms and included the 2004 Comprehensive Nutrient Management Plan (Joseph Gallo Farms, 2004), 2008 2<sup>nd</sup> Semi-Annual Report of Effluent Analysis Results and Weekly Freeboard Measurements for Joseph Gallo Farms' Feed Lot (Joseph Gallo Farms, 2008) and Annual Report for Joseph Gallo Farms Gonzales Feedlot (Joseph Gallo Farms, 2009). Information related to the pond storage capacity included previous engineering measurements summarized in the revised Permit No. CA0050601 and a recent Aerial Survey completed in January, 2009.

As per regulatory requirements, the NMP was developed using the Manure Management Planner (MMP) with applications based on crop nitrogen requirements. Due to the inability of the MMP as discussed throughout this report, additional data was calculated using the Dairy Planning Tool (DPT) and the Animal Waste Management Software (AWM) as provided by the United States Department of Agriculture, Natural Resource Conservation Service (USDA-NRCS).

The DPT was utilized to provide supporting calculations to determine if the existing storage capacity was adequate. The limitations of the MMP included lack of consideration of rainfall runoff from the Site that is collected in the waste storage ponds, whereas the DPT is capable of providing this calculation. Additionally, the MMP does not have the capabilities for triple cropping of oat silage. Additional calculations and application rate descriptions are provided in this report to overcome the MMP limitations and were based on nitrogen requirements of the crop.

### 3.0 GENERAL OPERATIONAL DESCRIPTION/STORAGE

Based on previous surveys, the site is comprised of approximately 529 acres which include 101 acres of animal housing on earthen lots/corrals, 5 acres of feed storage, 26 acres used for composting activities, 64 acres of irrigated cropland, 2.5 acres of roofed area, and the remaining acreage being undeveloped land outside of these production areas.

At the present time the Site houses approximately 10,890 head of cattle of which 10,243 are heifers, 552 are bulls, and 95 are dry cows. The herd consists of approximately 70% Holsteins, 25% Jerseys, and 5% cross-breeds. All animals are housed in open animal pens. The Site has the capacity to house 30,000 head of cattle.

There are nine ponds on-site that hold waste water, clean storm water runoff or a combination of both. These ponds serve as evaporation/holding ponds for waste water and storm water prior to land application.

Ponds 1, 2 and 146 located on the northwest side of the Site are only used for waste water storage. The total storage capacity (excluding two-foot of freeboard) of these three wastewater ponds, based on earlier measurements, is 47.8 acre-feet. The wastewater stored in these ponds is precipitation runoff from the corrals and livestock housing areas. This area is approximately 101 acres in size and includes all earthen lots, gravel drives and concrete feed lanes. There is no contribution of freshwater to these ponds from the animal operations as this is not a dairy so there are no liquids generated from equipment or animal washing.

Ponds Lake Crandall West, Lake Crandall East, and 12A, located east of the corrals and production area, are used for storage of clean water runoff and/or waste water pumped from one of the three waste water ponds (1,2 or 146). The combined capacity of these three ponds is approximately 30 acre-feet based on earlier measurements. The runoff to these ponds includes approximately 31.1 acres that comprise the feed storage area and

the compost site. The ponds can also act as overflow ponds when the waste water storage ponds (1, 2 and 146) reach capacity or if the fresh water ponds (12B, 13N and 13S) up gradient reach capacity. Current management practices include weekly pond inspections and inspections after significant precipitation events. Waste water is balanced in the system by pumping or gravity flow to distribute the water from a full pond to a pond(s) that have capacity.

Ponds 12B, 13N and 13S are located to the far east of the Site and are used for storage of clean water runoff from up gradient land that is not used for agricultural production. These ponds have a total estimated capacity of 41 acre-feet and receive runoff from an estimated 203 acres. This clean water is diverted to the freshwater ponds by diversion swales. Ponds 12B, 13N and 13S act as retention ponds to keep clean upgradient runoff from entering the production area with the water used for irrigation when necessary.

When the wastewater ponds are to be emptied, or irrigation water is needed, the wastewater is pumped from Pond 2 to Pond 12A which acts as the main irrigation pond for the cropland. Wastewater is gravity drained from Pond 146 to Pond 1 to Pond 2 through a series of valves and overflows. In a similar fashion, water from Lake Crandall West can be pumped to the irrigation pond 12A as necessary.

As part of the routine inspections of the Operation, the pond levels are inspected weekly and after significant precipitation events. The inspections are recorded and kept on file at the main Office. In the event that one of the waste water ponds reaches capacity, the water is pumped to a pond that has additional storage capacity to maintain the necessary freeboard. Equipment used for transferring water and wastewater are also inspected, prior to use. In addition, when the ponds are pumped down, the depth of solids is noted and these solids are cleaned out on an as required basis which generally occurs annually with solids taken to the composting site and ultimately transferred off-site.

Excreted solid manure collected from the animal pens is transported to a composting facility outside of the production area. Solid manure is not land applied. Collected waste water includes rainfall runoff from the animal pens and silage storage areas and rainfall directly into the ponds. The storage capacity was estimated to be 3,038,535 cubic feet (22,728,242 gallons) for ponds 1, 2, 146 and 12A based on the 2003 evaluation. In addition, there is additional storage volume in the Lake Crandall East and Lake Crandall West ponds that may be used as backup in the event that the waste water ponds could not be emptied due to wet field conditions.

The estimated volume of wastewater collected is provided by the DPT found in Appendix B. The volume of wastewater collected from runoff during the 120 day storage period of November to February was estimated at 1,950,280 cubic feet (ft<sup>3</sup>) (14,588,000 gallons). The calculation assumed that all roof runoff, gravel and concrete drives, and other earthen surfaces were directed to the waste water ponds. The DPT calculations assumed that all roofed areas (110,128 ft<sup>2</sup>) and all concrete feed lanes and pads (176,443 ft<sup>2</sup>) drained to the wastewater ponds in addition to 132 acres of potentially manured surfaces. This 132 acres included the actual animal housing areas, the feed storage areas and the compost pad area. The DPT also calculated the existing storage capacity for waste water to be 2,266,400ft<sup>2</sup> (16,953,000 gallons using a conservative 2 foot freeboard for all ponds when in fact, ponds 1 and 146 would not require this much freeboard as they gravity drain to Pond 2. This assumption is a conservative approach and overestimates the volume of waste water collected.

As a second check on calculated volumes from the production area, the AWM was used to predict the volume of waste water that could be generated from the production area. The AWM software (AWM version 2.3.0) is a very conservative tool that generally over estimates the volume of water generated at a given site. The program was run using 101 acres, precipitation values for the Salinas station and a runoff curve number of 90. Based on the AWM results, the total volume of waste water generated from normal precipitation runoff was 9.0 million gallons. The total for the 25 year/24 hour storm event was an additional 4.56 million for a total of 13.56 million gallons.

As a final check on the minimum available storage, a topographic aerial survey was used to calculate the volume of wastewater storage on site. This survey was flown with contours generated at 5 foot intervals. Therefore the accuracy may be +/- 2.5 feet, however as a spot check, the contour lines were used to develop volume estimates for Ponds 1, 2, 146, Lake Crandall West and Lake Crandall East. This exercise showed that the estimated volume for the five ponds listed above was 1,881,500ft<sup>3</sup> (14.1 million gallons).

Based on the above ranges of estimated waste water production the conservative, higher end estimate (13.56 million gallons of wastewater produced) was used to determine the maximum waste water production. This was compared to the lower volume for required storage capacity (14.1 million gallons) to substantiate that the Site has sufficient storage to contain the generated wastewater.

Mortalities are managed by relocating the animals to a designated, fenced secured area for temporary storage until they can be picked up by the local rendering company which

is called when needed. This temporary storage area is designed to direct any runoff to the waste water storage pond.

Petroleum and chemical storage includes an above ground diesel storage tank (AST) located within a concrete secondary containment structure along with small quantities of "point-of-use" sized containers. There is no disposal of petroleum or chemicals compounds in the waste water ponds.

#### 4.0 NUTRIENT APPLICATIONS

Nutrient applications at the Site consist of wastewater applications from Pond 12A as described in Section 3.0 of this report and freshwater irrigations from the Site's irrigation well. This section discusses the nitrogen (N) and phosphorus (P) nutrients available from these sources.

In order to characterize the wastewater, a wastewater sample was collected on October 28, 2008 and analyzed for constituents including total phosphorus, total Kjeldahl nitrogen, nitrate-nitrogen (NO<sub>3</sub>-N), organic nitrogen, and total nitrogen. The analytical results and associated nutrient concentrations are as follows:

<i>Constituent</i>	<i>Concentration</i>	<i>Nutrient Concentration</i>
Phosphorus	1.8 mg/L	0.015 lbs/1,000 gallon
Total Kjeldahl Nitrogen	3.8 mg/L	0.032 lbs/1,000 gallon
Nitrate - Nitrogen	9.6 mg/L	0.080 lbs/1,000 gallon
Organic Nitrogen	1.9 mg/L	0.016 lbs/1,000 gallon
Total Nitrogen	13.0 mg/L	0.109 lbs/1,000 gallon

Note: lbs/1,000 gallons = concentration (mg/L) X 0.008345

The constituents utilized for the MMP are phosphorus oxide (P<sub>2</sub>O<sub>5</sub>), total nitrogen, and ammonium-nitrogen on a pound per 1,000 gallon basis. The calculated P<sub>2</sub>O<sub>5</sub> is 0.034 pounds per 1,000 gallons (1.8 mg/L x 0.008345 x 2.3 P<sub>2</sub>O<sub>5</sub>/P). The calculated ammonium-nitrogen (NH<sub>4</sub>-N) concentration (total Kjeldahl nitrogen minus organic matter) is 1.8 mg/L or 0.016 pounds per 1,000 gallons. The nutrient concentrations for P<sub>2</sub>O<sub>5</sub>, total nitrogen, and ammonium-nitrogen were too low to be entered in the MMP program; therefore, default values of 0.1 pounds per 1,000 gallons were entered.

Based on the analytical data, the estimated available nutrient concentration in the wastewater collected over a one year period was determined by multiplying the nutrient concentration by the total estimated volume of wastewater of 13,560,000 gallons, collected annually. The results are as follows:

<i>Nutrient Concentration</i>	<i>Nutrient Contribution from Wastewater per Year</i>
0.03 lbs/1,000 gallons P <sub>2</sub> O <sub>5</sub>	458 lbs
0.016 lbs/1,000 gallons NH <sub>4</sub> -N	215 lbs
0.08 lbs/1,000 gallons NO <sub>3</sub> -N	1,085 lbs
0.016 lbs/1,000 gallons Organic N	215 lbs

Additional N is available through mineralization of organic N. The concentration of organic N added to the system via wastewater applications is 215 pounds (1.9 mg/L X 0.008345 X 13,560,000 gallons). The rate of mineralization is dependent on several factors including C:N ratio, soil temperatures, and soil microbial populations. Assuming similar rates of application in the past and in the future, the N credits can be assumed to be similar. i.e. the minimal mineralization from organic material applied in 2009 is compensated by the cumulative mineralization of organic material applied in previous years.

Additional nutrient applications include nutrients added as a result of freshwater applications. Well analysis exhibited a nitrate concentration of 21 mg/L that contributes 0.175 pounds of available N per 1,000 gallons (21mg/L x 0.00835). The total estimated available N from freshwater applications, based on the total required freshwater requirement of 68,293,018 gallons provided in Table 1, is 11,951 pounds. An explanation of freshwater irrigations is further discussed in Section 6.0 of this report.

Therefore the annual available N from freshwater and wastewater, for crop uptake, through NO<sub>3</sub>-N, NH<sub>4</sub>-H, and mineralized organic matter is estimated at 13,927 pounds per the land application area (218 pounds per acre).

No other immediately available nutrient sources, such as fertilizers or solid manure, are added to the field.

It is recommended that wastewater and irrigation water samples continue to be collected and analyzed using methods described in Appendix E.

## 5.0 LAND APPLICATION

This section discusses the land application area and the N and P uptake potential for nutrients described in Section 4.0 of this report.

All wastewater collected on site is land applied on 64 acres of cropland via sprinkler irrigation. The soil within this land application area is described as a Gloria sandy loam with slopes ranging from 2 to 9%. An intermittent stream is located approximately 670 feet south of the land application area. The 100-foot set-back from this stream is therefore maintained.

The field is triple cropped to oats with an approximate yield of 12 tons per acre. California NRCS values for nitrogen (N) uptake of oats is 14 pounds of N per ton of oats per crop, which correlates to 168 pounds of N per acre or 504 pounds per acre of N annually, for the triple crop. Therefore, the triple-cropped field is capable of taking up 32,256 pounds of N annually.

Phosphorus (P) uptake values, based on 3.7 pounds of P per ton of oats, correlates to 44.4 pounds per acre or 133 pounds per acre annually. Therefore, the triple-cropped field is capable of taking up 8,525 pounds of P annually.

## 6.0 RATES OF APPLICATION

This section discusses the rates of application for wastewater and freshwater irrigations.

Reports produced by the MMP are presented in Appendix C and include the Annual Field Nutrient Needs, Field Nutrient Balance, and Field Nutrient Status Details.

The Annual Field Nutrient Needs supports the annual field crop requirements of 32,256 pounds of N and 8,512 pounds of P as calculated in Section 5.0 above.

The Field Nutrient Balance Report shows an N and P deficit for the field, for all years of application. The annual N available in the wastewater and freshwater was calculated in Section 4.0 at 13,927 pounds of N. Compared to the annual plant uptake of 32,256 pounds of N, the N deficit would be 18,329 pounds. Therefore, an additional 18,329 pounds of N (75 pounds per acre per crop) could be applied to meet the recommended agronomic rates.

Similarly, the annual P available in the wastewater was calculated at 458 pounds. Compared to the annual plant uptake of 8,525 pounds of P, the P deficit would be 8,068 pounds. Therefore, an additional 8,068 pounds of P (42 pounds of P per acre per crop) could be applied to meet the recommended agronomic rates. Note that the calculated deficits will not directly correlate to those provided in the Field Nutrient Balance Report due to the MMP limitations discussed earlier.

The Field Nutrient Status Details Report provides an outline of wastewater and freshwater applications. The application rates were based on the monthly crop water needs provided in Table 1. Approximately 16,950,000 gallons (0.97 acre-inches) would be applied to the field each month, from March to October of each year, via sprinkler irrigation. The Field Nutrient Status Details Report shows an N and P deficit for each year of maximum wastewater applications.

## 7.0 POTENTIAL NITROGEN AND PHOSPHOROUS TRANSPORT

The Revised Universal Soil Loss Equation (RUSLE2) was used to calculate soil loss due to sheet and rill erosion from the field. The soil loss was found to be below the tolerable (T) soil loss value for the field. It should be noted that RUSLE2 is not well equipped to handle triple cropping of oat silage. The T-value is 4 tons per acre per year. Comparatively, the Web Soil Survey provided a lower classification with a T-value of 2 tons per acre per field. N losses from the field include leaching of nitrate and soil transport of ammonium although the anticipated N loss from the field is low due to the low concentration of nitrate and ammonium applied to the field.

Phosphorus management involves planning the rates of P application for manure, commercial fertilizer, or other organic byproducts. The planned application rates must be consistent with the P Index.

Nutrients applied to fields pose a risk to degrading surface water from polluted runoff entering water bodies. Soil erosion will be controlled to tolerable soil loss limits as determined by RUSLE2. By reducing soil erosion, the risk of nutrients entering waterbodies via runoff is also reduced.

Phosphorus management involves planning the rates of P application for manure, commercial fertilizer, or other organic byproducts. The planned application rates must be consistent with the P Index. The P Index is a planning tool designed to evaluate risk of P loss from individual agricultural fields to water bodies of concern for P pollution. The P index can help determine appropriate practices to minimize phosphorus transport

into surface waters through Low, Medium, High, and Very High ratings. A Low P Index rating allows the field to have nutrient recommendation based on nitrogen application. A Medium P Index rating also allows the nutrient application plan to be nitrogen based, but additional best management practices (BMP) should be followed in order to reduce the risk of phosphorous movement. When the P Index moves into a High-rating, the field will be managed on a phosphorous-based plan, which includes a phosphorous reduction. Reducing the fertilizer application rate does not necessarily lower the P Index sufficiently to obtain a low phosphorus movement risk level. Ensuring that the nutrients are applied in the spring and incorporated within 24 hours will significantly reduce the risk of phosphorus movement from fields

RUSLE2 was used to calculate soil loss due to erosion from the field. Soil phosphorous content values from soil analytical results for the Site were used in the P Index calculations. The P Index should be re-calculated each time soil analytical reports become available or the field cropping plan affecting RUSLE2 changes in the future.

The P Index for this field indicated a Low potential for phosphorus movement from the field. The Initial Risk Assessment indicated that further use of the P Index was not required as there are no pathways for P to move off-site (i.e. surface runoff collected by ponds, no tailwater system, no tile drainage, no sub-surface piping, and no seepage from shallow groundwater to surface water). Additionally, the field is described with a low T value between 2.0 and 4.0 tons/acre/year; no ephemeral gully erosion, no tailwater discharge, no subsurface drainage, no efficient outlet to a drainage system no flooding hazard, distance to perennial surface water greater than 500 feet; and low soil P concentration and organic P application.

## **8.0 CONSERVATION PRACTICES**

Nutrient application rates should consider current soil test results, realistic yield goals, and management capabilities. When manure or organic by-products are used, the nitrogen availability of the planned application rates shall match plant uptake characteristics as closely as possible, taking into consideration the timing of nutrient application(s) in order to minimize leaching and atmospheric losses. Application of manure and/or other organic byproducts can lead to the need for an additional nitrogen application, if the planning is based on phosphorus requirements, to ensure the recommended amounts of nitrogen are applied.

Conservation practices will include the NRCS Conservation Practice Standard Code 590 for Nutrient Management (CPS 590) provided in Appendix D. The CPS-590 includes

soil, manure, irrigation water and tissue sampling and laboratory analyses; nutrient application rates, timing, and methods; and record keeping. The sampling protocols and schedules and the record keeping requirements are outlined in Appendix E. The nutrient application rates, timing, and methods were discussed in Section 6.0.

~~Additional considerations include the NRCS Conservation Practice Standard Code 449 for Irrigation Water Management (CPS 449) is provided in Appendix D. The purpose of the CPS-449 is to manage soil moisture; optimize available water supplied; minimize irrigation induced soil erosion; decrease non-point source pollution; manage salts in the crop root zone; manage the air soil and/or plant micro-climate; properly and safely chemigate or fertilize; and improve air quality. For the purpose of nutrient management the focus was placed on managing soil moisture and minimizing irrigation induced soil erosion~~

The Gloria sandy loam soil type is classified as Hydrologic Group D. Soils in Hydrologic Group D typically have the lowest potential for N leaching from the root zone but the highest potential for N runoff. The following practices will also be implemented to reduce the potential for runoff:

- Eliminate N applications during periods of soil saturation that tend to occur from November to February;
- Apply nutrient materials uniformly to the field through proper use of irrigation equipment;
- Split N applications to provide nutrients at times of maximum crop utilization; and
- Avoid excessive irrigation by applying the recommended rate and following the timing of applications as discussed in section 6.0.

## 9.0 REVIEW AND CHANGES TO THE NUTRIENT MANAGEMENT PLAN

Review and changes to the NMP are not expected until permit renewal in 2014. However, it is recommended that the NMP be reviewed annually in conjunction with any new soil or liquid testing results to ensure that applications are conducted as recommended. Any changes to the current procedures would also warrant a review of the NMP.

## 10.0 REFERENCES

EPA, 2008. Revised National Pollutant Discharge Elimination System Permit Regulation and Effluent Limitations Guidelines for Concentrated Animal Feeding Operations in Response to the Waterkeeper Decision, Final Rule.

~~Joseph Gallo Farms, 2004. Comprehensive Nutrient Management Plan.~~

Joseph Gallo Farms, 2008. 2<sup>nd</sup> Semi-Annual Report of Effluent Analysis Results and Weekly Freeboard Measurement for Joseph Gallo Feed Lot.

Joseph Gallo Farms, 2009. Annual Report for Joseph Gallo Farms Gonzales Feedlot.

USDA-NRCS Agricultural Waste Management Field Handbook, Chapter 4 - Agricultural Waste Characteristics.

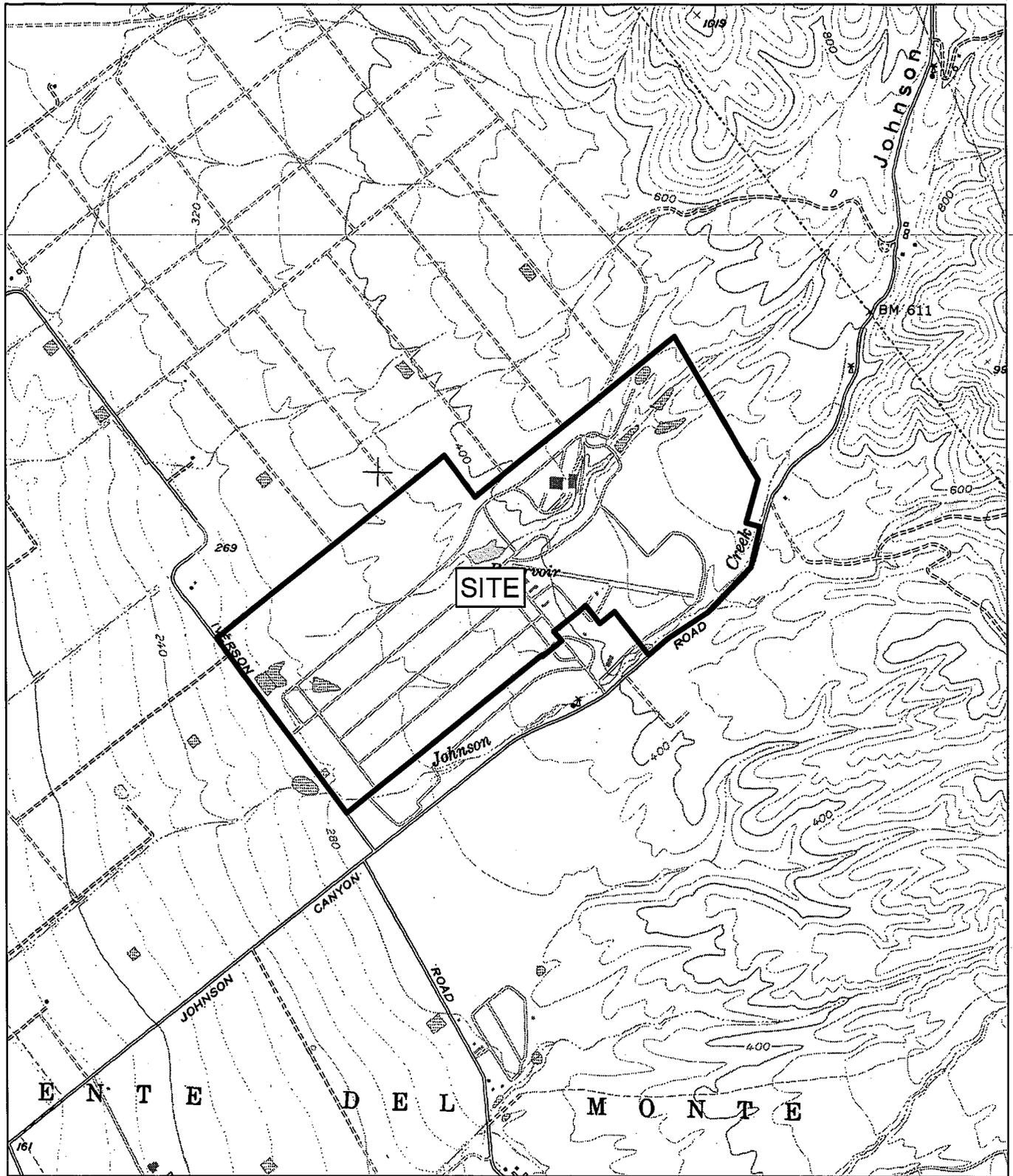
USDA-NRCS National Agronomy Manual (NAM) Section 503.

USDA-NRCS, 2004. Guide for Completing a Comprehensive Nutrient Management Plan (CNMP) for Confined Animal Facilities in California (Dairies), Version 3, Draft 1.

USDA-NRCS Revised Universal Soil Loss Equation.

[http://fargo.nserl.purdue.edu/rusle2\\_dataweb/RUSLE2\\_Index.htm](http://fargo.nserl.purdue.edu/rusle2_dataweb/RUSLE2_Index.htm)

USDA-NRCS Web Soil Survey. <http://websoilsurvey.nrcs.usda.gov>



SOURCE:  
USGS 7.5 MINUTE QUAD  
GONZALES, CA

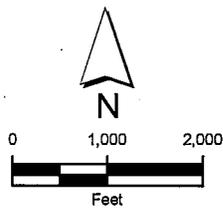


figure 1

SITE LOCATION  
GALLO FARMS - HEIFER CITY  
Gonzales, California



FRESHWATER F  
AG WELL SUPP

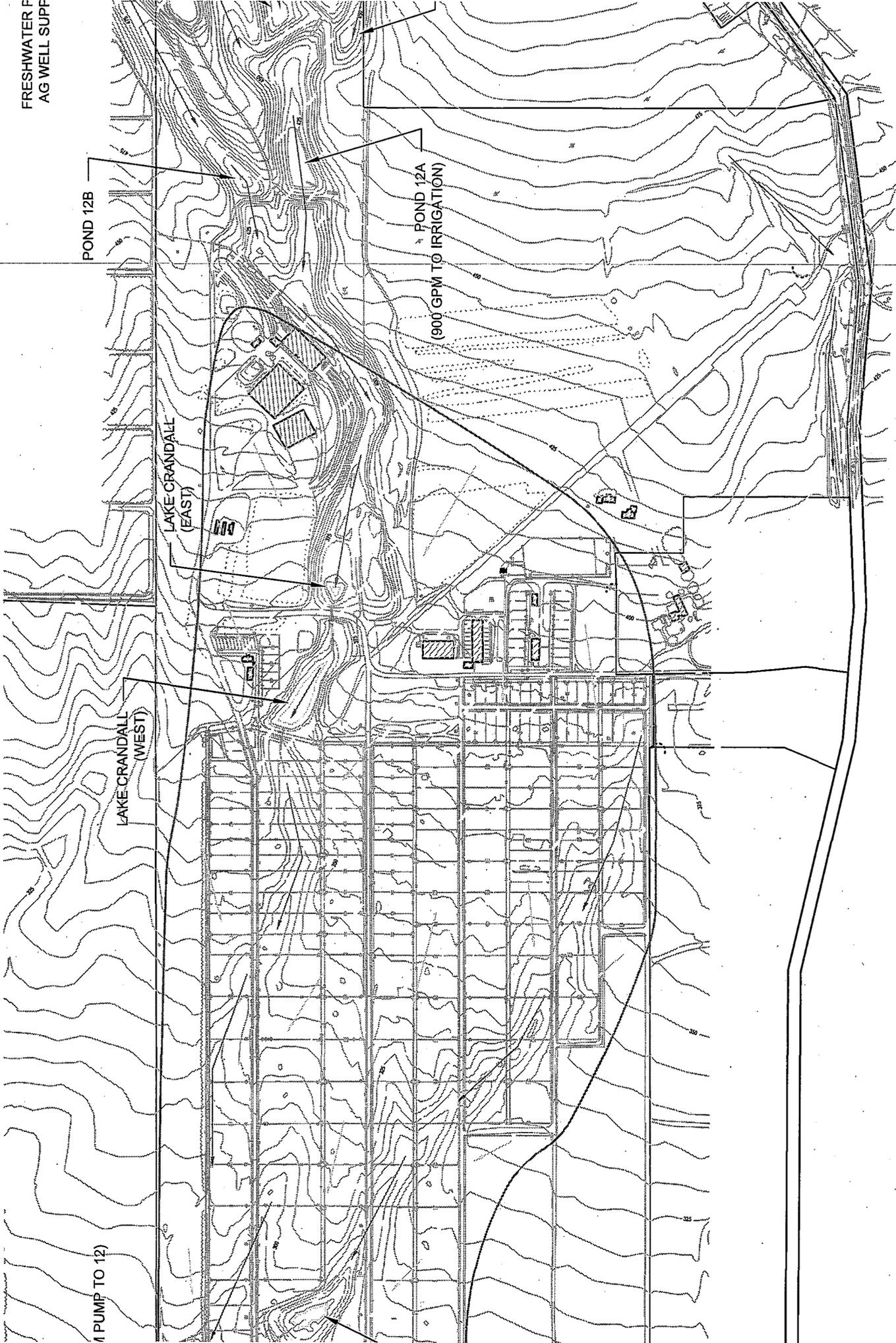
POND 12B

LAKE CRANDALL  
(EAST)

LAKE CRANDALL  
(WEST)

POND 12A  
(900 GPM TO IRRIGATION)

(1 PUMP TO 12)



LEGEND

GENERAL OVERLAND FLOW DIRECTION

CHANNELIZED FLOW DIRECTION

600ft

SIJR

TABLE 1

**CROP WATER REQUIREMENTS FOR OATS  
JOSEPH GALLO FARMS  
GONZALES CALIFORNIA**

<i>Month</i>	<i>Crop Water Use<sup>1</sup></i> <i>(in./day)</i>	<i>Days / Month</i>	<i>Crop Water Use</i> <i>(in./month)</i>	<i>Precipitation<sup>2</sup></i> <i>(in./month)</i>	<i>Irrigation Requirements<sup>(3)</sup></i> <i>(in./month/acre)</i>	<i>Irrigation Requirements<sup>(3)</sup></i> <i>(gal/month/acre)</i>	<i>Irrigation Requirements<sup>(3)</sup></i> <i>(gal/month/field)</i>	<i>Maximum Wastewater Applications<sup>(4)</sup></i> <i>(gal/month/field)</i>	<i>Freshwater Applications<sup>(5)</sup></i> <i>(gal/month/field)</i>
January	0.03	31	0.93	2.15	-1.22	0	0	0	0
February	0.06	28	1.68	1.84	-0.16	0	0	0	0
March	0.11	31	3.41	2.13	1.28	34,757	2,224,456	1,695,000	529,456
April	0.17	30	5.1	1.06	4.04	109,702	7,020,938	1,695,000	5,325,938
May	0.24	31	7.44	0.16	7.28	197,681	12,651,592	1,695,000	10,956,592
June	0.28	30	8.4	0.09	8.31	225,650	14,441,583	1,695,000	12,746,583
July	0.3	31	9.3	0.04	9.26	251,446	16,092,547	1,695,000	14,397,547
August	0.26	31	8.06	0.06	8	217,232	13,902,848	1,695,000	12,207,848
September	0.19	30	5.7	0.23	5.47	148,532	9,506,072	1,695,000	7,811,072
October	0.13	31	4.03	0.57	3.46	93,953	6,012,982	1,695,000	4,317,982
November	0.04	30	1.2	1.78	-0.58	0	0	0	0
December	0.03	31	0.93	2.02	-1.09	0	0	0	0

68293017.6

## Notes:

- (1) Guide for Completing a Comprehensive Nutrient Management Plan (CNMP) for Confined Animal Facilities in California (Dairies), Version 3, Draft 1. June 1, 2004. Table 4-C-2. Normal Year Crop Water Use for Cool Season.
- (2) Climate Data from Animal Waste Management Software (Monterey County, Salinas FFA Airport).
- (3) Irrigation Requirements = Crop Water Use (in./month) - Precipitation (in./month)
- (4) Maximum Wastewater Requirements = Total Volume of Wastewater Produced (13,560,000 gallons) / 8 application months
- (5) Freshwater Applications = Irrigation Requirements (gal/month/field) - Maximum Wastewater Applications (gal/month/field)

APPENDIX A

EPA REVISED NATIONAL POLLUTANT DISCHARGE ELIMINATION  
SYSTEM PERMIT REGULATION AND EFFLUENT LIMITATIONS  
GUIDELINES FOR CONCENTRATED ANIMAL FEEDING OPERATIONS  
IN RESPONSE TO THE WATERKEEPER DECISION, FINAL RULE