

INFORMATION SHEET

Waste Discharge Requirements Order No. R5 – 2007 – XXXX
Henry Jongsma DBA Henry Jongsma and Son Dairy
Glenn County

INTRODUCTION

Henry Jongsma has built and proposes to operate a new dairy on 979 acres in Glenn County, southeast of the city of Orland. The maximum herd size (Holsteins) at the dairy is 3,390: 1700 milking cows, 290 dry cows, 840 one-to-two year old heifers, and 560 three-to-twelve month calves. The dairy includes all new structures, including a milking parlor, freestall barns, loafing barns, corrals, manure storage and drying areas, lined settling ponds, a lined wastewater storage lagoon, and feed storage areas. Wastewater is land-applied to 711 of the 979 acres for agricultural production. Solid manure is hauled offsite to other farmers for use as fertilizer or used onsite as bedding.

A Report of Waste Discharge dated 15 October 2004 was submitted for the proposed dairy, including a Nutrient Management Plan and portions of the Waste Management Plan. Additional information has been submitted to the Board subsequent to that date. An Environmental Impact Report was prepared for the project and was certified by the Glenn County Planning Commission on 12 February 2006.

CURRENT CONDITIONS

The site of the dairy is zoned AP-80 (Agricultural Preserve, eighty acre minimum parcel size) and has been used for growing crops (primarily alfalfa) and raising beef cattle. The property is generally flat lying, and is underlain by the Jacinto fine sandy loam association.

WASTE GENERATION AT FACILITY

Operation of the dairy is estimated to generate 1.37 cubic feet of manure per animal unit per day, where an animal unit equals 1000 pounds of animal weight. Forty percent of the manure is removed as solids through the two settling basins, leaving a total of 378,383 cubic feet of manure wastewater generated over 120 days for a herd of 3,390 animals. One hundred twenty days (December 1 through March 30) is the maximum amount of time that waste needs to be stored at the facility between land applications.

Operation of the barn generates 55 gallons of wastewater per milk cow or 93,500 gallons per day for a milking herd of 1700 cows. Over 120 days, the volume of barn wastewater generated is 1,500,000 cubic feet.

Rainfall onto impervious areas of the dairy, onto the ponds, and onto corrals is estimated at 1,458,914 cubic feet over the December through March storage period, using average rainfall figures and including rainfall from one 25-year, 24-hour storm.

The total amount of wastewater requiring storage over the 120-day maximum storage period, after removing losses due to evaporation and adding one 25-year 24-hour storm, is 3,337,300 cubic feet.

WASTE MANAGEMENT AT FACILITY

Wastewater is passed through a solids separator located on a concrete slab, and then into two lined separation ponds, where suspended matter is partially removed. The solids and excess manure in corrals is stockpiled on the concrete slab at the solids separator and then either removed to other farms for use as fertilizer or used on site. A portion of the solids may be composted on site and used as animal bedding.

The two separation ponds gravity flow into the storage lagoon. The storage lagoons are 60 feet wide, 548 feet long and 13.5 feet deep, with side slopes of 2:1. The storage lagoon is 370 feet wide, 875 feet long, and 13.5 feet deep, with side slopes of 2:1. All three ponds are lined with 36 mil scrim-reinforced polypropylene. All seams were nondestructively tested at the time of installation using an air lance. The total storage capacity of all three ponds combined, allowing for two feet of freeboard is 3,642,590 cubic feet. All three ponds have at least five (5) feet between the bottom of the ponds and the estimated historic high water table, which is approximately 20 feet below the land surface.

An additional pond was created at the facility as a borrow source for facility construction. This pond is not lined and will only be used for temporary storm water storage resulting from an unusually large storm.

LAND APPLICATION OF WASTEWATER TO CROPS

Wastewater, and possibly solid manure is applied to land at agronomic rates to grow corn, wheat, and alfalfa in accordance with the certified Nutrient Management Plan.

All fields that receive solid manure or liquid wastewater have tailwater recovery systems. All fields, ditches, and pipelines exposed to wastewater are flushed with clean water during the last irrigation or usage of the season to remove any waste residue.

The Order requires that solid manure and wastewater samples be collected and analyzed, and the tons of solid manure and volume of wastewater applied to

each field determined. This information will be used to refine the Nutrient Management Plan on an ongoing basis.

The dates and volume of each irrigation application (without waste water) are recorded. These data are used to ensure that wastewater is not applied when the ground is at or above field moisture capacity, and to limit the flushing of nutrients below the root zone due to excessive application of irrigation water. In addition, samples of the irrigation water are tested to determine if there are nitrogen compounds present in the groundwater such that the Nutrient Management Plan should be amended to reflect nitrogen added from the irrigation water.

Soil monitoring and plant tissue monitoring are also required and the results used to further refine the Nutrient Management Plan.

GROUND WATER AND SURFACE WATER MONITORING PROVISIONS

There are two existing agricultural supply wells and one domestic well on the property. Four monitoring wells have been installed to monitor upgradient ground water quality (unaffected by dairy operations) and downgradient of the location of corrals, land application areas, and the wastewater storage pond. The Order requires sampling of these wells. Regional ground water flow is to the southeast and the depth to groundwater at the facility ranged from 28.5 to 37.5 feet in April 2007.

An initial round of sampling for all wells has been completed. All monitoring wells have elevated iron and manganese, and one well, MW-3 (near the new corrals) has nitrate in excess of the MCL as a result of historic (pre-dairy) farming activity on the property. The domestic and agricultural wells will be sampled semiannually for electrical conductivity and nitrate-nitrogen, and annually for general minerals, ammonia-nitrogen, total dissolved solids, and fecal coliform. The monitoring wells will be sampled semiannually for electrical conductivity, pH, nitrate-nitrogen, ammonium-nitrogen, total dissolved solids, fecal coliform, phosphorous, and potassium; and annually for general minerals. Prior to any pre-sample purging, the depth of groundwater shall be measured from a surveyed reference point (anticipated to be the top of each well vault) to the nearest 0.01 foot in each well.

Because all fields receiving solid manure or liquid wastewater have tailwater recovery systems, it is not anticipated that there will be off-property discharges of waste, which would be in violation of the Water Code. It is expected that, if the Nutrient Management Plan and other conditions of the Order regarding waste application are followed, any discharges of storm water from fields receiving solid manure or wastewater should not contain waste constituents. To verify this, representative samples will be collected from a portion of the fields each year to

determine if waste constituents are present. Storm water monitoring will be adjusted based on the results from these samples.

REPORTING REQUIREMENTS

By January 15 of each year, the Discharger will submit an Annual Report containing the information on facility operations outlined in the Monitoring and Reporting program and covering the period from 1 November through 31 October of the previous year. The initial annual report will cover the period from the commencement of dairy operations through October 31 of the year following the adoption of the order (for example, since this order is adopted in 2007, the initial annual report would be due on January 15, 2009, and cover the period through October 31, 2008) to ensure that the annual report contains results of the first wet season following commencement of dairy operations. The initial annual report will also include documentation from a trained professional that no cross connections exist between the waste management system and any water supply or irrigation well, as required under Section F.1 of the Order.

By 30 June 2008, the Discharger will submit a Storm Water Report describing the results of storm water monitoring conducted pursuant to the Monitoring and Reporting Program.

By 30 June 2008, and annually thereafter, the Discharger will submit the results of groundwater monitoring.

In the event of any noncompliance with the requirements of the Order that endangers human health or the environment, or any noncompliance with the prohibitions in the Order as listed in the Noncompliance Reporting provisions of the Monitoring and Reporting Program, the Discharger shall notify the Board within 24 hours of becoming aware of the occurrence. Information about the situation shall be collected and submitted in accordance with the Priority Reporting of Significant Events requirements in the Monitoring and Reporting Program.