

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL COAST REGION  
895 Aerovista Place, Suite 101  
San Luis Obispo, California 93401**

**PROPOSED WASTE DISCHARGE REQUIREMENTS ORDER NO. R3-2006-0016**

Waste Discharger Identification No. 3 435005001

**Prepared February 14, 2006**

For

**FURTADO DAIRY  
7955 FERGUSON ROAD  
GILROY  
SANTA CLARA COUNTY**

The California Regional Water Quality Control Board, Central Coast Region (Central Coast Water Board), finds that:

**FACILITY OWNER AND LOCATION**

1. Manuel Furtado (hereafter "Discharger") owns and operates Furtado Dairy (hereafter "Facility"), formerly William Furtado Dairy, located at 7955 Ferguson Road, Gilroy. The Facility is located approximately two miles northeast of the City of Gilroy in Santa Clara County as shown on Attachment A.
2. The Facility is located in Sections 28 and 33, Township 10S, Range 4E of the Mount Diablo Base & Meridian. The Assessor's Parcel Numbers for the Facility are 841-200-53, 54, 57, and 64. The Dairy Facility office, milking parlor, paddocks and portions of the wastewater treatment and holding facilities are located on parcel number 841-200-53. Discharge areas and additional portions of the wastewater treatment and holding facilities are located on parcel 841-200-64 with additional irrigation discharge locations on parcels 841-200-54 and 841-200-57. The Facility property is currently owned by the William Furtado Trust and is leased to Manuel Furtado for operation of the dairy facility.

**FACILITY DESCRIPTION**

**Dairy Size**

3. The Facility is a dairy operation located on approximately 93.5 acres, which includes

corrals, paddocks, holding pens, wash pen, milking parlor, animal shelters, manure storage and drying area, wastewater holding ponds, irrigated fields and several private residences.

4. The Facility historically maintained over 1,000 dairy cows on the property, but currently only maintains approximately 470 dairy cows and 200 cattle (bulls and calves). The Facility produces approximately 2,300 gallons of milk per day.

**Waste Production**

5. Waste produced at the Facility consists of wastewater from Facility wash down operations and storm water containing manure, urine, milk products, spoiled feed material, bedding (litter), soil, and cleaning compounds. Solid wastes are also produced at the Facility and primarily consist of manure with additional fractions of spoiled feed, bedding material, soil, and biosolids (sludge) from the anaerobic treatment ponds. Wastewater flows at the Facility were not formally metered and the production of manure is not well documented.
6. An estimated 15,000 gallons per day (gpd) of clean water from the on-site water supply well is used to wash down the holding pen, wash pen, and milking parlor floors, rinse the cows, and wash down miscellaneous dairy equipment.

Wastewater from these concrete lined areas is collected in floor drains and conveyed via gravity to wastewater ponds. An estimated 59,000 gpd of effluent is recycled from the wastewater ponds to rinse the covered and concrete lined lanes in the paddocks.

#### Wastewater Ponds

7. Wastewater generated at the Facility is conveyed to six anaerobic ponds as shown on Attachment B. The ponds are plumbed as two parallel systems (A and B) consisting of three ponds in series with the last ponds (ponds 3A and 3B) being connected. Wastewater is manually directed via a paddock flushing channel with flashboards and piping to either pond series A or B. The ponds reportedly range in depth from 10 to 15 feet in depth and can contain an estimated aggregate volume of wastewater and solids of approximately one million gallons.
8. Prior to October 2005, manure and other solids were not removed from the wastewater prior to being conveyed to the ponds. The first two ponds in each series acted as settling basins and anaerobic stabilization ponds to remove and treat manure and other entrained solids. Operation of the first two ponds in each series was reportedly alternated every one to three years to allow drying and removal of accumulated solids. During a May 17, 2005 field inspection, Central Coast Water Board staff observed that accumulated solids were within three to four feet of the top of the first two ponds in each series indicating that solids had not been removed from the wastewater ponds for an extended time period.
9. The Discharger installed a concrete wastewater-manure storage basin and manure solids separator in October 2005. Manure and other entrained solids are currently being removed from the wastewater stream prior to the wastewater ponds.

#### Wastewater Disposal

10. The last ponds in each series (ponds 3A and 3B) are connected via a channel. Two pumping systems in pond 3B either pump wastewater to approximately 40 acres of irrigated pasture (see Attachment B) for disposal or pump wastewater back to the paddocks to flush out the lanes.

11. Pursuant to Cleanup or Abatement Order No. R3-2005-0109, the Discharger submitted a revised Report of Waste Discharge (ROWD) in October 2005 that included a Nutrient Management Plan (NMP). The NMP details the Discharger's plans for the implementation of best management practices related to the handling and disposal of wastewater, manure, and wastewater pond sludge.
12. The revised October 2005 ROWD and associated NMP indicate that wastewater will be applied to 40 acres of irrigated alfalfa fields at agronomic rates on a routine basis.
13. An approximately 6-acre, bermed pasture is located south of pond 3B that is used to contain wastewater treatment pond overflow. The bermed pasture is used to contain and dispose of excess wastewater generated during large storm events.
14. Wastewater disposal includes evaporation from the ponds and land spreading in the irrigation areas. Percolation in the irrigation areas will be minimal as long as the wastewater is applied at agronomic rates for the production of alfalfa. Percolation is also assumed to be minimal in the ponds because of the deposition of organic waste and soil fines in the wastewater ponds that will decrease pond permeability. An undetermined amount of percolation is assumed to occur in the 6-acre, bermed pasture overflow area.
15. The Discharger's NMP does not allow for the on-site application of manure or wastewater pond sludge for ultimate disposal.

#### Disposal Capacity

16. A hydraulic analysis using the estimated wastewater flows noted above, University of California average daily reference evapotranspiration maps, Department of Water Resources evaporation data from Coyote Reservoir, National Weather Service's rainfall data from 1957 to 2002 for the City of Gilroy, and published seasonal crop coefficients for alfalfa was submitted as part of the ROWD.
17. The hydraulic analysis compared theoretical Facility performance for an average annual

rainfall of 20.71 inches and a maximum-recorded rainfall of 37.76 inches (1983). The 100-year rainfall event equates to an annual rainfall of 40.7 inches and has a reoccurrence probability of 1% during any given year.

18. The provided hydraulic analysis indicates the Facility can contain and dispose of all wastewater and storm water in the ponds, bermed pasture overflow area, and designated irrigation areas during the average annual rainfall year. The analysis indicates that approximately 10 acre-feet (3.26 million gallons) and 19 acre-feet (6.19 million gallons) of wastewater would overflow from the ponds to the 6-acre, bermed pasture overflow area during average and maximum rainfall years, respectively.
19. Comparison of total wastewater (including storm water) flows and total evaporation and evapotranspiration losses under both the average and maximum rainfall years indicates that the evapotranspiration loss from the 40 acres is substantially greater than the estimated amount of wastewater produced from the Facility. Wastewater pond overflow discharges to the bermed pasture are dependent on the amount of rainfall in any given time period.
20. The provided data and analysis indicate that the Facility is capable of containing combined wastewater and storm water flows during rainfall years approximating the 100-year rainfall event assuming the wastewater ponds and irrigation areas are properly managed throughout the year.

#### Wastewater Characteristics

21. Dairy waste typically contains high levels of organic matter, inorganic salts, fecal coliform, and nutrients including nitrogen, phosphorous, and potassium. The organic matter present in dairy waste is also attributable to dissolved protein, fat, and lactose from discarded milk products and dairy equipment cleaning.
22. Samples were collected from pond 3B on August 10, 2004 and analyzed for general minerals and nitrogen species. Analytical results of this sampling event are presented in the following table.

**Facility Wastewater Quality Data**

Constituent	Concentration (mg/L)
Alkalinity (CaCO <sub>3</sub> )	3386
Bicarbonate (HCO <sub>3</sub> )	4131
pH	7.6
Ammonia (as N)	251
Nitrate (as N)	<0.10
Nitrite (as N)	<0.10
TKN <sup>a</sup>	326
Total Nitrogen	325
Potassium (K)	1060
Sodium (Na)	320
Sulfate (SO <sub>4</sub> )	40
Ortho-Phosphate	18.2
Calcium (Ca)	218
Chloride (Cl)	488
Magnesium (Mg)	189
TDS <sup>b</sup>	4530

a. TKN – Total Kjehldahl Nitrogen

b. TDS – Total Dissolved Solids

23. Review of the available data indicates the Facility produces a high-strength effluent containing elevated levels of salts and nutrients. Given the anaerobic conditions in the ponds the predominant form of nitrogen in the wastewater is ammonia with the remaining fraction likely bound in the manure or biosolids as organic nitrogen.
24. Estimates of biochemical oxygen demand (BOD) and volatile solids (VS) organic loading for 450 dairy cows and a wastewater flow rate of 73,900 gpd result in a BOD loading of 0.0072 lb/ft<sup>3</sup>-day and VS of 0.045 lb/ft<sup>3</sup>-day to the wastewater ponds. Typical waste characterization data for dairies, compiled by the US Department Agriculture, indicated that chemical oxygen demand (COD) loading is likely an order of magnitude higher than the BOD loading.
25. Extensive characterization of dairy waste has been conducted and compiled by the US Department of Agriculture and other agencies. Typical dairy waste data is available in “as excreted” units of pounds per day per 1,000 lbs of milking cow, for specific dairy processes, and for wastewater lagoons (anaerobic treatment ponds) in units of pounds per 1,000 gallons of wastewater. Data are generally presented, for a specific waste characteristic, as

single representative values for use in facility design and equipment selection. However, the data should be used with caution in the absence of site-specific information due to variations in climate and facility configuration and management.

**Solid Waste Disposal**

- 26. The wastewater ponds historically received a large amount of manure and other solids entrained in the paddock wash down water. This required regular maintenance of the ponds to remove accumulated manure, solids and sludge. A majority of the manure and solids washed from the paddocks are now removed prior to the wastewater ponds via a concrete sump and solids separator. The manure and solids are collected in a dump truck and temporarily stored onsite to drain/dry. Once the manure is sufficiently dry it is hauled off site by a third party for use as fertilizer.
- 27. Although manure and solids are removed from the wastewater stream prior to the ponds, periodic maintenance of the wastewater ponds will still be required to remove solids and sludge generated in the ponds to maintain sufficient storage and treatment capacity.
- 28. Manure is periodically collected from the corrals and placed in the manure storage and drying area. The dried manure is hauled offsite by a third party for use as fertilizer. Approximately 750 to 1,000 tons of dewatered manure is hauled offsite each year.

**Water Supply**

- 29. The Discharger operates two water supply wells for the Facility identified as the office well and irrigation well. The office well (SW-1) is used for domestic supply and wash down of the milking barn and equipment requiring fresh water. The irrigation well (SW-2) is primarily used for irrigation purposes and occasionally as a source of wash water. Water supply well locations are shown on Attachment B.
- 30. Available construction details and depth to water levels for the two supply wells are presented in the following table.

**Facility Water Supply Well Construction  
Details and Depth to Water Data**

Parameter	Supply Well ID <sup>a</sup>	
	SW-1	SW-2
Well Casing Dia (in)	12	14
Well Depth (ft)	172	200
Depth to Water (ft) <sup>b</sup>	46	46

- a. SW-1 = Office Well  
SW-2 = Irrigation Well
- b. Depth to water soundings taken on August 4, 2003

- 31. Samples were collected from the two Facility water supply wells on August 11, 2004 and analyzed for general minerals and nitrogen species. Analytical results are presented in the following table.

**Facility Water Supply Well Water Quality  
Data**

Constituent	Concentration (mg/L)	
	SW-1 <sup>a</sup>	SW-2 <sup>b</sup>
Alkalinity (CaCO <sub>3</sub> )	248	262
Bicarbonate (HCO <sub>3</sub> )	303	320
pH	7.2	7.3
Ammonia (as N)	<0.5	<0.5
Nitrate (as N)	19	25.8
Nitrite (as N)	<0.10	<0.10
TKN <sup>c</sup>	<0.5	<0.5
Total Nitrogen	19	25.8
Potassium (K)	1.2	1.3
Sodium (Na)	46	64
Sulfate (SO <sub>4</sub> )	51	63
Ortho-Phosphate	<0.10	<0.10
Calcium (Ca)	63	72
Chloride (Cl)	77	100
Magnesium (Mg)	49	49
TDS <sup>d</sup>	535	650

- a. SW-1 = Office Well
- b. SW-2 = Irrigation Well
- c. TKN – Total Kjehldahl Nitrogen
- d. TDS – Total Dissolved Solids

- 32. Both supply wells contain levels of nitrate that exceed the primary maximum contaminant level (MCL) of 10-mg/L as nitrogen and are questionable for use as potable supply. The detected nitrate concentrations exceed typical groundwater conditions in the basin and subbasin as presented in the following "Groundwater" discussion findings. However, nitrate concentrations in excess of the MCL standard are not uncommon in local groundwater due to historic and ongoing agricultural practices. All other constituents are within acceptable ranges for potable use.

## SITE DESCRIPTION

### Geology

33. The Facility is located in the Llagas Creek basin on gently sloping topography (approximately 2%) towards the southeast corner of the Facility property. Surface soils consist primarily of moderately to well-drained clay-loams characteristic of Rincon and San Ysidro Series soil types found in the area.

34. The sedimentary deposits within the Llagas Creek basin consist of discontinuous layers of sand, silt, clay, and gravel deposited in stream channels, floodplains, lakes, marshes, and shallow marine environments. The subsurface consists of the three primary geologic units, the Alluvium, Santa Clara, and Purisma Formations, in order of depth.

35. Boring logs for monitoring wells installed at the Facility on August 10, 2004 indicate soils encountered to depths of 40 to 65 feet below ground surface consist primarily of clays and silty clays with some clayey sands and silty sands.

### Hydrogeology

36. The Llagas basin consists of a system of confined and unconfined aquifers. The Facility is located in the upper aquifer zone, which is separated from the lower aquifer zone by an aquitard encountered at depths of 20 to 100 feet below ground surface. The aquitard varies from about 40 to 100 feet in thickness.

37. First encountered shallow groundwater as measured in onsite monitoring wells ranges from about 27 to 38 feet below ground surface (bgs). Available data for both onsite and offsite water supply wells in the vicinity of the Facility indicates depth to water ranges from 40 to 47 feet bgs. However the construction of the supply wells is unknown.

### Groundwater Quality

38. Three onsite groundwater-monitoring wells were installed at the Facility on August 10 – 11, 2004. Monitoring well locations are shown on Attachment B. Three samples have been collected from each of the three Facility groundwater-monitoring wells and have been

analyzed for general minerals and nitrogen species. Analytical results are presented in the following table.

**Facility Monitoring Well Groundwater  
Quality Data**

Constituent	Min/Max/Avg. Concentration (mg/L)		
	MW-1	MW-2	MW-3
Depth to Water (range)	11.05	11.27	16.00
	29.45	27.29	38.44
Alkalinity (CaCO <sub>3</sub> ) <sup>a</sup>	-	-	-
	208	217	806
	226	361	834
Bicarbonate (HCO <sub>3</sub> ) <sup>a</sup>	-	-	-
	225	367	983
	276	440	1017
pH <sup>a</sup>	-	-	-
	6.9	7.0	7.0
	7.0	7.1	7.0
Ammonia (as N) <sup>b</sup>	<0.5	<0.5	<0.5
Nitrate (as N) <sup>c</sup>	39.5	80.0	41.0
	45.3	95.3	62.2
	42.4	85.4	48.3
Nitrite (as N) <sup>a</sup>	<0.10	<0.10	0.29
	-	-	0.35
TKN <sup>1</sup>	<0.5	<0.5	<0.5
Total Nitrogen <sup>a</sup>	39.5	80.0	43.7
	45.3	81.0	62.2
	-	-	-
Potassium (K) <sup>a</sup>	0.4	0.5	1.5
	3.4	7.1	7.9
	-	-	-
Sodium (Na) <sup>c</sup>	78	108	111
	101	175	343
	86	131	192
Sulfate (SO <sub>4</sub> ) <sup>a</sup>	94	143	136
	98	168	144
	-	-	-
Ortho-Phosphate <sup>a</sup>	<0.05	<0.10	<0.10
	0.24	<0.05	<0.05
Calcium (Ca) <sup>a</sup>	89	154	113
	90	191	277
	-	-	-
Chloride (Cl) <sup>c</sup>	67	135	366
	117	248	459
	90	174	404
Magnesium (Mg) <sup>a</sup>	44	72	140
	44	79	141
	-	-	-
TDS <sup>c</sup>	779	1390	2040
	803	1430	2110

	792	1413	2067
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- a. Samples collected 8/13/04 and 6/21/05; average not calculated
  - b. Samples collected 8/13/04
  - c. Samples collected 8/13/04, 6/21/05, and 10/12/05
39. Depth to groundwater in the three monitoring wells has ranged seasonally from 11.05 to 38.4 feet bgs with a groundwater gradient of 0.011 to 0.017 ft/ft towards the south/southwest. Monitoring wells MW-2 and MW-3 are located downgradient from the Facility as inferred by the single monitoring event. Although, MW-1 is located in an inferred upgradient location it is fairly close to the Facility holding ponds and manure storage areas.
40. Shallow groundwater in the vicinity of the Facility contains elevated levels of nitrate, sodium, chloride, sulfate and total dissolved solids as compared to groundwater data for the deeper Facility water supply wells and typical concentration ranges reported by the Santa Clara Valley Water District (Water District) as presented in the following finding.
41. Typical concentration ranges for common inorganic constituents as reported by the Water District are presented in the following table for comparison with available Facility data presented above. It is uncertain if this data is characteristic of groundwater quality in the vicinity of the Facility.

**Typical Concentration Ranges for Common Inorganic Constituents<sup>a</sup>**

Constituent	Concentration <sup>b</sup> (mg/L)	
	Principal Aquifer Zone <sup>c</sup>	Upper Aquifer Zone <sup>d</sup>
Nitrate (as N)	6.5-8.4	8.6-11.5
Sodium (Na)	19-30	15-74
Chloride (Cl)	34-51	30-143
Sulfate (SO <sub>4</sub> )	30-43	32-145
Magnesium (Mg)	25-39	24-69
TDS	330-370	490-780

- a. Data excerpted from Santa Clara Valley Water District Groundwater Conditions 2001 Report.
- b. Typical concentration ranges at the approximate 95% Confidence Interval estimate of the true population median.
- c. Principal Aquifer Zone: Aquifer zone from which most water supply wells pump.

- d. Upper Aquifer Zone: Shallow aquifer zone above the regional confining layer in the Santa Clara Valley and Llagas Subbasins.
42. The typical nitrate concentration range for the upper aquifer zone of the Llagas Subbasin is 8.6 to 11.5 mg/L as nitrogen (38 to 51 mg/L as nitrate). The typical nitrate concentration range for the principal aquifer zone is 6.5 to 8.4 mg/L as nitrogen (29 to 37 mg/L as nitrate). In the principle aquifer zone, 23 of 75 wells contained nitrate concentrations above the drinking water standard, and 11 of 15 wells in the upper aquifer zone contained nitrate concentrations above the drinking water standard.
43. Several private wells located upgradient and in relatively close proximity to the Facility were sampled by the Water District in the mid 1990's as part of the Llagas Groundwater Basin Nitrate Study (Water District 1996 final report). All wells sample contained elevated nitrate concentrations. Five wells reportedly contained nitrate (reported as nitrate) at concentrations between 24 and 45 mg/L, two wells reportedly contained between nitrate concentrations between 45 and 70 mg/L, and two wells contained nitrate at concentrations in excess of 100 mg/L.
44. Pursuant to Cleanup or Abatement Order No. R3-2005-0109 paragraph 1.e., samples were collected from eight off-site water supply wells by the Discharger's consultant. The wells are located along the south/southeasterly borders of the Facility property and are associated with private residences located along Dunlap Avenue (and one on Godfrey Avenue). The wells are presumably utilized for domestic potable water and irrigation purposes. Many of the wells are of older construction and construction details are not available.
45. The collected well samples were analyzed for nitrate, sodium, chloride, total dissolved solids, and coliform (both E. Coli and total). The resultant data is summarized in the following table.

**Offsite Domestic/Irrigation Well  
Groundwater Quality Data<sup>a</sup>**

Constituent	Concentration (mg/L)		
	min	max	avg
Nitrate (as N)	5	42	24
Sodium (Na)	26	100	56
Chloride (Cl)	47	225	108
Total Dissolved Solids	455	1260	751
Coliform <sup>b</sup>	Absent		

a. One set of samples collected from eight wells on 10/12/05 and 10/25/05.

b. Total Coliform and Fecal Coliform (E. Coli)

46. All of the wells sampled contained nitrate at concentrations in excess of the California Department of Health Services Maximum Contaminant Level (MCL) of 10 mg/L for nitrate as nitrogen except for one agricultural irrigation well. One of the wells, located at 2830 Godfrey Avenue, has fourteen connections and is designated as a State Small Water Supply System. Nitrate concentrations in this well were detected at 39.1 mg/L as nitrogen (176 mg/L as nitrate). This well is located on property currently owned by William Furtado and is operated by the Deep Hole Water Association. Many of the offsite wells sampled, including the Deep Hole well, appear to be located in a crossgradient direction from the Facility.

47. Central Coast Water Board staff notified the property owners and residents of the subject well properties, as well as the fourteen residences connected to the 2830 Godfrey Avenue well, regarding the elevated nitrate concentrations in a letter dated December 12, 2005. Santa Clara County Department of Environmental Health was involved with the notification and is following up with additional sampling and recommending alternative water supplies and treatment.

48. Although historical agricultural practices throughout the area have likely contributed to nitrate and other area wide impacts to shallow groundwater, it is reasonable to assume a portion of the observed groundwater impacts are attributable to historical Facility operations as it is well documented that dairies and other confined animal type facilities can degrade groundwater. However, it is difficult to determine the relative contribution of nitrate

impacts from the dairy operations or other potential historical sources in the vicinity of the Facility.

49. Although nitrate was not detected in the Facility wastewater, the elevated levels of ammonia in the wastewater are likely undergoing nitrification in the vadose zone beneath the Facility wastewater holding and irrigation areas. Nitrifying organisms are ubiquitous in soil and the conversion of ammonia to nitrate in the vadose zone occurs readily under varying conditions. Denitrification (biological conversion of nitrate to elemental nitrogen) will also occur in the vadose zone to a limited extent under reducing conditions (anoxic or anaerobic conditions) given a suitable source of organic carbon is available. Untreated dairy wastewater typically contains significant levels of organic carbon.

**Surface Water**

50. The Facility is located in the South Santa Clara Valley Hydrologic Area of the Pajaro River Hydrologic Unit in an area commonly noted as the Llagas Creek basin.

51. A seasonal drainage, Alamas Creek, is adjacent to the southwest boundary of the Facility and flows in a southeasterly direction until it flows into Llagas Creek approximately 4 miles downstream. Llagas Creek is tributary to the Pajaro River near Bloomfield Road. Downstream portions Alamas Creek have also been historically noted as Jones or Johnson creek on various maps.

52. In the 1980's the Dairy constructed a levee along Alamas Creek to prevent surface water runoff and wastewater overflows from entering the creek.

53. Although documented impacts to various portions of lower Llagas Creek include nutrients, salts and coliform bacteria, no water quality data is currently available for Alamas Creek.

**Land Uses**

54. The Facility is primarily surrounded by agricultural land with some intermixed rural residences. Portions of the agricultural areas

contiguous with the Facilities irrigation disposal areas are employed for the production of food row crops.

### PURPOSE OF ORDER

55. Pursuant to the Porter-Cologne Water Quality Control Act (California Water Code (CWC) Division 7), the Central Coast Water Board regulates the discharge of wastes that could affect the quality of the waters of the state to ensure protection of the beneficial uses of both surface water and groundwater and the prevention of nuisances.
56. On October 4, 2004, the Discharger, submitted a Report of Waste Discharge (ROWD) for update of the Facility waste discharge requirements. After submittal of additional information on December 31, 2004, the ROWD was deemed complete.
57. An unauthorized discharge of dairy wastewater to Alamias Creek was reported by the Santa Clara Valley Water District and Santa Clara County District Attorney's office on May 12, 2005. The unauthorized discharge and follow up compliance inspections by Central Coast Water Board staff indicated that information provided in the ROWD was incorrect regarding the Discharger's wastewater disposal practices. Consequently, the Central Coast Water Board issued Cleanup or Abatement Order No. R3-2005-0109 (CAO) to the Discharger on June 29, 2005. The CAO required the Discharger to submit a revised ROWD and carryout various compliance activities. A revised ROWD was submitted by the Discharger on October 31, 2005.
58. Information provided in the ROWD and observations made by Central Coast Water Board staff during January 11, 2005, May 17, 2005, July 26, 2005, and November 11, 2005 Facility inspections indicate the Facility wastewater collection, treatment and disposal system is not operated and maintained to the maximum extent practicable using best management practices.

59. Order No. R3-2006-0016 issues Waste Discharge Requirements for the Facility that are intended to:
- a) Revise and update the existing waste discharge requirements and the monitoring and reporting program for the facility;
  - b) Regulate the discharge described in the Report of Waste Discharge;
  - c) Require the implementation of best management practices for the handling and disposal of dairy wastes; and
  - d) Uphold State water quality standards.

### CAFO Regulations

60. Confined Animal Feeding Operations (CAFOs) are regulated pursuant to Title 40 CFR Parts 122, 123, and 124. The United States Environmental Protection Agency's (USEPA's) Effluent Limitation Guidelines and Standards for CAFOs are contained in Title 40 CFR Part 412. The USEPA recently revised Title 40 CFR Parts 122, 123, and 412. These revisions became effective on April 14, 2003.
61. The USEPA regulations for CAFOs include revisions requiring all CAFOs to apply for an NPDES Permit, submit annual reports, maintain operation records, and develop and implement a nutrient management plan (NMP). The revisions also eliminate permitting exemptions and expand coverage over the types of animal operations required to apply for an NPDES permit. The Second Circuit Court of Appeal invalidated the "duty to apply" provisions of the regulations for large CAFOs in *Waterkeeper Alliance, Inc. v. USEPA* (2d Cir. 2005) 399 F.3d 436. However, the medium CAFO application requirements were not invalidated. *Waterkeeper* also requires CAFO permits to include the terms of the nutrient management plan, and requires a public comment period on the permit that includes review of the nutrient management plan.
62. Title 40 CFR Section 122.23(b)(1) defines an animal feeding operation (AFO) as a lot or facility where animals are confined and fed for at least 45 days in a 12-month period, and where vegetation is not sustained over any



portion of the lot or facility in the normal growing season.

63. Title 40 CFR Section 122.23(b) sets out criteria that define a CAFO. Title 40 CFR Section 122.23(b)(4) defines a Large CAFO as an AFO that confines as many or more than a specified number of animals. An AFO is a Large CAFO if it has 700 or more dairy cows or 1,000 or more cattle other than mature dairy cows. Cattle include, but are not limited to heifers, steers, bulls and cow/calf pairs.
64. Title 40 CFR Section 122.23(b)(6) defines a Medium CAFO as an AFO that confines animals within specified ranges and discharges pollutants either directly or indirectly to surface waters of the United States. An AFO is a Medium CAFO if it has a surface water discharge and has between 200 to 699 mature dairy cows or between 300 to 999 cattle.
65. Title 40 Section 122.21(d)(2) states an owner or operator of a Large CAFO does not need to seek an NPDES permit if they received a determination "no potential to discharge." Title 40 122.21(f) sets criteria for "No potential to discharge" determinations for Large CAFOs. The term "no potential to discharge" means that there is no potential for any CAFO manure, litter, or process wastewater to be added to waters of the United States under any circumstance or climatic condition.
66. The Discharger reportedly maintains a number of animals within the Medium CAFO designation per 40 CFR 122.23 (b)(6). However, the Facility does not discharge pollutants into waters of the United States either directly or through a man-made ditch, flushing system, or other similar man-made device. Although the documented discharge of dairy wastewater to waters of the United States (Alamias Creek) and site inspections by Central Coast Water Board staff indicate the Facility has the potential for off-site discharges to surface water, the Facility does not fit the strict definition of a Medium CAFO. Therefore, the Facility is a medium AFO and is not required to seek an NPDES permit.
67. The requirement for the development and implementation of a NMP is consistent with the Federal Regulations for Large CAFOs. The requirement for the development and implementation of a NMP for Small and Medium CAFOs, or AFOs not subject to the Federal Regulations, may be specified in permits on a site specific basis based on the best professional judgment of the permitting authority. The implementation of a NMP for the Facility is strongly recommended given the Discharger's lack of historical best management practices in handling and disposing of wastes and is essential for the protection of water quality.

#### **State Regulations**

68. California regulations governing discharges from confined animal facilities, including CAFOs, are contained in Title 27, California Code of Regulations (CCR), Division 2, Subdivision 1, Chapter 7, Subchapter 2, Article 1. SWRCB – Confined Animal Facilities (Title 27). Previously, these regulations were specified in Title 23 CCR, Division 3, Chapter 15, Article 6.
69. Title 27 Section 20164 defines a confined animal facility as "... any place where cattle, calves, sheep, swine, horses, mules, goats, fowl, or other domestic animals are corralled, penned, tethered, or otherwise enclosed or held and where feeding is by means other than grazing."
70. Title 27 establishes minimum design and operational standards for the containment and discharge of animal waste at confined animal facilities to protect both surface water and groundwater.
71. Title 27 Sections 22562 and 22564 prescribe minimum requirements for the design of containment facilities for both storm water and process wastewater and adequate flood protection.
72. Title 27 Section 22563 requires Dischargers to: minimize percolation of wastewater to groundwater in disposal fields; apply manure and wastewater to disposal fields at reasonable agronomic rates; and minimize infiltration of water into underlying soils in manured areas.

73. This Order implements the requirements of Title 40 CFR Parts 122, 123, 124, and 412 and Title 27 CCR for confined animal facilities.

**Regional Basin Plan**

74. The Water Quality Control Plan, Central Coast Basin (Basin Plan) was adopted by the Central Coast Water Board on November 19, 1989, and approved by the State Water Resources Control Board (State Board) on August 16, 1990. The Central Coast Water Board approved amendments to the Basin Plan on February 11, 1994, September 8, 1994, April 14, 1995, and February 18, 1997. The Basin Plan incorporates statewide plans and policies by reference and contains a strategy for protecting beneficial uses of State Waters. This Order implements the Basin Plan.

75. The Basin Plan designates the existing and anticipated beneficial uses of groundwater in the vicinity of the Facility to include:

- a) Domestic water supply;
- b) Agricultural water supply
- c) Industrial process supply; and,
- d) Industrial service supply.

76. The Basin Plan specifies water quality objectives for certain groundwater basins, which are intended to serve as a baseline for evaluating water quality management in the basin. The objectives are, at best, representative of gross areas only, and are as follows for the Llagas sub-area of the Pajaro groundwater basin:

**Median Groundwater Objectives for the Llagas Groundwater Sub-area**

Parameter	Concentration (mg/L)
TDS	300
Chloride	20
Sulfate	50
Boron	0.2
Sodium	20
Nitrate as N	5

Excerpted from Table 3-8, page III-16 of the Basin Plan

77. Present and anticipated beneficial uses of the Llagas Creek downstream of Chesebro Reservoir include:

- a. Municipal and Domestic Supply
- b. Agricultural Supply
- c. Industrial Process Supply
- d. Industrial Service Supply
- e. Groundwater Recharge
- f. Water Contact Recreation
- g. Non-Contact Water Recreation
- h. Wildlife Habitat
- i. Cold Freshwater Habitat
- j. Warm Freshwater Habitat
- k. Migration of Aquatic Organisms
- l. Spawning, Reproduction, and/or Early Development
- m. Rare, Threatened, or Endangered Species
- n. Commercial and Sport Fishing

78. Present and anticipated beneficial uses of Alamas Creek include:

- a. Municipal and Domestic Supply
- b. Agricultural Supply
- c. Groundwater Recharge
- d. Water Contact Recreation
- e. Non-Contact Water Recreation
- f. Wildlife Habitat
- g. Cold Freshwater Habitat
- h. Warm Freshwater Habitat
- i. Migration of Aquatic Organisms
- j. Spawning, Reproduction, and/or Early Development
- k. Commercial and Sport Fishing

79. The Basin Plan specifies water quality objectives for certain surface waters, which are intended to serve as a baseline for evaluating water quality management in the basin. The objectives are, at best, representative of gross areas only, and are based on preservation of existing quality or water quality enhancement believed attainable following control of point sources. Water quality objectives are presented in the following table for reference for the Llagas Creek sub-areas of the Parajo River sub-basin.

**Surface Water Quality Objective for the Llagas Creek sub-area of the Pajaro River sub-basin**

Parameter	Concentration
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	(mg/L)
TDS	200
Chloride	10
Sulfate	20
Boron	0.2
Sodium	20

Excerpted from Table 3-7, page III-13 of the Basin Plan

### MONITORING PROGRAM

80. Section 22565 of Title 27 specifies that "the RWQCB can require confined animal facility operations to undertake a monitoring program as a condition to the issuance or waiver of WDRs."
81. Monitoring and Reporting Program No. R3-2006-0016 is attached to the proposed Order. The Monitoring Program requires routine facility operations, solids production, wastewater, groundwater, and water supply monitoring and reporting to evaluate Facility operations and verify compliance with the Order.

### ENVIRONMENTAL ASSESSMENT

82. These Waste Discharge Requirements are for an existing facility and are exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21000, et. seq.) in accordance with Section 15321, Article 19, Chapter 3, Division 6, Title 14 of the California Code of Regulations and are exempt from the Provisions of Chapter 3 of CEQA pursuant to California Water Code section 13389.

#### Total Maximum Daily Load

83. On December 2, 2005, the Water Board approved a Nitrate total maximum daily load (TMDL) and Sediment TMDLs for Llagas Creek that do not allow any discharge of nitrate from this facility. The Nitrate TMDL became effective upon adoption of Resolution R3-2005-0131 on December 2, 2005. The Sediment TMDLs will be effective when approved by the State Water Board and Office of Administrative Law, which is expected by December 2006, one year after approval of Resolution R3-2005-0132 by the Water Board on December 2, 2005.

84. TMDLs will be developed in the future for surface water impairments in Llagas Creek due to chloride, fecal coliform, sodium, total dissolved solids, low dissolved oxygen, and pH. If Water Board staff find that waste discharged from this facility contributes to the impairment (adversely impacts beneficial uses or causes excursions of water quality objectives), the TMDL implementation plans for these TMDLs will require changes to these waste discharge requirements. These waste discharge requirements will be modified to implement applicable TMDL provisions.

### EXISTING ORDERS/GENERAL FINDINGS

85. The discharge was previously regulated by Waste Discharge Requirements Order No. 86-01, adopted by the Regional Water Board on March 14, 1986. The Regional Water Board has regulated this discharge since March 14, 1986.
86. Cleanup or Abatement Order No. R3-2005-0109 was issued to the Discharger on June 29, 2005 for the unauthorized discharge of dairy wastewater to Alamias Creek.
87. Discharge of Waste is a privilege, not a right, and authorization to discharge is conditional upon the discharge complying with provisions of Division 7 of the California Water Code and any more stringent effluent limitations necessary to implement water quality control plans, to protect beneficial uses, and to prevent nuisance.
88. On January 6, 2006, the Regional Water Board notified the Discharger and interested parties of its intent to issue Waste Discharge Requirements for this discharge and has provided them with a copy of the proposed Order and an opportunity to submit written views and comments.
89. After considering all comments pertaining to this discharge during a public hearing on March 24, 2006, this Order was found consistent with the above findings.

**IT IS HEREBY ORDERED**, pursuant to authority in Sections 13263 and 13267 of the California Water Code, that the William Furtado Dairy its agents, successors, and assigns, may

discharge waste at the above-described Facility providing compliance is maintained with the following:

Notes:

- Other prohibitions and conditions, definitions, and the method of determining compliance are contained in the attached "Standard Provisions and Reporting Requirements for Waste Discharge Requirements" dated January 1984.
- All technical and monitoring reports submitted pursuant to this Order are required pursuant to Section 13267 and 13383 of the California Water Code. Failure to submit reports in accordance with the schedules established by this Order, or failure to submit a report of sufficient technical quality to be acceptable to the Executive Officer, may subject the Discharger to enforcement action pursuant to Section 13268 or 13385 of the California Water Code. The Central Coast Water Board will base all enforcement actions on the date of Order adoption.
- Any person affected by this action of the Central Coast Water Board may petition the State Water Resources Control Board (State Water Board) to review the action in accordance with section 13320 of the California Water Code and Title 23, California Code of Regulations, Section 2050. The State Water Board must receive the petition within 30 days of the date of this order. Copies of the law and regulations applicable to filing petitions will be provided upon request.
- Throughout these requirements footnotes are listed to indicate the source of requirements specified. Requirement footnotes are as follows (requirements without footnotes are BPJ unless otherwise noted):

BPJ	Best Professional Judgment of Regional Water Quality Control Board Staff
ROWD	The Discharger's Report of Waste Discharge
40CFR	Title 40 Code of Federal Regulations
BP	Central Coast Regional Water Quality Control Plan (Basin Plan)
T27	Title 27, California Code of Regulations (CCR), Division 2,

Subdivision 1, Chapter 7, Subchapter 2, Article 1  
CWC Porter-Cologne Water Quality Control Act (California Water Code)

## A. DEFINITIONS

1. Confined Animal Area – any place where cattle, calves, sheep, swine, horses, mules, goats, fowl, or other domestic animals are corralled, penned, tethered, or otherwise enclosed or held and where feeding is by means other than grazing.
2. Mature dairy cow - a dairy cow that has produced milk at any time during her life.
3. Runoff - any precipitation, leachate, or other liquid that drains from any part of the facility.
4. Wastewater – all water directly or indirectly used in the operation of the facility for any or all of the following: spillage or overflow from animal watering systems; washing, cleaning, or flushing pens, barns, manure pits, or other production areas; direct contact swimming, washing or spray cooling of animals; or dust control...and includes any water (storm water runoff) which comes into contact with any raw materials, products, or byproducts including animal waste, manure, bedding, feed, or milk products.
5. Animal Waste - animal excrement and urine and materials that have mixed with excrement and urine including washwater or rainwater runoff that has passed through a manure storage area, and irrigation tailwater that contains manure. Runoff from a feed storage area is not animal waste, but is a waste that must also be contained and managed (it can be added to a dairy wastewater storage pond).
6. Manure – moist, dried or composted animal excrement either accumulated in production areas or set aside for disposal and includes feces and urine mixed with bedding, feed, and soil.
7. Sludge or Manured Solids – the wet or dried solids, and the residues and precipitates separated from, or created in the, wastewater ponds that may also include bedding, feed or

- soil that has been mixed with the animal wastes.
8. Waste – manure, urine, bedding, soil, feed, milk products, or any combination thereof either dry or wet and including animal waste, manure, sludge and wastewater.
  9. Agronomic or Reasonable Rate – the application of wastewater containing animal wastes, manure or sludge at rates which do not exceed the amount of water or nutrients required by the crop(s) where the wastes are applied
  10. Appropriate Storage Area - a storage facility designed to prevent animal wastes, manure, sludge, bedding, or feed from contacting surface water or groundwater or moving off the facility property.
  11. Production Area – portions of the facility including milking and milk processing areas, animal confinement areas, manure storage areas, raw materials storage areas, and waste containment areas.
  12. Manure Area – an area with accumulated moist or dry animal excrement that does not undergo decomposition or drying as would occur on open grazing land or natural habitat. This definition shall include areas where feces and urine may be mixed with bedding, feed, or soil.
  13. 10-year, 24-hour rainfall event, 25-year, 24-hour rainfall event,” and 100-year, 24-hour rainfall event - precipitation events with a probable recurrence interval of once in ten years, or twenty five years, or one hundred years, respectively, as defined by the National Weather Service in Technical Paper No. 40, “Rainfall Frequency Atlas of the United States,” May, 1961, or equivalent regional or State rainfall probability information developed from this source.”
  14. Uncontaminated Storm Water - storm water that has not come into contact with any raw materials, products or byproducts, including animal waste, manure, wastewater, bedding, feed, or milk products.
  15. Irrigation Area - designated land application area where wastewater is recycled for the purpose of beneficially using the nutrient value of the wastewater for crop consumption.
  16. Freeboard - the vertical distance between the lowest point along the top of a dike, dam, or similar feature and the surface of the wastewater retained by the feature.
  17. Wastewater Ponds – retention basins for the containment and treatment of facility wastewater and retained solids, and including sludge or manured solids holding and drying areas.
- B. PROHIBITIONS**
1. Discharge of wastewater to areas other than irrigation areas or wastewater overflow area shown in Attachment B is prohibited unless approved by the Executive Officer.
  2. The application of wastewater, manure, or sludge to Facility land, including designated irrigation areas, for the sole purpose of land disposal without any consideration of wastewater or nutrient reuse for crop production is strictly prohibited unless prior approval is given by the Executive Officer to avoid an uncontrolled release of wastes to surface waters.<sup>BPJ</sup>
  3. The on-site discharge of any wastes other than Facility wastewater is prohibited unless otherwise approved by the Executive Officer.
  4. Discharge of wastes to surface waters or a tributary thereof, is prohibited.<sup>CWC</sup>
  5. Discharge of any wastes including overflow, bypass, seepage, and overspray; from transport, treatment, storage, or disposal systems to adjacent drainageways or adjacent properties not listed in this Order is prohibited.
  6. Animals within confined areas shall be prohibited from entering any surface waters or tributaries thereof.<sup>40CFR/T27</sup>
  7. The disposal of dead animals at the Facility is prohibited.<sup>40CFR/T27</sup>

8. Discharge of domestic wastewater to the wastewater system is prohibited.<sup>BPJ</sup>
9. Discharge of hazardous waste as defined in Section 2510, et seq., Title 23, CCR, is prohibited.<sup>CWC</sup>
10. Discharge containing cleaning agents, solvents, or other constituents in concentrations detrimental to waters, soils, plants, or animals is prohibited.<sup>CWC</sup>
11. Discharge of manure or sludge to on-site land is prohibited, unless approved by the Executive Officer and applied at agronomic rates in accordance with a site specific nutrient management plan (NMP) prepared by an appropriately certified individual or entity required by Provision No. D.6 and outlined in Attachment C.<sup>BPJ</sup>
12. Wastewater discharge, storage and application causing nuisance or pollution as defined by Section 13050 of the California Water Code is prohibited.<sup>CWC</sup>

### C. SPECIFICATIONS

#### Facility Size

1. The Facility shall not confine or otherwise manage more than 699 mature dairy cows plus 999 cattle other than mature dairy cows unless a new Report of Waste Discharge (ROWD) has been submitted and the Central Coast Water Board has issued new Waste Discharge Requirements. Increasing the number of confined animals above these limitations will require regulation of the Facility via a National Pollutant Discharge Elimination System permit (see discussion of CAFO regulations in findings 60 through 67 and Provision D.12).<sup>40CFR/BPJ</sup>

#### Wastewater Flow and Flood Protection

2. Wastewater flows shall not exceed the lesser of the following:
  - a. The amount of wastewater generated by managing 699 mature dairy cows and 999 cattle other than mature dairy cows plus runoff.
  - b. The agronomic capacity of the designated Facility irrigation areas as determined by a

site specific Nutrient Management Plan prepared in accordance with Provision D.6 and Attachment C.

3. The Facility shall be designed and managed to contain all wastewater plus contaminated storm water runoff and direct precipitation on ponds and production areas generated during a 100-year, 24-hour rainfall event.<sup>BPJ/ROWD</sup>
4. The wastewater ponds shall be designed and managed to contain all wastewater and storm water runoff and direct precipitation generated during a 25-year, 24-hour rainfall event.<sup>BPJ/40CFR</sup>

The determination of the necessary storage volume shall reflect the maximum length of time anticipated between retention pond emptying events, and shall reflect: manure, wastewater, and other wastes accumulated during the storage period; normal precipitation less evaporation on the surface area during the entire storage period; normal runoff from the facility's drainage area during the storage period; 25-year, 24-hour precipitation on the surface (at the required design storage volume level) of the wastewater ponds; 25-year, 24-hour runoff from the Facility's production area; residual solids after liquids have been removed; and necessary freeboard (one foot of freeboard for below ground retention ponds and two feet of freeboard for above ground retention ponds).

5. The discharge of wastewater to the bermed pasture overflow area as shown on Attachment B is only allowable for combined wastewater and storm water flows generated during a rainfall event in excess of the 25-year, 24-hour event.<sup>BPJ</sup>
6. Wastewater ponds and manure areas shall be protected from inundation, washout or overflow from adjacent stream channels during 100-year peak storm conditions. The determination of 100-year peak storm conditions shall be from data provided by a recognized federal, state, local, or other agency.<sup>T27/BPJ</sup>

#### Wash Down and Runoff Control

7. All off-site precipitation and surface drainage shall be diverted away from the Facility and

production areas unless such drainage is fully contained and disposed of onsite in accordance with this Order. <sup>T27/BPJ</sup>

8. All on-site precipitation and surface drainage generated outside of production areas, including that collected from roofed areas, and runoff from tributary areas during storm events shall be diverted away from production areas, unless such drainage is fully contained onsite in the wastewater ponds. <sup>40CFR/BP/BPJ/T27</sup>
9. All new roofs, buildings, and non-production areas at the Facility shall be constructed or otherwise designed so that clean rainwater is diverted away from production areas unless containment facilities and irrigation areas are adequate to handle the increase in wastewater flow from these areas. <sup>40CFR/BPJ</sup>
10. Production areas shall be designed to convey all water that has contacted animal wastes to the wastewater ponds, and to minimize the infiltration of water into the underlying soils. <sup>BPJ/T27</sup>
11. The Facility shall have adequate surface drainage to prevent accumulation of standing water in all production areas. <sup>BP/BPJ</sup>
12. All storm water contacting or contaminated by animal wastes or manured solids shall be contained and disposed of onsite in accordance with this Order.

#### Wastewater Pond Design and Management

13. The wastewater ponds shall be designed and managed to contain combined wastewater and contaminated storm water flows generated during a 25-year 24-hour rainfall event. <sup>BPJ/BP</sup>
14. Wastewater ponds shall be lined or underlain by soils that contain at least 10-percent clay and not more than 10-percent gravel, or by artificial materials of equivalent impermeability. <sup>T27/CWC/BP</sup>
15. Wastewater ponds shall have sufficient freeboard, no less than two feet (measured vertically, from the water surface up to the point on the surrounding berm or dike having the lowest elevation and not including

engineered outlet structures) at all times and shall be designed and constructed to prevent overtopping as a result of windy storm conditions. Lesser freeboard, no less than one foot, may be approved by the Executive Officer if documented by a registered civil engineer that structural integrity and required capacity will not be compromised with the proposed freeboard. <sup>BPJ</sup>

16. Wastewater ponds shall contain permanent markers indicating depth, freeboard, and minimum capacity to contain the runoff and direct precipitation of 25-year and 100-year, 24-hour, rainfall events. <sup>BPJ</sup>
17. The wastewater ponds shall be managed such that sufficient storage is available by October 1<sup>st</sup> of each year, and throughout the wet season as practicable, to retain wastewater and storm water as generated by the 25-year, 24-hour rainfall event. <sup>BPJ</sup>
18. The wastewater ponds shall be managed and maintained to prevent:
  - a. Breeding of mosquitoes and other vectors
  - b. Erosion of berms or levees
  - c. Burrowing animals from threatening the integrity of the berms or levees
  - d. Accumulation of weeds around and within the ponds
  - e. Accumulation of dead algae, vegetation, and debris on the water surface
19. Manure and other solids including litter, feed and soil shall be removed from the wastewater to the maximum extent practicable prior to entering the wastewater ponds to limit solids loading to the ponds and maximize available storage. <sup>BPJ</sup>
20. The depth of sludge and other accumulated solids shall be measured in all wastewater ponds at least annually. Sludge and other solids shall be removed from each of the wastewater ponds before the total pond volume is reduced by more than 25 percent. <sup>BPJ</sup>

**Manure/Sludge Management and Disposal**

21. All animal wastes, manure, sludge, bedding, and feed shall be contained in appropriate storage areas.
22. Manure areas shall be designed and managed to prevent any manure from contacting surface water. <sup>BPJ</sup>
23. Manure and feed storage areas shall be designed and managed to direct leachate and runoff to the wastewater ponds. <sup>BPJ</sup>
24. Animal wastes and feed shall be managed to prevent nuisance conditions. <sup>BP/BJ</sup>
25. Manure, bedding, and spoiled feed generated within the confined animal areas shall be collected and removed on a regular basis to limit solids loading to the wastewater ponds. <sup>BPJ</sup>
26. Manure areas shall be managed to minimize infiltration of wastewater into underlying soils. <sup>T27/BP</sup>
27. The on-site application of manure and sludge to land if allowed by the Executive Officer (see Prohibition No. B.11) shall be conducted at site specific agronomic loading rates as determined by a site specific Nutrient Management Plan prepared by an appropriately certified individual or entity as required by Provision No. D.6 and outlined in Attachment C. <sup>T27/40CFR/BP</sup>
28. The on-site application of manure and sludge to land if allowed by the Executive Officer (see Prohibition No. B.10) shall not result in the breeding of vectors or other nuisance conditions and shall not result in the discharge of waste constituents below the root zone at concentrations that could degrade groundwater. <sup>T27/40CFR/BPJ</sup>
29. Lands that receive manure or sludge (conditional upon Prohibition No. B.10) shall be managed to minimize erosion and storm water runoff to surface water. Applied manure and sludge shall be incorporated into surface soils soon after manure application. <sup>BP/BJ</sup>
30. Manure or sludge shall not be stored or discharged within 100 feet of any existing water supply well. <sup>40CFR/BPJ</sup>
31. By October 1<sup>st</sup> of each year, the Discharger shall remove or appropriately apply onsite all accumulated manure and sludge generated during the previous year. Manure generated and stored onsite between October 1<sup>st</sup> and April 30 shall be covered with a waterproof tarp. Manure shall be hauled offsite on a regular basis and shall not be stored onsite beyond 120 days. <sup>BPJ</sup>
32. Prior to transferring manure or sludge to other persons, the Discharger shall, upon request, provide the recipient of the manure with the most current nutrient analysis. The nutrient analysis provided must be consistent with the requirements of the attached Monitoring and Reporting Program. <sup>BPJ</sup>
33. The Discharger shall document and maintain records through manifest of the amount and disposal location of all manure and sludge removed from the facility in accordance with the attached Monitoring and Reporting Program No. R3-2006-0016.

**Wastewater Disposal**

34. Discharge of wastewater shall be managed to minimize percolation to groundwater. <sup>T27</sup>
35. Wastewater shall not be discharged within 100 feet of any existing water supply well. <sup>40CFR/BPJ</sup>
36. Wastewater shall be applied to designated irrigation areas at site specific agronomic loading rates as determined by a site specific Nutrient Management Plan prepared by an appropriately certified individual or entity as required by Provision No. D.6 and outlined in Attachment C. <sup>T27/40CFR/BP</sup>
37. Wastewater application to designated irrigation areas shall not result in the breeding of vectors or other nuisance conditions and shall not result in the discharge of waste constituents below the root zone at concentrations that could degrade groundwater. <sup>T27/40CFR/BPJ</sup>
38. All applied wastewater must infiltrate completely with a 48-hour period.



39. Wastewater shall not be applied to designated irrigation areas when the soil is saturated.<sup>BPJ</sup>
40. Wastewater application shall be managed to prevent ponding and to minimize percolation to groundwater.<sup>BPJ/T27</sup>
41. Wastewater application to designated irrigation areas shall not result in runoff to surface waters or to drainage courses that are tributary to surface waters.<sup>BPJ</sup>
42. Wastewater application shall be timed and managed to minimize nitrogen movement below the root zone and percolation of waste constituents to groundwater.<sup>BPJ</sup>
43. Wastewater shall be applied to irrigation areas using a regular rotation. Rotation from one irrigation area to another shall occur at least weekly. Between applications, irrigated areas shall be allowed to dry to approximately the field moisture condition of non-irrigated areas.<sup>BPJ</sup>

#### General Specifications

44. Any salt added to animal feed shall be limited to that quantity required to maintain animal health and optimum milk productivity.<sup>BPJ</sup>
45. Sick, diseased and dead animals shall be disposed of in accordance with appropriate state and local laws, and regulations.<sup>BPJ</sup>
46. Animals shall be prevented from entering surface waters including natural drainageways and tributaries thereof.<sup>40CFR/T27/BP</sup>
47. The Discharger shall provide safeguards to assure that, should there be reduction, loss, or failure of electric power, the Facility will remain in compliance with the terms and conditions of this Order. Safeguards may include standby generators, alternate power sources, standby pumps, additional storage capacity, or modified operating procedures.<sup>BPJ</sup>

#### Groundwater Objectives

48. The discharge shall not cause the pH of underlying groundwater's to exceed 8.3 or recede below 6.5.<sup>BP</sup>
49. The discharge shall not cause groundwater to contain taste or odor producing substances in concentrations that adversely affect beneficial uses.<sup>BP</sup>
50. The discharge shall not cause a significant increase of mineral constituent concentrations in underlying groundwater.<sup>BP</sup>
51. The discharge shall not cause radionuclides to be present in concentrations that are deleterious to human, plant, animal, or aquatic life; or result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.<sup>BP</sup>
52. The discharge shall not cause groundwater to contain concentrations of radionuclides in excess of the limits specified in California Code of Regulations, Title 22, Chapter 15, Article 5, Section 64443, Table 4.<sup>BP</sup>
53. The discharge shall not cause groundwater to contain concentrations of chemical constituents in excess of the limits specified in California Code of Regulations, Title 22, Chapter 15, Article 4, Section 64431, Table 64431-A.<sup>BP</sup>
54. The discharge shall not cause groundwater to contain concentrations of organic chemicals in excess of the limiting concentrations set forth in California Code of Regulations, Title 22, Chapter 15, Article 5.5, Section 64444, Table 64444-A.<sup>BP</sup>
55. The discharge shall not cause groundwater to contain concentrations of chemical constituents in amounts that adversely affect the agricultural supply beneficial use.<sup>BP</sup>
56. The discharge shall not cause the median concentration of coliform organisms in groundwater over any seven-day period to be more than 2.2/100 mL.<sup>BP</sup>
57. No controllable water quality factor shall significantly degrade the quality of any

groundwater resource or adversely affect long-term soil productivity. The salinity control aspects of groundwater management will account for effects from all sources.<sup>BPJ</sup>

#### D. PROVISIONS

1. Order No. 86-01, "Waste Discharge Requirements for William Furtado, dba William Furtado Dairy, Santa Clara County," adopted by the Central Coast Water Board on March 14, 1986, is hereby rescinded.
2. The Discharger shall comply with the attached "Monitoring and Reporting Program (MRP) No. R3-2006-0016, as specified by the Executive Officer. The Executive Officer is authorized to revise the Monitoring and Reporting Program at any time.
3. All technical and monitoring reports submitted pursuant to this Order are required pursuant to Section 13267 of the California Water Code. Failure to submit reports in accordance with schedules established by this Order, attachments to this Order, or failure to submit a report of sufficient technical quality acceptable to the Executive Officer, may subject the discharger to enforcement action pursuant to Section 13268 of the California Water Code.
4. The Discharger shall comply with all applicable items of the attached "Standard Provisions and Reporting Requirements," dated January 1984.
5. The discharger shall comply with all applicable provisions of the Clean Water Act, Code of Federal Regulations, California Water Code, California Code of Regulations, and the applicable Water Quality Control Plans that are not specifically referred to in this Order.
6. The Discharger shall implement the Nutrient Management Plan (NMP) submitted by the Discharger as part of the October 2005 revised Report of Waste Discharge. At a minimum the NMP shall contain the information as specified in Attachment C of this Order. All of the information provided in the NMP shall be up-to-date and accurate. The NMP shall be updated as necessary on an annual basis. The Discharger shall maintain any records needed to determine compliance with the NMP.
7. The more stringent of the monitoring requirements as specified in Monitoring and Reporting Program No. R3-2006-0016 or NMP shall apply.
8. All Facility discharges shall comply with lawful requirements of the municipalities, counties, irrigation districts, drainage districts, and other local agencies regarding discharges of waste and wastewater within their jurisdictional area.
9. The Discharger shall give advance notice to the Central Coast Water Board of any planned changes in the permitted facility or waste management activities that may result in noncompliance with this Order.
10. This Order may be reopened to address any changes in State or Federal plans, policies, or regulations that would affect the quality requirements for the discharges.
11. The provisions of this Order are severable. If any provision of this Order is found invalid, the remainder of this Order shall not be affected.
12. The unauthorized discharge of wastes, wastewater, manure etc to any surface water or tributary thereof or increasing the number animals in excess of those stipulated in this Order will require consideration of regulating this Facility under the National Pollutant Discharge Elimination System Permit Regulations and Effluent Limitation Guidelines and Standards for Concentrated Animal Feeding Operations (CAFOs) pursuant to 40 CFR Parts 9, 122, 123 and 412.
13. In the event of any change in control or ownership of land or facilities presently owned or utilized by the Discharger, the Discharger shall notify the succeeding owner(s) or operator(s) of the existence of this Order by letter, a copy of which shall be forwarded to the Central Coast Water Board.

14. Pursuant to Title 23, Chapter 3, Subchapter 9, of the California Code of Regulations, the Discharger must submit a written report to the Executive Officer not later than July 8, 2010, addressing:

- a. Whether there will be changes in the continuity, character, location, or volume of the discharge.
- b. Whether, in their opinion, there is any portion of the Order that is incorrect, obsolete, or otherwise in need of revision.
- c. A summary of all violations of Waste Discharge Requirements, Order No. R3-2006-0016, which occurred since adoption of the order along with a description of the cause(s) and corrective action taken.

**I, Roger W. Briggs, Executive Officer**, do hereby certify the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Central Coast Region, on March 24, 2006

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Roger W. Briggs, Executive Officer