ORDINANCE NO. 2005-1662

ORDINANCE ADDING CHAPTER 27 TO SOLANO COUNTY CODE, RELATING TO LARGE CONFINED ANIMAL FACILITY STANDARDS

The Solano County Board of Supervisors ordains:

Section 1. Chapter 27 is added to read:

**Article I – General**

**Section 27-100 Purpose.**
(a) This Chapter establishes a set of local standards for the design, construction, operation and management, and monitoring of Large Confined Animal Facilities that are to be enforced by the Department of Resource Management, Environmental Health Services Division to protect the public health of the residents and visitors of Solano County and the environment.

(b) These standards do not replace any requirements of Federal or State standards regulating Confined Animal Facilities or Confined Animal Feeding Operations, or relieve the operator of a Large Confined Animal Facility or Large Confined Animal Feeding Operations from complying with requirements of agencies enforcing such standards.

(c) In addition, an applicant and/or operator of a Large Confined Animal Facility shall meet all applicable Solano County Zoning Code and Building Code (including grading) requirements.

**Section 27-110.**
(a) "Agronomic rate" means an application rate, which matches the nutrient requirements for a specific crop on an annual basis and shall be based on the most limiting nutrient which may create potential environmental degradation or public health concern if it is applied beyond the need of the crop. This includes, but is not limited to, nitrate and phosphate.

(b) "Application area" means usable cropland area, including pasture, for the application of solid and liquid manure being utilized from the retention pond, corral areas, or other animal confinement areas.

(c) "Background water quality" means the groundwater quality upgradient from the animal confinement facility.

(d) "Board" is the Board of Supervisors of Solano County.

(e) "California Comprehensive Nutrient Management Plan (CNMP)" is a grouping of conservation practices and management activities which, when combined into a system, will ensure that both production and environmental goals are achieved. It incorporates practices to utilize animal manure as a beneficial resource rather than a waste. The plan must be approved by the Environmental Health Services Division. It is the intent of this chapter that only one document must be prepared to comply with Federal, State and local environmental requirements. The property owner may be required to conduct groundwater and/or plant tissue monitoring as a condition of approval. The plan must be signed by the property owner and kept on-site.

(f) "Confined animal facilities" are those facilities that meet the definition of Solano County Code Chapter 28, section 28-10.

(g) "Large confined animal facility" is a confined animal facility that meets the minimum thresholds for a given animal sector as described in Table 1.
Table 1

<table>
<thead>
<tr>
<th>Animal Sector</th>
<th>Large CAF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle or cow/calf</td>
<td>1,000 or more</td>
</tr>
<tr>
<td>Mature dairy cow</td>
<td>700 or more</td>
</tr>
<tr>
<td>Veal calves</td>
<td>1,000 or more</td>
</tr>
<tr>
<td>Horses</td>
<td>500 or more</td>
</tr>
<tr>
<td>Sheep or lambs</td>
<td>10,000 or more</td>
</tr>
</tbody>
</table>

(g) "County" shall include all of the unincorporated areas within the County of Solano, State of California.

(h) "Department" means the Solano County Department of Resource Management.

(i) "Division" means the Solano County Department of Resource Management, Environmental Health Services Division.

(j) "Dry manure" means manure that has had sufficient bedding or soil added, or has received sufficient air drying to raise the solids content to where it will stack with little or no seepage. Dry manure is also known as solid manure.

(k) "Facility" shall include any animal confinement area, retention pond, settling basin, wastewater collection, treatment, and recycling system, corrals, milk barn, freestalls, feed storage, mechanical separator or other structures or components of a Large Confined Animal Facility.

(l) "Liquid manure" means manure that by its nature, or after being diluted by water, can be pumped easily.

(m) "Manure" means the fecal and urinary excretion of livestock. This material may also contain bedding, spilled feed, water or soil.

(n) "Pharmaceutical" means any substance intended for use in the diagnosis, cure, mitigation, treatment or prevention of disease in animals.

(o) "Retention pond" means a constructed holding pond for temporary storage of solid and liquid animal manure, prior to cropland application.

(p) "Settling basin" means a structure in which wastewater flow velocity is reduced to permit suspended solids to settle by gravity.

(q) "Silage" means feed preserved by an anaerobic fermentation process.

(r) "Tailwater" means surface water having fallen as rain or flowing through a field as irrigation collected through a series of ditches, pipes and pumping mechanisms for return to a reservoir or other holding structure.

(s) "Tilewater system" means a series of buried perforated pipes designed to remove excess water from soils.
(t) "Treated Wastewater" means wastewater that has been treated substantially in the wastewater treatment system. For example this refers to wastewater that has undergone solids separation and extended settling in a lagoon.

(u) "Wastewater" means water that has been in contact with animal manure. This includes storm drainage water that has been in contact with animal manure.

**Section 27-120 Scope and applicability.**
(a) The standards contained in this Chapter apply to public health and environmental protection requirements for Large Confined Animal Facilities meeting the definition in section 27-110 (g) of this code.

(b) Nothing contained in this Chapter shall be construed to prevent the Environmental Health Services Division from requiring compliance with other requirements, where such other requirements are essential to maintain a safe and sanitary condition.

**Section 27-130 Land area and zoning.**
Confined Animal Facilities must meet all requirements of the Solano County Zoning Code. The Department of Resource Management, Planning Services Division is the agency responsible for enforcing the zoning code. Application to construct or operate a Large Confined Animal Facility shall only be approved by the Environmental Health Services Division after all appropriate zoning approvals and use permits have been obtained.

**Section 27-140 Building and grading permit requirements.**
Nothing contained in this chapter shall be construed to relieve a contractor, applicant or operator from obtaining all required building permits, including grading permits, or building or grading inspections for construction, expansion, or destruction of any portion of a Large Confined Animal Facility from the Department of Resource Management, Building and Safety Services Division.

**Section 27-150 Hazardous Material Business Plan.**
Confined Animal Facilities must file a Hazardous Materials Business Plan with the Department of Resource Management, Environmental Health Services Division if the facility stores or manages hazardous materials in reportable quantities. Application to construct or operate a Large Confined Animal Facility shall only be approved by the Environmental Health Services Division in conjunction with a Hazardous Materials Business Plan if applicable.

**Section 27-160 Federal and State Requirements.**
(a) All Large Confined Animal Facilities shall comply with effluent limitations established by the Federal Clean Water Act and the terms of any applicable National Pollution Discharge Elimination System Permit.

(b) All Large Confined Animal Facilities shall comply to the State requirements contained in the California Code of Regulations, Title 27, Division 2, Chapter 7, Subchapter 2, Article 1, sections 22560-22565 or its revisions and the requirements of the Water Quality Control Plan (Basin Plan) for the Regional Water Quality Control Board having jurisdiction shall be met.

(c) All Large Confined Animal Facilities shall comply with the standards of the Air Quality Management District having Jurisdiction. Nothing in this chapter shall prohibit the Environmental Health Services Division from developing a protocol and implementing a program for testing for airborne constituents of concern. Testing of constituents of concern, as determined by the Environmental Health Services Division, shall be funded by the owner or operator of the Large Confined Animal Facility.
Section 27-170 Fees.
(a) The fee for each permit issued and the fees for review of operational permits, monitoring, enforcement or other operational aspects of the Large Confined Animal Facility, pursuant to the provisions of this chapter, shall be determined in the amount and payable at the time and method set by the board of supervisors, pursuant to Solano County Code, Chapter 11, section 11-110.

(b) All reasonable costs of laboratory analysis of water, wastewater, manure (liquid and dry), soil, gas, and/or vegetation samples collected by the Administrative Authority shall be paid by the Large Confined Animal Facility operator.

Article II – Plan Approval

Section 27-200 Plan approval application.
In addition to any application to the Solano County Building and Safety Services Division and Planning Services Division, application to construct or expand a Large Confined Animal Facility shall also be made to the Environmental Health Services Division on forms approved by it. A permit to construct or expand a Large Confined Animal Facility shall only be issued when the permit application has been approved and meets all requirements of these standards and all other applicable permits issued by the Solano County Building and Safety Services Division and Planning Division have been approved. Permits are non-transferable. No amendments to an issued permit or approved plans shall be made without prior written approval of the Environmental Health Services Division. Approved amendments shall be deemed part of the original permit or approved plans.

Section 27-210 Complete application.
Prior to the review of any application for a Large Confined Animal Facility by the Environmental Health Services Division, the operator shall submit a complete application package. A complete application package shall include the following components:

(a) Completed application form provided by the Environmental Health Services Division to construct or expand a Large Confined Animal Facility along with any application or permit fee;

(b) Comprehensive Nutrient Management Plan pursuant to section 27-400;

(c) Detailed plans and calculations demonstrating that any new construction or expansion is in compliance with this chapter;

(d) Supporting documentation demonstrating compliance with this chapter. Such documentation shall include, but not be limited to:

(1) Manure, odor and vector management plans;

(2) Groundwater monitoring plan;

(3) Retention pond and/or settling basin maintenance plan if such ponds and/or basins are used in the wastewater management system for the facility;

(4) Financial assurances plan pursuant to section 27-240;

(e) Operational Permit application including any application and permit fee;

(f) Designation of the facility compliance officer pursuant to section 27-430.
Section 27-220 Plan approval.

(a) The Environmental Health Services Division shall approve, conditionally approve, or deny the application, and issue or withhold plan approval accordingly, on the basis of compliance with this chapter. Plan approval from the Environmental Health Services Division shall be issued concurrently with any approvals required by the Building and Safety Services Division and after approval from the Planning Services Division. No plan shall be approved by the Environmental Health Services Division until the Air Quality Management District and Regional Water Quality Control Board having jurisdiction issue the appropriate approvals for the Large Confined Animal Facility.

(b) No one shall install a Large Confined Animal Facility without first obtaining plan approval from the Environmental Health Services Division. Additionally, no one shall replace, expand, modify, or destroy any portion of a Large Confined Animal Facility such that there is the potential to impact the wastewater treatment system, approved Comprehensive Nutrient Management Plan or increase the potential for odor or vector nuisance or environmental impact without first obtaining plan approval from the Environmental Health Services Division. The intent of this paragraph is to capture activities in the permitting process that will result in a potential risk to public health or the environment.

(c) No operator, contractor, property owner, or person shall violate or fail to comply with any plan approval condition imposed pursuant to these standards.

(d) Only work specifically authorized by the plan approval may be performed. The operator shall retain a copy of the approved plans on the facility grounds while the Large Confined Animal Facility remains in operation.

Section 27-230 Length of validity and renewal of the plan approval.

Plan approval issued by the Environmental Health Services Division shall be valid for two years from the date of issuance unless the facility is constructed. Prior to expiration, plan approvals for facilities that have not been constructed may be renewed by the Environmental Health Services Division upon payment of the required fee and satisfaction of required conditions. The work authorized by the plan approval must meet all the provisions of these standards, or its latest revision, and applicable Zoning and Building Code requirements in order for the plan approval to be renewed.

Section 27-240 Financial Assurances.

Prior to obtaining plan approval from the Environmental Health Services Division for a Large Confined Animal Facility, the owner shall prove financial responsibility for closure and corrective action. Financial responsibility is proven by providing evidence of adequate resources in the form of cash, surety bonds, an Irrevocable letter of credit or Insurance. The intent of this section is to provide a financial mechanism to cover the costs of closure or corrective action in the case that the owner of a Large Confined Animal Facility is either unwilling or unable to perform a required activity.

(a) Closure: The owner or operator shall demonstrate financial responsibility to the Environmental Health Services Division for closure in at least the amount of the current closure cost estimate prepared by a licensed civil engineer. For the purposes of this section closure means the removal of all manure, waste products, feed, silage, animals, hazardous materials or other products and substances that have the potential to impact the environment or public health as determined by the Environmental Health Services Division.

(b) Corrective Action: The owner or operator shall demonstrate financial responsibility to the Environmental Health Services Division for corrective action associated with a release to the environment that results in the degradation of surface or groundwater as determined by the Environmental Health Services Division or the Regional Water Quality Control Board. The minimum amount of financial responsibility for corrective action is $1,000,000.00.

Section 27-250 Security.

Prior to beginning operation of a Large Confined Animal Facility, the owner shall prepare and initiate a security plan in consultation with a veterinarian. The security plan shall be maintained on the facility
property and be available for inspection and review by Environmental Health Services Division staff at all times. The security plan shall contain at least the following components.

(a) Site access. A policy and procedure for controlling the perimeter of the property including warning signs, vehicle routes and precautions for visitors and service personnel.

(b) Feed and water. A policy and procedure for ensuring that feed meets the FDA’s requirements for disease prevention and be protected from adulteration or contamination.

(c) Chemical storage. A policy and procedure for listing and indicating the types and quantities of chemicals and that chemicals are stored in a secure location and away from animals and feed.

(d) Mortality management. A policy and procedure describing how pickup sites and equipment shall be isolated so that contamination of feed, water or the herd do not occur.

(e) Disease prevention. A policy and procedure detailing precautions and measures used at the site to prevent the spread of disease, the management of infected animals and a description of training programs for employees and visitors.

(f) Animal tracking. A policy and procedure detailing how individual animals will be tracked. This includes locations on-site as well as off-site destinations.

**Article III — Design and Construction Standards**

**Section 27-300 Construction**

(a) When used as part of the wastewater management system, settling basins and retention ponds at Large Confined Animal Facilities shall comply with the standards in section 27-310.

(b) Feed storage facilities shall be designed, constructed and managed in such a manner as to minimize air emissions and restrict entry, harborage, or breeding of rodents and/or vectors.

(c) Silage storage areas shall be constructed of impervious materials to prevent groundwater degradation. Leachate drainage shall be conveyed to the wastewater collection system. Silage storage areas shall be protected from storm water run-on.

(d) All grading operations on the property shall result in no storm drainage or wastewater being allowed to flow or seep onto adjacent properties, public roads or into any waterway.

(e) New facilities shall be protected from 100-year peak stream flows as well as the 100-year flood as determined by the Federal Emergency Management Agency, Flood Insurance Rate Map.

(f) New and existing structures shall have gutters to prevent rainwater from entering corrals or areas of manure storage unless adequate storage capacity for the additional rainwater is provided in the retention pond.

(g) The Large Confined Animal Facility and access roads shall meet the requirements of the Air Quality Management District having jurisdiction.

(h) Large Confined Animal Facilities shall comply with all requirements of the Solano County Public Works Division applicable to Confined Animal Facilities.

(i) The Large Confined Animal Facility shall meet the requirements of the Solano County Mosquito Abatement District.
(j) The storage of silage or composting materials shall be located at least 300 ft. from any pre-existing off-site residence.

(k) Where the commingling of water containing manure can take place with irrigation wells and irrigation and/or drainage district facilities, these facilities must be protected from pollution by a backflow device or method that is approved by the Environmental Health Services Division and for the appropriate irrigation/drainage district. It is the obligation of the property owner to install and maintain or cause to be installed and maintained the backflow device or method. This also applies to off property parcels receiving water containing manure under agreement. Salt and other mineral feed supplements shall be limited to that required to maintain animal health and optimum production according to the National Research Council.

(l) Vegetative barriers may be required by the Environmental Health Services Division to filter suspended air particles from Confined Animal Facilities.

(m) New or expanding Confined Animal Facilities shall provide and maintain one or more of the following dust control measures on unpaved roads within the facility area:

1. A uniform layer of washed gravel; or
2. Chemical/organic dust suppressants; or
3. Vegetative materials; or
4. Paving; or
5. Any other method that effectively limits visible dust emissions.

(n) When corrals are utilized for large animals (horses, cows, sheep, etc.) they shall have a slope of at least 3% where the available space for each animal is 400 sq. ft. or less. The slope in areas more than 400 sq. ft. per animal may be reduced proportionately to not less than 1 1/2% at 800 sq. ft. or more per animal and drain to the waste management system.

(o) Tailwater and tilewater from cropland irrigated with liquid manure shall be returned to the animal confinement facility liquid manure management system, except for off site uses allowed in an approved CNMP.

(p) New dairy Large Confined Animal Facilities shall be constructed utilizing concrete or other impermeable flooring material approved by the Environmental Health Services Division in free stall barns and drainage ways. The free stall barns shall incorporate a self flushing mechanism that automatically and routinely self flushes the manure to the wastewater pond/basin or sump that then pumps it into the pond/basin. Methods that utilize scraping or vacuuming of manure on a routine basis that achieve the same result as a self flushing mechanism may also be utilized.

**Section 27-310 Retention ponds and settling basins.**

New or enlarged retention ponds and settling basins shall conform to the following construction requirements:

(a) The total capacity of retention pond(s) and settling basin(s) shall be designed and constructed for at least 180 days of storage capacity for liquid manure generated at the facility and a 100-year, 24-hour storm. The retention pond/settling basin capacity shall also be adequate to store tail or tile drainage water (if returned to the retention pond/settling basin) and liquid manure and wastewater, while
maintaining at least 2 feet of freeboard, to assure that the timing of the land application is appropriate for the nitrogen needs of the crop.

(b) The retention pond(s) and settling basin(s) shall be surrounded by a road at least 12 feet wide and suitable for safe passage of vector control vehicles and equipment. The road should be accessible at all times to provide for the use of vehicle-mounted mosquito control equipment.

(c) The inside banks of all pits, sumps, retention ponds and settling basins shall be maintained so as to prevent a breeding habitat for mosquitoes or other vectors.

(d) Retention ponds and settling basins shall be constructed according to the United States Department of Agriculture (USDA), Natural Resource Conservation Service guidelines, specifically, USDA National Engineering Handbook, Part 651 - Agricultural Waste Management Field Handbook, Appendix IOD - Geotechnical, Design, and Construction Guidelines effective at the time of construction and shall comply with the additional design criteria contained in this chapter.

(e) The bottom of the retention pond and settling basin, including liner, shall be at least five (5) feet above the highest anticipated groundwater table or seasonal perched groundwater.

(f) A retention pond or settling basin must maintain the minimum setbacks in Solano County Zoning Code section 28-53(i)(3.5.3).

(g) The property owner shall apply for and obtain a permit from the Environmental Health Services Division prior to the construction of a new or expanded retention pond or settling basin. An inspection and approval of the retention pond and/or settling basin by the Environmental Health Services Division is required prior to discharging into the retention pond or settling basin.

(h) All settling basins and retention ponds shall be comprised of the following layers (listed from bottom to top) placed atop bedrock or foundation materials: a 2-foot thick compacted clay layer with a permeability less than or equal to $1 \times 10^{-7}$ cm/sec, a 60mil high-density polyethylene geomembrane with a permeability less than or equal to $1 \times 10^{-13}$ cm/sec, a geomembrane filter fabric, and a 24-inch thick soil operations layer.

(i) Liners shall be protected from the erosive forces of waste liquid entering the pond or settling basin and damage due to cleaning operations and scour due to agitation equipment.

(j) Plans for retention ponds and settling basins shall be designed and signed by a California registered civil engineer or a California registered engineering geologist and shall have a maintenance plan, approved by the Environmental Health Services Division. As-built drawings, signed by a California registered civil engineer or a California registered engineering geologist certifying that the retention pond/settling basin was constructed as designed are required to be submitted to the Environmental Health Services Division within 30 days of completion of the retention pond or basin. No pond/settling basin shall be placed into operation without certification from the design engineer or geologist that the pond/settling basin was constructed in conformance with the approved design.

(k) Settling basins shall not exceed 60 feet in width and retention ponds shall not exceed 100 ft. in width, unless reviewed by the Solano County Mosquito Abatement District (SCMAD) and approved by the Environmental Health Services Division. The top width of all embankments shall be a minimum of 12 feet and shall be adequately constructed to support vehicular traffic in the event that treatment by SCMAD staff becomes necessary. Large Confined Animal Facilities shall establish a routine maintenance schedule that involves the removal of accumulated dead algae and debris from the water surface of ponds and basins and a routine maintenance program around the perimeter of the ponds. Ponds shall be operated and maintained to prevent floating vegetative solids accumulation.

(l) Retention ponds and settling basins located near an irrigation or drainage district facility must maintain a minimum 100-foot separation between the outside toe of the retention pond or settling basin bank and the nearest irrigation district facility (either physical facility or right-of-way), and maintain a
containment system between the two facilities that will ensure that all water generated on the animal confinement facility is maintained on site.

(m) Retention ponds, settling basins and ditch conveyances that contain wastewater must maintain a minimum 50-foot separation from the ultimate public road right-of-way line. Conveyances that contain treated wastewater are exempt from this requirement.

(n) A minimum 500-foot separation must exist between the outside toe of the retention pond or settling basin bank and the facility property boundary.

(o) A retention pond must have a marker on the inside slope which clearly indicates the design volume and the minimum freeboard necessary to allow for the 100-year, 24-hour rainfall event. A minimum of two (2) feet of freeboard is required at all times for new and existing retention ponds.

(p) Retention ponds and settling basins shall be protected against 100-year stream flows and the 100-year flood.

(q) New and existing retention ponds and settling basins shall not create obnoxious odors, excessive vector breeding or create a condition of nuisance or pollution as defined by California Water Code section 13050.

(r) New facilities shall install a flow meter and associated plumbing on the effluent line from the retention pond.

(s) Retention ponds and settling basins shall be designed to minimize odor, to the greatest extent feasible, by using the best available proven technology at the time of application for a Large Confined Animal Facility. This includes, but is not limited to, pond covers, anaerobic digesters, aerobic and anaerobic systems or operational or management practices.

Section 27-320 Pumping systems and hydraulics.

(a) All hydraulic and pumping systems shall be designed by a California registered civil engineer.

(b) All pumping systems shall be equipped with the appropriate level of independent redundancy to continue operation at system design flow rates in the case of a pump failure. Each independent system shall be capable of accommodating design flow rates, including any storm water from the 100-year 24-hour event.

(c) All pumping systems shall be designed so that routine maintenance and repair can be conducted without a discharge of wastewater. This includes control structures on each side of a pump to provide isolation from the pumping system.

(d) Pumps, sumps and pump vaults shall be equipped with the appropriate instrumentation, level indicators and alarm controls to provide real time operational status of the pumping system. Control panels shall be located in a high foot traffic area of the Large Confined Animal Facility and minimally provide the following information or features:

(1) An audio and visual high water alarm;

(2) The pump operational status;

(3) The level of water in the sump or pump vault;

(4) The total pump operational time.

(e) Pumping systems shall be equipped with a backup power supply capable of supplying sufficient power to operate the system at design flow rates, up to and including the volume of process wastewater...
and storm water runoff from a 100-year 24-hour storm, for at least 72 hours.

Section 27-330 Environmental Health operational inspections, construction inspections and approval.
(a) The Environmental Health Services Division may inspect each Large Confined Animal Facility four times each year or more often if deemed necessary to assure protection of public health and/or the environment, with at least two inspection occurring during the wet weather period from October through April. Additional inspections by the Environmental Health Services Division may occur after significant rain event. The inspections required by this section may be unannounced.

(b) No portion of the Large Confined Animal Facility shall be placed into use until it has obtained a Large Confined Animal Facility operational permit and the Environmental Health Services Division has completed all required inspections and issued approval, unless the Division has specifically issued a written waiver from the need for such inspections.

(c) These standards are minimums. Stricter standards may be required if recommended pursuant to environmental review by other regulatory agencies.

Article IV – Comprehensive Nutrient Management and Operations

Section 27-400 Comprehensive Nutrient Management Plan.
(a) Before applying for a building permit for a new facility, significantly expanding (250 animals or 10% increase in mature animals, which ever is less) an existing facility, adding or deleting manure application areas, or constructing a retention pond(s) or settling basin(s) the property owner or operator shall submit to the Environmental Health Services Division, a new or revised Comprehensive Nutrient Management Plan (CNMP) in a format approved by the Environmental Health Services Division. The baseline for the 10% increase will be based on the number of animals existing on the facility on the adoption date of this chapter. The amount of land that can be irrigated with treated wastewater shall not exceed the ratio of 2.5 mature milked cows per acre, except the Department may grant the facility to use a higher ratio if the facility can prove its operational practices and/or specific site characteristics justify that the higher application ratio will not be detrimental to the environment.

(b) All existing Large Confined Animal Facility operators and/or owners must have completed a Comprehensive Nutrient Management Plan by December 31, 2006. The plan must be reviewed and approved by the Environmental Health Services Division. The preparer of the CNMP must be appropriately qualified to prepare such plans, as determined by the Environmental Health Services Division or RWQCB. For calculations in the CNMP for existing facilities, the actual nitrogen and salt content of liquid and dry manure shall be determined by a state certified laboratory using EPA approved test methods or other methods approved by the Environmental Health Services Division. The values obtained from the laboratory analysis shall be used to assure proper application to crops at agronomic rates.

(c) The CNMP shall contain the following components and other information as required by the Environmental Health Services Division:

1. Facility and Owner/Operator Information:
   (A) Names, addresses and phone numbers of the owner and operator.
   (B) Site address and assessor's parcel numbers.
   (C) An emergency action plan covering: fire, personal injury, manure storage and handling and, if applicable, land application operations.
(2) Production and nutrient information:
   (A) Animal types and numbers.
   (B) Calculated manure and wastewater volumes for the facility.

(3) Applicable permits or certifications:
   (A) Local use permit, State permit and Federal permit.
   (B) Record of inspections or site assessments.
   (C) Changes made to the CNMP.

(4) Land application site information, if applicable:
   (A) Written manure application agreements (if required).
   (B) Dry and liquid manure application worksheets indicating how manure will be applied at
       agronomic rates.
   (C) Assessors parcel number of all land application sites.
   (D) Crop types, actual yields and expected nutrient uptake amounts.
   (E) Soil analysis results.
   (F) Manure analysis results.
   (G) Groundwater analysis results.
   (H) Plant tissue analysis results (if required).
   (I) Methods of application.
   (J) Weather conditions during application;
   (K) Soil types.
   (M) Highest groundwater depth, groundwater elevation and elevation of the bottom of the retention
       pond and settling basin.
   (N) Flood plain designation.

(5) Liquid manure irrigation application.

(6) Dry manure application.

(7) Dead animal disposal - Describe how dead animals are disposed and frequency of removal.

(8) Facility operation and maintenance information:
   (A) Odor control management plan describing odor control measures.
(B) Dust control management plan describing dust control measures.

(C) A vector control management plan that includes a description of how often corrals, retention ponds, settling basins, milk barn, watering areas, calf areas, freestalls, flush lanes, shades, feed storage and feeding areas are checked for vectors, frequency of cleaning feeding areas, a description of types of vector control that will be utilized (biological, chemical or cultural) and other information needed to prevent vector problems.

(D) An irrigation management plan for the storage and application of wastewater to cropland at agronomic levels. (Include size of retention ponds/settling basins, mixing procedures, expected application times and amounts of nitrogen applied etc.).

(E) A manure (liquid and dry) monitoring program. The manure monitoring program must demonstrate compliance with the following minimum criteria:

(i) Liquid manure shall be sampled and analyzed at least three (3) times a year prior to land application by a state-certified laboratory or other methods approved by the Environmental Health Services Division.

(ii) Dry manure shall be sampled and analyzed at least two (2) times a year prior to land application by a state-certified laboratory or other methods approved by the Environmental Health Services Division.

(iii) Specific constituents required for analysis and locations shall be determined by the Environmental Health Services Division. At a minimum, liquid manure shall be analyzed for total Kjeldahl nitrogen, ammonia-nitrogen, phosphorus, potassium, electrical conductivity and pH. At a minimum, dry manure shall be analyzed for moisture, organic nitrogen, nitrate nitrogen, phosphorus, potassium, electrical conductivity, total dissolved solids, selenium and pH. The Environmental Health Services Division may require analysis of other constituents including pharmaceuticals.

(iv) Description of the sampling techniques, equipment, sample preservation, analysis, the name of the laboratory, name of the sampler, and other information as required by the Environmental Health Services Division.

(F) A soil monitoring program. The soil monitoring program must demonstrate compliance with the following minimum criteria:

(i) Maps and drawings that identify the locations of soil sampling at existing or proposed uncovered animal housing (corrals/pens), manure storage areas, and cropland that will receive manure.

(ii) A description of how representative soil samples will be collected from each location and at what depth.

(iii) Specific constituents required for analysis, number of samples and sampling frequency shall be as determined by the Environmental Health Services Division. At a minimum, soil samples for cropland shall be sampled for ammonium, calcium, magnesium, potassium, sodium, nitrate, cation exchange capacity, percent base saturation, soluble salts, selenium, total Kjeldahl nitrogen, phosphorus and pH. At a minimum, soil samples for non-cropland shall be sampled for ammonium, nitrate, soluble salts, total Kjeldahl nitrogen and pH. The Environmental Health Services Division may require analysis of other constituents including pharmaceuticals.

(iv) Sampling shall follow EPA procedures and test methods for soil sampling and analysis.
(v) The time of year when sampling will take place and who is responsible for taking the samples shall be identified.

(vi) Soil sample results, for the initial sampling, shall be submitted within 90 days of the start of operations at the site.

(vii) Sampling techniques, equipment, sample preservation, analysis, the name of the laboratory and the name of the sampler shall be provided.

(G) A groundwater monitoring program. The number of monitoring wells and frequency shall be sufficient to adequately characterize and represent background water quality as well as monitor groundwater impacts from the Large Confined Animal Facility. A minimum of eight (8) monitoring wells shall be installed. Additional wells may be required and are based on the following criteria: soil type(s), groundwater depth, existing groundwater quality, the number of animals, location and construction of water supply wells, previous test results, location of potential areas of contamination and development of the facility. The groundwater monitoring program shall be prepared and signed by a California registered civil engineer or registered geologist and include a statistically significant sampling plan. At least 7 samples shall be collected from each well prior to the operation of the facility to provide an adequate number of background water samples for statistical analysis. Existing facilities shall collect 7 samples from each well prior to the approval of the CNMP. All groundwater samples shall be collected at the groundwater interface. The groundwater monitoring program shall be prepared and submitted for review and approval to the Environmental Health Services Division and shall provide the following minimum information:

(i) A description of groundwater conditions beneath the site including expected depths to the shallow and deep groundwater, expected direction(s) of groundwater flow, and the source of groundwater information (irrigation/water district maps, measurements of on site wells, and highest anticipated groundwater elevation). First encountered groundwater will be used to determine compliance with groundwater testing of this Chapter.

(ii) A map showing the location of all the proposed monitoring wells and existing on-site wells relative to operations. Provide a separate map showing wells within 1,000 feet of the site.

(iii) Compliance with Solano County Code Chapter 13.10 (Wells), including obtaining monitoring well permits from the Environmental Health Services Division.

(iv) Description of sampling techniques, equipment, sample preservation, analysis, the name of the laboratory and the name of the sampler, shall be provided.

(v) Frequency of groundwater monitoring shall be quarterly and analyzed at a state certified laboratory. The Environmental Health Services Division may require more frequent analysis on a site specific basis.

(vi) Sampling constituents required for analysis shall be as determined by the Environmental Health Services Division. At a minimum, groundwater sampling shall include the following constituents: ammonium, calcium, potassium, magnesium, sodium, chloride, bicarbonate, selenium, nitrate, sulfate, ammonia, total dissolved solids, total Kjeldahl nitrogen and pH. The Environmental Health Services Division may add or delete specific constituents, including pharmaceuticals, based on previous sampling results or new information and/or other potential threats to groundwater or public health.

(vii) Two (2) monitoring wells shall be placed up gradient of the facility and three (3) monitoring wells shall be placed down gradient of the facility. Additionally, monitoring wells shall be placed both up and down gradient of the settling basins and retention ponds, areas of high animal density such as corrals.
and freestall barns, areas of potential contamination, and fields that are receiving wastewater irrigation. Monitoring wells shall be screened at the shallowest aquifer.

(viii) Sampling shall follow EPA procedures and test methods (or "Standard Methods For Examination of Water and Wastewater" 18th Edition or its revisions).

(ix) Groundwater depth, groundwater elevation and direction of flow shall be determined.

(x) For new confined animal facilities, initial water samples shall be taken prior to the start of operation to establish background water quality information.

(xi) Within 30 days after completion of the monitoring system, a report signed by a registered geologist or civil engineer must be submitted to the Environmental Health Services Division. The report shall include a map showing the location of all wells (including monitoring, domestic and irrigation wells) and all off site wells within 1,000 feet of the facility; well logs of the monitoring wells and on-site wells, if available; a description of how the wells were developed; the surveyed elevation of each monitoring well taken from a clearly marked and adequately described benchmark (including GPS coordinates); and lithologic logs, if available.

(xii) In site-specific cases, where the water table is more than 100 feet below ground surface, the Environmental Health Services Division may allow soil monitoring to be substituted for groundwater monitoring.

(H) A plant tissue monitoring program (if required). Plant tissue monitoring may be required by the Environmental Health Services Division as part of the CNMP on a site specific basis. Monitoring will be based on the following criteria: soil type(s), groundwater depth, existing groundwater quality, the number of animal units, application area and previous test results. Sampling constituents shall be determined by the Environmental Health Services Division.

(I) An employee environmental and safety training program.

(J) The CNMP shall have a scaled site plan or aerial photograph and a topographic map with elevations which shows the following information:

(i) Buildings, corrals, lanes, retention ponds/settling basins, irrigation ditches, drainage and pipelines (private and community), silage storage, manure solids storage areas, tile drains, and tailwater return system.

(ii) On-site and off-site wastewater and manure application areas. Surface waterways on or near the facility, such as rivers, canals, sloughs and intermittent streams.

(iii) Slope of the land, by field.

(iv) USGS and Assessor’s parcel maps.

(v) A list of all locations from which wastewater, storm water runoff and irrigation runoff can leave the property under control of the operator/owner.

(vi) A list of all structures located within the setback area of the facility as described by this code.

(vii) Public facilities such as roads and easements. Access points to public roads.
(9) Feed management/diet optimization plan. Animal feed and diet shall not provide more nutrients than are necessary for optimal growth and production.

(10) Activity records include, but are not limited to, manure production, recommended and actual application rates, dates and location of application, crops planted, harvest dates, crop yields.

(11) Other utilization options include a description of air emission controls and composting information.

(12) Water, soil, manure and plant tissue monitoring results shall be kept at the facility and sent to the Environmental Health Services Division and Regional Board within 10 days of receipt of results from the laboratory. Monitoring results shall be made available for public review.

Section 27-410 Large Confined Animal Facility (CAF) operational permits.

(a) All Large Confined Animal Facilities shall be required to obtain a Large Confined Animal Facility operational permit by December 31, 2006. Environmental Health Services Division shall issue a Large Confined Animal Facility operational permit provided the facility meets the standards contained in Section 27-420 below.

(b) A Large Confined Animal Facility shall be operated, maintained, and monitored pursuant to the requirements of these standards and the operational permit. Under terms of the operational permit, the operator shall self monitor and record the operations occurring at the Large Confined Animal Facility and Division personnel may conduct inspections at the site and review the self monitoring reports and security plan.

(c) The Large Confined Animal Facility operational permit shall be renewed annually and any required fees shall be paid. The operator shall keep the Large Confined Animal Facility operational permit valid for the life of the facility.

(d) The property owner or his/her agent must submit an annual report to the Environmental Health Services Division for review with the information from the self monitoring reports and all water, soil, plant, manure, wastewater, and, if required, air sampling results.

Section 27-420 Operation.

(a) Dead animals shall be removed from the site within three (3) days and be disposed at a licensed rendering facility or by other methods approved by the Environmental Health Services Division. Dead animals shall not create a nuisance prior to their removal. Storage and removal of dead animals shall be accomplished in such a manner to prevent cross contamination with other animals and feed.

(b) All areas and practices of the Large Confined Animal Facility shall be managed in such a manner as to minimize a nuisance caused by rodent, fly or mosquito breeding, dust and/or odors.

(c) All contaminated storm water that is or has been in contact with manure or wastewater shall be maintained on-site and directed to the manure management system.

(d) Application of liquid manure or wastewater to fields or crop lands shall be applied in accordance with Best Management Practices which to reduce odor emission, air emission and prevent vector attraction. This may require direct injection into the soil or other methods that provide equivalent results approved by the Environmental Health Services Division. Application of manure (liquid and dry) wastewater to fields or crop lands shall be applied at rates and times which are reasonable for the crop, soil, climate, special local situations, management system and type of manure. Applications shall be timed and managed to minimize nitrogen movement below the root zone and to minimize percolation of waste constituents to groundwater. Application of liquid or dry manure to frozen or saturated ground is prohibited.
(e) Within four hours of discovery the operator shall notify the Environmental Health Services Division and Regional Water Quality Control Board of any off-property discharge of facility wastewater. This notification will be followed by a written report that shall be submitted to the Environmental Health Services Division within 48 hours of the start of the discharge. The written report shall contain:

1. The date the discharge began;
2. Duration and estimated volume of the discharge;
3. Point of discharge;
4. Specific source of discharge (e.g., overflow from holding pond, rainfall runoff from manure storage areas, etc);
5. Steps taken to mitigate the effects of the discharge;
6. Steps taken to prevent such a discharge in the future.

(f) Liquid wastes from humans or human activities shall not be commingled with manure or wastewater from Large Confined Animal Facility operations. Refer to Solano County Code, Chapter 6.4 for disposal requirements for liquid wastes from humans or human activity.

(g) Only locations specifically permitted in a valid Large Confined Animal Facility operational permit and included in the Confined Animal Facilities CNMP may use manure (liquid or dry) or wastewater from the Large Confined Animal Facility. If dry or liquid manure is transported off-site as allowed by an approved and valid Large Confined Animal Facility operational permit and CNMP, the most recent analysis shall be provided, in writing, to the recipient.

(h) If dry or liquid manure is transported off-site as allowed by an approved and valid Large Confined Animal Facility operational permit and CNMP, the most recent analysis shall be provided, in writing, to the recipient.

(i) Neither the storage nor the discharge of manure shall create a condition of nuisance or pollution as defined by California Water Code section 13050.

(j) The compliance officer shall conduct an adequate number of routine inspections to ensure that the facility is properly maintained and operated in conformance with these standards. Inspections shall be documented and minimally include the date of inspection, the area, component or process inspected, the result of the inspection and corrective actions taken. The following inspections are required on a daily basis:

1. Weather:
   (A) Temperature, wind velocity and direction;
   (B) 5 day forecast.
2. Odors and Vectors:
   (A) Areas of high animal concentration;
   (B) Wastewater holding ponds;
(C) Areas that have received wastewater application within the last 5 days;

(D) The perimeter of the developed facility and at the property boundaries;

(E) Feed stock storage areas.

(3) Storm water, irrigation and drainage systems:

(A) Collection system inlets, channels and conduits;

(B) Tailwater systems;

(C) Offsite drainage points and control structures.

(4) Wastewater systems:

(A) Collection systems, pumps, sumps and pump vaults, piping, treatment and recycling systems;

(B) Elevation of water and freeboard in holding settling basins or retention ponds;

(C) Holding pond seepage, erosion, vegetation and animal access.

(5) On-site water and monitoring wells:

(A) Structural integrity and potential for contamination;

(B) Water lines.

(k) The compliance officer shall also inspect all channels that convey storm water such as roof gutters that could interfere with the diversion of clean storm water following routine inspections and maintenance of the facility between November and April.

(l) Any deficiencies found as a result of these inspections shall be expeditiously corrected. Records of inspection activities shall be kept in the CNMP.

(m) Manure (liquid or dry) or wastewater shall not be applied, stored or accumulated within 100 feet of any domestic well, irrigation well or surface water body. Adequate protection of surface water bodies or irrigation wells shall prevent discharge or infiltration of manure constituents to the water body or well.

(n) Manure application equipment must be calibrated annually if used for land application of dry manure and/or wastewater. Records of calibration shall be kept in the CNMP.

(o) If a Large Confined Animal Facility is permanently closed, all liquid and dry manure must be removed from the facility within 120 days (weather conditions permitting) and soil samples taken beneath the retention pond, settling basin and corral areas to determine the levels of nitrogen in the soil. The specific constituents to be sampled, number of samples and sample depths will be determined by the Environmental Health Services Division on a site-specific basis.

(p) When groundwater pollution or the discharge of manure from the operation of a Large Confined Animal Facility or application area causes groundwater to contain manure constituents in concentrations statistically greater than background water quality, except as provided for in section 27-420(r)(1), the property owner shall, within sixty days of detection by the owner, his/her agents, or the Division:
(1) Determine the source and the lateral and vertical extent of the degradation;

(2) Identify steps necessary to prevent further degradation;

(3) Submit a remediation plan, prepared by a licensed civil engineer or registered geologist, for review and approval to the Environmental Health Services Division;

(4) Initiate groundwater remediation within 30 days of plan approval by the Environmental Health Services Division.

(q) Groundwater remediation required under section 27-420(q) shall return groundwater quality to the lower of (1) the levels established prior to the initiation of operations at the Large Confined Animal Facility or (2) background levels established by on site monitoring wells with the following exception.

(1) If a chemical constituent is specifically listed in a NPDES permit or WDR issued by the RWQCB, then the concentration of that constituent only requires remediation to the level of compliance with the NPDES permit or WDR. No plan or remediation is required for the regulated constituent unless the concentration of the specific chemical constituent(s) listed in the NPDES permit or WDR is exceeded.

(r) A licensed civil engineer or registered geologist shall certify that the groundwater remediation plan has fully mitigated the groundwater degradation, and that further degradation has been prevented.

(s) Concentrations greater than background will be determined by statistically evaluating groundwater monitoring results in monitoring wells down gradient of potential sources relative to background groundwater quality as represented by monitoring wells up gradient of potential sources.

(t) The Large Confined Animal Facility shall meet the requirements of the appropriate irrigation and/or drainage district for issues related to the Large Confined Animal Facility operation including, but not limited to, meeting discharge requirements of drainage water from cropland application areas.

(u) Manure solids and silage shall be stored on impervious surfaces and protected from storm water run-on. Corrals are excluded from this requirement. Manure shall be removed from corrals and freestall barns and exercise pens at least three times per year (Spring, Summer and Fall).

(v) Dry manure shall be uniformly applied and immediately incorporated into the soil (excluding pasture) at the appropriate agronomic rates. Dry manure shall be stored and applied in a manner that prevents a vector or odor nuisance and/or groundwater or surface water contamination.

(w) Dry manure with less than 75% moisture shall not be applied during periods when the surface wind speed exceeds 25 miles per hour for thirty minutes. The operator shall use an approved wind speed monitoring device.

(x) Manure removed from the bottom of a settling basin or retention pond shall be analyzed at a frequency determined by the Environmental Health Services Division for total dissolved solids, total nitrogen and other constituents as determined by the Environmental Health Services Division.

(y) Sprinkler irrigation of liquid manure or wastewater is allowed only under the following conditions:

(1) Extent of sprinkler irrigation water is no closer than 500 feet from the nearest property line.

(2) Wind speeds do not exceed 15 mph.
(3) All sprinkler irrigation including spray shall remain on the facility property.

(2) The off-site discharge of tailwater is prohibited.

(aa) Large Confined Animal Facilities shall meet applicable Air Quality Management District requirements.

(bb) Spreading of manure (liquid or dry) on soil, when frozen or saturated soil conditions, is prohibited.

(cc) Samples of water, wastewater, soil, manure, air or plant tissue may be collected periodically during inspections.

(1) The number of samples of water, wastewater, soil manure, air or plant tissue taken and analyzed shall be determined by the Environmental Health Services Division during field inspections, complaint investigations, or from requests by other permitting authorities. This determination shall take into consideration existing site operations, previous sampling results, the frequency of sampling and analysis conducted by the Large Confined Animal Facility operator or other applicable agencies. The intent of the sampling program is to verify that the monitoring reports and sampling results submitted to the Department are in compliance with this Code and any other Federal or State requirements.

(2) Additional analysis may be conducted if, in the opinion of the Division, conditions exist that may promulgate public concern or where there is potential for a public health hazard.

(3) The Division shall at no time be limited as to sampling location or number of samples obtained.

(4) Analysis of samples collected by the Environmental Health Services Division shall not be limited as to the constituents analyzed by the Large Confined Animal Facility operator and can include constituents which may be of concern in protection of the public health and/or the environment.

(dd) Any storm water monitoring required NPDES permit, General Order, or WDR shall also be submitted to Environmental Health Services Division.

Section 27-430 Compliance officer.

All Large Confined Animal Facilities shall designate one person as the compliance officer. The officer may be the owner, operator or other qualified person capable of supervising the operations of the facility. The compliance officer shall be responsible for ensuring that the facility is meeting the requirements of this code. Nothing in this section shall prevent the compliance officer from fulfilling other facility duties as appropriate.

Article V – Enforcement, Penalties and Appeals

Section 27-500 Enforcement and Penalties.

(a) In any person guilty of a violation of these standards shall be liable for such costs, expenses and disbursements paid or incurred by the County in abatement and prosecution of the violation.

(b) It is unlawful and constitutes a misdemeanor for any person to violate or fail to comply with any provision of this chapter. A misdemeanor shall be punishable by a fine not exceeding one thousand dollars or by imprisonment in the county jail not exceeding six months, or by both such fine and imprisonment.

(c) Each person is guilty of a separate offense each and every day during any portion of which any violation of any provision of the ordinances of the County is committed, continued or permitted by any
such person.  

(d) In addition to any other remedy, violation of any of the provisions of this Chapter may be remedied by injunction or other civil proceedings.

(e) All remedies listed in this Chapter, including permit revocation, shall be cumulative and not exclusive.

Section 27-510 Violation notices and orders.
The Environmental Health Services Division shall issue a violation notice to any owner and or operator that is not in compliance with these standards. The notice shall include the violation(s) found and a date for corrective action to be completed. Failure to comply with the notice will result in the issuance of a final notice and order to comply. The final notice and order shall include the violation(s) found, the specific corrective action required, the date by which the corrective action must be completed, and the right to request an appeal to the Director of Resource Management within 10 days of receipt of the notice. Failure to request a hearing within the specified time frame waives such right.

Section 27-520 Administrative hearing proceedings.
Upon receipt of a written request for an appeal, the Director of Resource Management shall schedule the appeal for hearing and provide written notice of such hearing to the appellant. The Director of Resource Management or his/her designee shall serve as the administrative hearing officer. At the time and date specified on the notice, the administrative officer shall hear the violations charged against the owner and or operator of a Large Confined Animal Facility. The administrative officer will review the evidence and determine the validity of the violations and determine the appropriate remedy to enforce previous orders. A written decision including a statement regarding the right to appeal to the Board of Supervisors will be mailed to the appellant within 15 business days of the hearing.

Section 27-530 Permit Revocation.
Failure to comply with the remedy, as ordered by the administrative officer, may result in the revocation of the Large Confined Animal Facility operational permit, under the following conditions:

(a) The Division of Environmental Health Services Division shall issue notice of intention to revoke the permit, which shall contain notice of the owner or operator’s right to request a hearing in front of the Director of Resource Management or his/her designee.

(b) If the owner or operator does not request a hearing within 10 days of receipt of the notice, the Division of Environmental Health Services Division may revoke the permit without a hearing or it may hold a hearing prior to such revocation.

Section 27-540 Appeal process.
Any person affected by a decision of the Director of Resource Management may appeal said decision to the Solano County Board of Supervisors.

Section 27-550 Submission of appeal.
All appeals must be submitted in writing to the Environmental Health Services Division within ten (10) days of the decision. The appeal shall contain reasons and pertinent documentation why the appellant believes the decision to be unwarranted. Failure to submit a written appeal within ten days of the date of the decision shall waive the appellant’s right to appeal. The required filing fee, if any, shall also accompany appeals.

Section 27-560 Notice of appeal hearing.
The appellant shall be given notice as to the time, date, and location of the hearing. The notice shall be delivered by certified United States Mail and be postmarked at least ten days prior to the date of the hearing. When appeals are to the Board of Supervisors, the Clerk of the Board shall set the time and place of the hearing and give notice to the appellant and the Manager. Notice for other appeal hearings shall be given by the Environmental Health Services Division.
Section 27-570 Enforcement without hearing.
Whenever an owner or operator does not request a timely appeal to the decision of the Director of Resource Management or the Board of Supervisors, the Environmental Health Services Division may take appropriate enforcement action without a hearing.

Section 2.
This ordinance shall take effect thirty (30) days after its adoption.

Section 3.
A summary of this ordinance will be published within fifteen (15) days after its adoption in the Fairfield Daily Republic, a newspaper of general circulation in Solano County.

Passed and adopted by the Solano County Board of Supervisors at its regular meeting on May 24, 2005 by the following vote:

AYES: SUPERVISORS Kromm, Reagan, Silva, Vasquez, and Chairwoman Kondylis

NOES: SUPERVISORS None

EXCUSED: SUPERVISORS None

Barbara R. Kondylis, Chairwoman
Solano County Board of Supervisors

ATTEST:
Michael D. Johnson, Clerk
Board of Supervisors

Myra Chirila, Deputy

By: _______________________
Patty Chrittenden, Deputy Clerk

Introduced: May 3, 2005
Adopted: May 24, 2005
Effective: June 24, 2005