

## **REVISED DISCUSSION DRAFT**

# **Proposed Regulations Regarding Additional Permitting Requirements for All Dairy Facilities**

**August 7, 2009**

Legislation passed by the New Mexico Legislature during the 2009 regular legislative session and signed by Governor Bill Richardson requires the adoption of dairy wastewater discharge regulations by the New Mexico Water Quality Control Commission (WQCC). The New Mexico Environment Department (NMED) is the constituent agency to the WQCC that is responsible for implementing regulations promulgated by the WQCC.

An initial discussion draft of dairy regulations was released by the NMED and made available for public comment on May 22, 2009. In June 2009, the NMED held five public meetings around the state to receive feedback and public input concerning the discussion draft. NMED Secretary Ron Curry established an advisory committee to advise the NMED on appropriate dairy regulations. Three advisory committee meetings were held in June and July 2009.

Based on feedback from these meetings, the NMED has released a revised discussion draft of dairy regulations.

The NMED invites public review and comment on the revised discussion draft of dairy regulations. Written comments on the revised discussion draft may be submitted to the NMED by e-mail at [dairy.regs@state.nm.us](mailto:dairy.regs@state.nm.us) or mailed to "New Mexico Environment Department – Ground Water Quality Bureau, P.O. Box 5469, Santa Fe, NM 87502-5469." Written comments must be submitted no later than September 8, 2009.

### **Stakeholder Negotiations**

In accordance with the regulation development schedule approved by the WQCC, the NMED will hold stakeholder negotiations from October 15, 2009 through November 30, 2009. The NMED invites any stakeholders who wish to participate in the negotiations to contact the NMED no later than September 8, 2009. Please contact Bill Olson, Chief of the NMED Ground Water Quality Bureau, at 505-827-2919.

### **WQCC Public Hearing**

According to the regulation development schedule approved by the WQCC, a public hearing before the WQCC is scheduled to begin on March 9, 2010. Public notice regarding the public hearing and hearing participation is scheduled to be published by February 1, 2010.

1 **20.6.2.3200 ADDITIONAL PERMITTING REQUIREMENTS FOR ALL DAIRY FACILITIES**

2 [20.6.2.3200 NMAC – N, effective date]

3  
4 **20.6.2.3201 PURPOSE:** The purpose of Sections 20.6.2.3200 through 20.6.2.3230 NMAC is to supplement  
5 the general permitting requirements of Sections 20.6.2.3101 through 20.6.2.3114 NMAC to control discharges  
6 specific to dairy facilities and their operations. The requirements of Sections 20.6.2.3101 through 20.6.2.3114  
7 NMAC apply to all dairy facilities unless otherwise noted in Sections 20.6.2.3201 through 20.6.2.3230 NMAC.

8  
9 **20.6.2.3202 DEFINITIONS:**

10 **A.** Terms defined in the Water Quality Act and Section 20.6.2.7 NMAC, but not defined in this  
11 section shall have the meaning as given in such.

12 **B.** Terms used in Sections 20.6.2.3200 through 20.6.2.3230 NMAC, but not in other sections of this  
13 Part:

14 (1) “applicant” means the person(s) applying for a discharge permit.

15 (2) “Construction quality assurance” or “CQA” means a planned system of activities necessary to  
16 ensure standards and procedures are adhered to and construction meets design criteria, plans and specifications. A  
17 CQA includes inspections, verifications, audits, evaluations of material and workmanship necessary to determine  
18 and document the quality of the constructed impoundment or structure and corrective action when necessary. It is  
19 applicable to manufactured products, installation and construction.

20 (3) “Construction quality control” or “CQC” means a planned system of operational techniques and  
21 activities used to preserve the quality of materials and construction to specifications. Elements of a CQC include  
22 inspections, testing, data collection, data analysis and appropriate corrective actions. It is applicable to  
23 manufactured products, installation and construction.

24 (4) “CQA/CQC Report” means a report that summarizes all inspection, testing, data collection, data  
25 analysis and any corrective actions completed as part of CQA or CQC for a project.

26 (5) “dairy facility” or “facility” means the entire discharge site where the discharge and associated  
27 activities will take place, including the production area and the land application area.

28 (6) “discharge” means placement of water contaminants in a location and manner that they may move  
29 directly or indirectly into surface or sub-surface water.

30 (7) “EPA” means the United States Environmental Protection Agency.

31 (8) “existing facility” means a facility that is currently discharging, or a facility that has previously  
32 discharged and whose discharge permit has not been terminated.

33 (9) “expiration” means the date upon which the term of a discharge permit ends.

34 (10) “flow meter” means a device used to measure the volume of water, wastewater or stormwater  
35 that passes a particular reference section in a unit of time.

36 (11) “freeboard” means the vertical distance between the elevation at the lowest point of the top of  
37 the impoundment berm or spillway and the elevation of the water level in the impoundment.

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1 (12) “impoundment” means any structure used for storage or disposal by evaporation of wastewater,  
2 stormwater, or a combination of both wastewater and stormwater.

3 (13) “land application area” means irrigated and cultivated fields or sub-fields collectively authorized  
4 by the department through a discharge permit to receive wastewater or stormwater applications as a source of  
5 nutrients managed for crop production.

6 (14) “land application data sheet” means a form used to report all nitrogen inputs applied to each field  
7 or sub-field within the land application area, including the cropping status of the field or sub-field at the time of  
8 application (i.e., fallow, corn, wheat, etc.).

9 (15) “new facility” means a facility that has never before discharged wastewater.

10 (16) “permittee” means any person who makes or controls a discharge and is responsible for  
11 compliance with the facility’s discharge permit.

12 (17) “production area” means that part of the animal feeding operation that includes the animal  
13 confinement area, the manure, residual solids and compost storage area, the raw materials storage area, and the  
14 wastewater and stormwater containment areas. The animal confinement area includes but is not limited to open lots,  
15 housed lots, feedlots, confinement barns, stall barns, free stall barns, milkrooms, milk centers, cowyards, barnyards,  
16 hospital pens and barns, and animal walkways. The manure, residual solids and compost storage areas include but  
17 are not limited to storage sheds, stockpiles, static piles, and composting piles. The raw materials storage areas  
18 include but are not limited to feed silos, silage storage areas, feed storage barns and liquid feed tanks. The  
19 wastewater and stormwater containment areas include but are not limited to settling separators, impoundments,  
20 sumps, runoff drainage channels, and areas within berms and diversions which prohibit uncontaminated stormwater  
21 from coming into contact with contaminants.

22 (18) “significant watercourse” means a watercourse with a defined bed and bank named on a USGS  
23 7.5 minute quadrangle map or a first order tributary of such watercourse.

24 (19) “spillway” means a structure used for controlled releases from an impoundment designed to  
25 receive stormwater, in a manner that protects the structural integrity of the impoundment.

26 (20) “stormwater” means direct precipitation and runoff that comes into contact with water  
27 contaminants.

28 (21) “termination” means permanent annulment of a discharge permit by the department.

29 (22) “wastewater” means water, except overflow from the drinking water system and stormwater, that  
30 has come into contact with water contaminants as a result from water being directly or indirectly used in the  
31 operation of the dairy facility for any of, but not limited to, the following: washing, cleaning, or flushing barns or  
32 other roof-covered production areas; washing of animals; spray-cooling of animals (except in open lots); and cooling  
33 or cleaning of feed mills and equipment.

34  
35 **20.6.2.3203 REQUIREMENTS FOR DISCHARGING FROM DAIRY FACILITIES:** All dairy facilities  
36 shall meet the requirements of Sections 20.6.2.3204, 20.6.2.3205, 20.6.2.3210, 20.6.2.3211, 20.6.2.3212,  
37 20.6.2.3215, 20.6.2.3218, 20.6.2.3219, 20.6.2.3222, 20.6.2.3225, 20.6.2.3228, 20.6.2.3229, and 20.6.2.3230 NMAC.

1 Dairy facilities that discharge wastewater or stormwater to a land application area shall also meet the requirements  
2 of Sections 20.6.2.3213, 20.6.2.3216, 20.6.2.3220, 20.6.2.3223, and 20.6.2.3226 NMAC. Dairy facilities that  
3 dispose of wastewater or stormwater by evaporation shall also meet the requirements of Sections 20.6.2.3214,  
4 20.6.2.3217, 20.6.2.3221, 20.6.2.3224, and 20.6.2.3227 NMAC.

5  
6 **20.6.2.3204 FEES:** Notwithstanding the permit fee requirements of Subsection F of 20.6.2.3114 NMAC:

7 **A.** A permit fee payment shall be remitted annually. Permit fee payments shall be remitted to the  
8 department no later than August 1 of each year and shall continue until termination of the discharge permit.

9 (1) The amount of the annual permit fee payment shall be one-fifth of the applicable permit fee,  
10 determined by the permitted discharge volume, as specified in Table 1 of Section 20.6.2.3114 NMAC. For  
11 discharge permits which only authorize closure activities or post-closure monitoring, the annual permit fee payment  
12 amount shall be one-fifth of the lowest fee for agricultural waste as specified in Table 1 of Section 20.6.2.3114  
13 NMAC.

14 (2) The initial permit fee payment for any permit issued after the effective date of these regulations  
15 shall be pro-rated on a daily basis until August 1 and remitted to the department within 30 days after the effective  
16 date of the permit.

17 (3) After the effective date of these regulations, any facility holding a discharge permit longer than  
18 the term of the discharge permit shall begin remitting permit fee payments in accordance with this subsection.

19 **B.** The fee for a discharge permit modification as defined in Subsection C of 20.6.2.3114 NMAC  
20 shall be remitted to the department within 30 days after the effective date of the discharge permit modification.

21 **C.** The filing fee for a permit application as defined in Section 20.6.2.3114 NMAC shall be remitted  
22 to the department at the time of submission of the application.

23  
24 **20.6.2.3205 APPLICATION REQUIREMENTS FOR ALL DAIRY FACILITIES**

25 **A.** An application for renewal of a discharge permit, which includes facilities that have ceased  
26 discharging during the most recent permit term and whose discharge permits have not been terminated by the  
27 department, shall be submitted to the department at least one year before the discharge permit expiration date.

28 **B.** In lieu of the information required by Section 20.6.2.3106 NMAC, applicants applying for a new,  
29 renewed, or modified discharge permit shall complete the application form specific to dairies provided by the  
30 department. The application form shall be completed in its entirety, which also includes the submission of all  
31 supporting technical documentation regardless of previous submission.

32 **C.** Applications for all dairy facilities shall include the following information:

33 (1) Applicant and Affiliate(s) Contact Information

34 (a) Applicant's name, title and affiliation with the facility, mailing address, phone number and  
35 the signature(s) of the applicant or the individual(s) acting on behalf of the applicant.

36 (b) Facility manager's or operator's name, title and affiliation with the facility, mailing address  
37 and phone number.

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1 (c) Application preparer’s name, title and affiliation with the facility, mailing address, phone  
2 number and signature.

3 (d) Consultant’s mailing address and phone number.

4 (2) Ownership and Lease Agreements

5 (a) Owner’s name, title and affiliation with the facility, mailing address and phone number.

6 (b) A signed affidavit indicating all person(s) having ownership of the facility. If ownership is  
7 a legal corporate entity, including but not limited to a corporation, limited liability company, or partnership, then the  
8 affidavit shall include the name of each owner, director, officer, member, or partner of the legal corporate entity.

9 (c) If applicable, a copy of any lease agreement(s) signed by the owner(s) and leasee(s) relating  
10 to the facility and fields or sub-fields within the land application area.

11 (d) If applicable, a copy of any legal agreement(s) signed by the intended permittee(s) and  
12 owner(s) of the fields or sub-fields within the land application area.

13 (3) Facility Information and Location

14 (a) Facility name, physical address and county.

15 (b) Township, Range and Section for the entire facility, which includes the production area and  
16 fields or sub-fields within the land application area.

17 (c) Date of initial discharge from an existing facility.

18 (4) Public Notice Preparation

19 (a) Applications for new, modified, or renewed and modified discharge permits shall identify a  
20 newspaper of general circulation for the future display ad publication, the proposed location(s) of the 2-foot by 3-  
21 foot sign, and the proposed off-site location of the 8.5-inch by 11-inch flyer, as required by Section 20.6.2.3108  
22 NMAC.

23 (b) Applications for renewed discharge permits shall identify a newspaper of general  
24 circulation for the future display ad publication as required by Section 20.6.2.3108 NMAC.

25 (5) Pre-discharge total dissolved solids concentration in ground water, sample source (e.g.,  
26 upgradient monitoring well, on-site supply well, nearby off-site supply well) and a copy of the laboratory analysis.  
27 Applications for new facilities shall include the pre-discharge total dissolved solids concentration from analytical  
28 results of ground water obtained from the on-site test boring required by Paragraph (10) of this subsection. A copy  
29 of the laboratory analysis shall be submitted.

30 (6) Discharge Volume

31 (a) Maximum daily discharge volume proposed and a description of the methods and  
32 calculations used to determine the proposed volume.

33 (b) Identify all sources of wastewater which may include, but are not limited to, hospital barns,  
34 maternity barns, bottlwashing operations and parlor/equipment washdown.

35 (c) Animal washing method(s) employed and the estimated daily discharge volume for the  
36 method(s).

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1 (d) Other wastewater discharges (i.e., domestic or industrial) at the facility not generated by  
2 dairy operations. Permit identification numbers shall be submitted for those discharges that are already permitted.

3 (7) Wastewater Quality

4 (a) Applications for existing facilities shall include the previous two years of wastewater data  
5 in tabular form and the maximum and mean values for total dissolved solids, chloride, sulfate, nitrate as nitrogen,  
6 total Kjeldahl nitrogen and other constituents of concern that may be included in the wastewater at the facility. In  
7 the event that data for a constituent(s) listed above has not been collected, the applicant shall sample wastewater for  
8 the constituent(s) and submit a copy of the laboratory analysis with the application.

9 (b) Applications for new facilities shall include estimated concentrations of wastewater quality  
10 for total dissolved solids, chloride, sulfate, nitrate as nitrogen, total Kjeldahl nitrogen and other constituents of  
11 concern that may be included in the wastewater at the facility based on data collected at other dairy facilities with  
12 similar discharge(s) volumes and wastewater management systems.

13 (8) Identification and Physical Description of Facility

14 (a) A scaled map of the entire dairy facility in accordance with Subsection U of 20.6.2.3215  
15 NMAC.

16 (b) The identification of each impoundment, including existing, proposed, and previously  
17 utilized to which discharge has ceased. Information for each impoundment shall be provided regarding its purpose  
18 to store wastewater or stormwater, or dispose of it by evaporation; date of original construction; past and existing  
19 liner material; date of current liner installation; and storage or evaporative disposal capacity.

20 (c) The identification of each field or sub-field within the land application area, including  
21 existing, proposed, and previously utilized to which discharge has ceased. Information for each field shall be  
22 provided regarding the date of initial discharge of wastewater or stormwater; acreage; status with regard to having  
23 received wastewater or stormwater (i.e. never, inactive, active); current method of backflow prevention employed;  
24 current method of wastewater and stormwater application; and current method of irrigation water application.

25 (d) The identification of additional wastewater and stormwater system components such as, but  
26 not limited to, sumps and mix tanks. Information for each component shall be provided regarding their purpose;  
27 date of original construction; construction material; dimensions; and capacity.

28 (e) Settled solids thickness measurements for each existing wastewater and combination  
29 wastewater/stormwater impoundment as required by Subsection D of 20.6.2.3215 NMAC.

30 (f) A description of proposed and existing method(s) of solids separation in accordance with  
31 Subsection F of 20.6.2.3215 NMAC.

32 (g) Location of all manure, silage and compost storage areas and a description of the method(s)  
33 employed to protect the areas from stormwater runoff and run-on, and to minimize leachate.

34 (9) Flow Metering System

35 (a) Identification of method(s) of wastewater and stormwater discharge (pumped versus gravity  
36 flow).

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1 (b) A description of the existing and proposed flow metering system. Flow metering shall be  
2 accomplished in accordance with Sections 20.6.2.3215 and 20.6.2.3216 NMAC.

3 (c) Identification of flow meter locations required by and in accordance with Sections  
4 20.6.2.3215 and 20.6.2.3216 NMAC.

5 (10) Depth-to-Most-Shallow Ground Water and Ground Water Flow Direction

6 (a) Applications for existing facilities shall indicate ground water flow direction beneath the  
7 facility on a ground water elevation contour map which is developed based upon the most recent ground water levels  
8 obtained with a water level measuring device and survey data from on-site monitoring wells obtained from a survey,  
9 all in accordance with Section 20.6.2.3218 NMAC. Depth-to-most-shallow ground water measurements from the  
10 previous two years shall be included in tabular form.

11 (b) New facilities shall provide the depth-to-most-shallow ground water determined by one  
12 site-specific test boring. The test boring shall be drilled in the area of lowest elevation within the production area.  
13 Depth-to-most-shallow ground water shall be measured immediately upon completion of the test boring and again  
14 24 hours following completion of the boring.

15 (c) Applications for new facilities shall indicate the ground water flow direction of the most  
16 shallow ground water beneath the facility based on the most recent regional water level data or published  
17 hydrogeologic information. Survey data from nearby monitoring wells and a ground water elevation contour map  
18 indicating the direction of ground water flow may be included. The sources of all information used to determine  
19 ground water flow direction shall be provided with the application.

20 (11) Ground Water Quality and Monitoring Wells

21 (a) Applications for existing facilities shall include the previous two years of ground water data  
22 from all on-site monitoring wells in tabular form and the maximum and mean values for total dissolved solids,  
23 chloride, sulfate, nitrate as nitrogen and total Kjeldahl nitrogen. In the event that data for a constituent(s) listed  
24 above has not been collected, the applicant shall sample ground water for the constituent(s) in accordance with  
25 Subsection F of 20.6.2.3218 NMAC and submit a copy of the laboratory analysis with the application.

26 (b) Construction and lithologic logs of all existing monitoring wells that indicate the date of  
27 installation and well driller.

28 (c) Identification of monitoring well locations, proposed and existing, required by and in  
29 accordance with Section 20.6.2.3218 NMAC.

30 (12) Surface Soil Survey and Vadose Zone Geology

31 (a) The most recent regional soil survey map and associated descriptions identifying surface  
32 soil type(s).

33 (b) A description of the geological profile of the vadose zone. Applications for existing  
34 facilities shall include lithologic logs from on-site monitoring wells. Applications for new facilities shall include a  
35 lithologic log obtained from the on-site test boring required by Paragraph (10) of this subsection.

36 (13) An area map with topographic surface contours identifying all of the following features located  
37 within a one-mile radius of the dairy facility:

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- 1 (a) Watercourses, lakebeds, sinkholes and playa lakes.
- 2 (b) Wells supplying water for a public water system, private domestic water wells and springs
- 3 used for human consumption.
- 4 (c) Irrigation supply wells.
- 5 (d) Ditch irrigations systems, acequias, irrigation canals and drains.

6 (14) Flood potential shall be addressed by submission of the most recent 100-year flood zone map  
7 developed by Federal Emergency Management Administration, FEMA, and a description of any engineered  
8 measures used for flood protection.

9 (15) A description of the management practices employed for animal mortalities.

10 (16) Engineering and Surveying

11 (a) Plans and specifications for new or improved structures and associated liners in accordance  
12 with Sections 20.6.2.3212, 20.6.2.3213 and 20.6.2.3214 NMAC.

13 (b) Record drawings and final specifications for existing structures and associated liners.

14 (c) For existing impoundments where record drawings and final specifications do not exist,  
15 survey data and capacity calculations shall be submitted in accordance with Subsection E of 20.6.2.3215 NMAC.

16 (d) A grading and drainage report and plan in accordance with Paragraph (7) of Subsection A  
17 of 20.6.2.3212 NMAC.

18 **D.** Applications for dairy facilities discharging to a land application area shall include, in addition to  
19 the requirements of Subsection C of this section, the following information:

20 (1) Documentation of irrigation water rights in accordance with Subsection E of 20.6.2.3216 NMAC.

21 (2) Documentation confirming existing infrastructure necessary to distribute and apply wastewater  
22 and stormwater to the land application area in accordance with Subsection G of 20.6.2.3216 NMAC.

23 (3) A nutrient land application proposal in accordance with Subsection J, and Subsection K if  
24 applicable, of 20.6.2.3216 NMAC.

25 (4) Identification of wastewater sampling location(s) between the manure solids separator(s) and  
26 wastewater impoundment(s) required by Subsection D of 20.6.2.3220 NMAC.

27 (5) Applications for existing facilities shall include the previous five years of soil sampling data from  
28 the land application area in tabular form and the maximum and mean values for nitrate as nitrogen and total Kjeldahl  
29 nitrogen.

30 **E.** In the event that an existing discharge permit will expire while the facility is in the process of  
31 completing permanent closure measures, or post-closure monitoring, a renewal application for closure shall be  
32 submitted for a discharge permit in accordance with this section. Applicants intending to permanently close the  
33 facility or lacking department-confirmed closure of the facility shall submit a renewal application for closure in  
34 accordance with this section. In lieu of completing the application in its entirety as required in this section, the  
35 application for closure shall be completed to contain the information described in Paragraphs (1), (2), (3), (4), (5),  
36 (11), (12), (13) and (14) of Subsection C of this section; Subparagraphs (a), (b), (c) and (d) of Paragraph (8) of  
37 Subsection C of this section; Subparagraph (a) of Paragraph (10) of Subsection C of this section; Paragraph (2) of

1 Subsection D of this section, specifically pertaining to the past method(s) of wastewater and stormwater discharge(s)  
2 to the land application area; and Paragraph (5) of Subsection D of this section.

3 **F.** The department shall, within 60 days of the department's receipt of proof of notice in accordance  
4 with the requirements of Subsections D and F of 20.6.2.3108 NMAC, review the application for technical  
5 completeness. To be deemed technically complete, the application shall include all of the information required by  
6 Subsections C and D of this section or for closure, Subsection E of this section, completed in its entirety and the  
7 applicant's receipt of proof of notice in accordance with the requirements of Subsections D and F of 20.6.2.3108  
8 NMAC. If the department determines that the application is not technically complete, the department shall mail a  
9 notice of deficiency to the applicant by certified mail within 60 days of receipt of the applicant's proof of notice.  
10 The applicant shall have 30 days from the date of the notice of deficiency to provide the information required by this  
11 section.

12 **G.** In the event that the applicant does not provide to the department all of the information required  
13 by this section within 30 days of the date of the notice of deficiency, the application shall be denied. The  
14 department shall mail notice of denial to the applicant by certified mail. Denial of the application does not relieve  
15 the person making the discharge of the obligation to submit a complete application in accordance with these  
16 regulations.

17  
18 **20.6.2.3206 – 20.6.2.3209: [RESERVED]**

19  
20 **20.6.2.3210 PROCEDURES FOR REQUESTING PUBLIC HEARINGS ON PERMITTING ACTIONS**  
21 **OF DAIRY FACILITIES:**

22 **A.** Requests for a hearing from any person, including the applicant for a discharge permit, on the  
23 proposed approval of a discharge permit or denial of a discharge permit application shall be postmarked on or before  
24 the end of the comment period and submitted to the department in accordance with the requirements of Subsection  
25 K of 20.6.2.3108 NMAC. Requests that do not meet all requirements of Subsection K of 20.6.2.3108 NMAC and  
26 this section shall be denied.

27 **B.** Requests for a hearing on the proposed approval of a discharge permit (i.e., a draft discharge  
28 permit) shall identify the specific discharge permit requirements or conditions being disputed and the reasons such  
29 requirements or conditions are being disputed. Hearings held upon the secretary's approval shall be limited in scope  
30 to the disputed requirements or conditions identified in the requests.

31 **C.** Requests for a hearing on the denial of a discharge permit application for failure to provide  
32 information required by these regulations shall be denied.

33  
34 **20.6.2.3211 SETBACK REQUIREMENTS FOR DAIRY FACILITIES:**

35 **A. Production Area Setback Requirements**

36 (1) Wastewater or combination wastewater/stormwater impoundments, sumps, milking parlors,  
37 hospital barns, or any other part of the production area shall be located:

- 1 (a) greater than 200 feet from a continuously flowing watercourse;
- 2 (b) greater than 200 feet from the 100-year flood zone of any other significant watercourse;
- 3 (c) greater than 200 feet (measured from the ordinary high-water mark) from a lakebed,  
4 sinkhole or playa lake;
- 5 (d) greater than 350 feet from a private domestic water well or spring that supplies water for  
6 human consumption; or
- 7 (e) greater than 1000 feet from any water well or spring that supplies water for a public water  
8 system as defined by Part 20.7.10 NMAC.

9 (2) The requirements of Subparagraphs (d) and (e) of Paragraph (1) of this subsection shall not apply  
10 to wells or springs that supply water to the dairy facility for human consumption and are located on the dairy  
11 facility.

12 (3) Setback distances for impoundments shall be measured from the toe of the impoundment berm;  
13 distances for all other features shall be measured from the outer extent of the feature.

14 (4) The requirements of this subsection shall apply to dairy facilities whose initial discharge permit is  
15 issued after the effective date of these regulations.

16 **B. Land Application Area Setback Requirements**

- 17 (1) Any field or sub-field within a land application area shall be located:
  - 18 (a) greater than 100 feet from a continuously flowing watercourse;
  - 19 (b) greater than 100 feet (measured from the ordinary high-water mark) from the a 100-year  
20 flood zone of any other significant watercourse, lakebed, sinkhole or playa lake;
  - 21 (c) greater than 100 feet from a private domestic water well or spring that supplies water for  
22 human consumption; or
  - 23 (d) greater than 200 feet from any water well or spring that supplies water for a public water  
24 system as defined by Part 20.7.10 NMAC.

25 (2) The requirements of Subparagraphs (c) and (d) of Paragraph (1) of this subsection shall not apply  
26 to wells or springs that supply water for human consumption to the dairy facility and are located on the dairy  
27 facility.

28 (3) Setback distances for fields or sub-fields shall be measured from the outer edge of the field or  
29 sub-field.

30 (4) The requirements of this subsection shall apply to dairy facilities whose initial discharge permit is  
31 issued after the effective date of these regulations.

32  
33 **20.6.2.3212 ENGINEERING AND SURVEYING REQUIREMENTS FOR ALL DAIRY FACILITIES**

34 **A. Engineering Plans and Specifications Requirements**

35 (1) A licensed New Mexico professional engineer shall certify all plans and specifications, supporting  
36 design calculations, record drawings, final specifications, final capacity calculations, grading and drainage report

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1 and plan, and other work products requiring the practice of engineering in accordance with, and rules authorized by,  
2 the New Mexico Engineering and Surveying Practice Act, Sections 61-23-1 through 61-23-32 NMSA 1978.

3 (2) Any applicant or permittee proposing or required to construct a new or to improve an existing  
4 wastewater, stormwater, or combination wastewater/stormwater impoundment, including relining of an existing  
5 impoundment, shall submit construction plans and specifications and supporting design calculations developed in  
6 accordance with this section and Sections 20.6.2.3213 and 20.6.2.3214 NMAC. The applicant or permittee  
7 proposing or required to construct an impoundment shall document compliance with all requirements of the Dam  
8 Safety Bureau of the State Engineer in accordance with Section 72-5-32 NMSA 1978 and regulations promulgated  
9 under that authority, unless exempt by law from such requirements. In the event of improvement(s) to an existing  
10 impoundment, the construction plans and specifications shall also address the management of wastewater or  
11 stormwater during preparation and construction of the improvements.

12 (a) Construction plans and specifications proposed by the applicant or permittee shall be  
13 submitted to the department with the application for a new, renewed or modified discharge permit.

14 (b) Construction plans and specifications required by the department through a discharge  
15 permit shall be submitted to the department within 90 days of the effective date of the discharge permit.

16 (3) Construction of a new or improvement to an existing impoundment shall be done in accordance  
17 with a Construction Quality Assurance/Construction Quality Control (CQA/CQC) Plan. A CQA/CQC Plan shall be  
18 included as part of the design plans and specifications. The CQA/CQC Plan shall outline the observations and tests  
19 to be used to ensure that construction of the impoundment meets or exceeds all design criteria, plans and  
20 specifications. All testing and evaluation shall be certified by a licensed New Mexico professional engineer  
21 experienced in lagoon construction and liner installation. The CQA/CQC Plan shall include, at a minimum, the  
22 following elements:

23 (a) Identity of persons responsible for overseeing the CQA/CQC program. The person  
24 responsible for compliance with the CQA/CQC plan shall be a licensed New Mexico professional engineer, and  
25 have at least three years experience in lagoon construction and lining or shall supervise staff with at least three years  
26 experience in lagoon construction and lining.

27 (b) Discussion of how inspections will be performed.

28 (c) Location, availability, applicability and calibration of testing equipment and facilities, both  
29 field and laboratory.

30 (d) Procedures for observing and testing the liner material.

31 (e) Procedures for reviewing inspection test results and laboratory and field sampling test  
32 results.

33 (f) Actions to be taken to replace or repair liner material should deficiencies be identified.

34 (g) Procedures for seaming synthetic liners.

35 (h) Reporting procedures for all inspections and test data.

36 (4) Any applicant or permittee proposing or required to construct a new manure solids separator as a  
37 component of a newly designed wastewater storage or disposal system shall submit construction plans and

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1 specifications and supporting design calculations to include the separator developed in accordance with this section  
2 and Section 20.6.2.3215 NMAC.

3 (a) Construction plans and specifications proposed by the applicant or permittee shall be  
4 submitted to the department with the application for a new, renewed or modified discharge permit.

5 (b) Construction plans and specifications required by the department through a discharge  
6 permit shall be submitted to the department within 90 days of the effective date of the discharge permit.

7 (5) Any applicant or permittee proposing or required to construct a new manure solids separator as a  
8 component of an existing wastewater storage or disposal system shall submit a scaled design schematic and  
9 supporting documentation including design calculations. The separator shall be designed to accommodate, at a  
10 minimum, the maximum daily discharge volume authorized by the discharge permit, and the manure solids  
11 associated with the wastewater discharge. Components of the separator functioning to collect, contain or store  
12 manure solids prior to removal or land application shall be designed with an impermeable material(s) to minimize  
13 generation and infiltration of leachate.

14 (a) A scaled design schematic and supporting documentation for a proposed separator shall be  
15 submitted to the department with the application for a new, renewed or modified discharge permit.

16 (b) A scaled design schematic and supporting documentation for a separator required by the  
17 department through a discharge permit shall be submitted to the department within 90 days of the effective date of  
18 the discharge permit.

19 (6) Any applicant or permittee proposing or required to install a flow meter(s) shall submit  
20 construction plans and specifications for the device.

21 (a) Construction plans and specifications proposed by the applicant or permittee shall be  
22 submitted to the department with the application for a new, renewed or modified discharge permit.

23 (b) Construction plans and specifications required by the department through a discharge  
24 permit shall be submitted to the department within 90 days of the effective date of the discharge permit.

25 (7) The applicant or permittee shall submit with the application for a new, renewed or modified  
26 discharge permit, a grading and drainage report and a grading and drainage plan, including supplemental  
27 information associated with the plan.

28 (a) The grading and drainage report shall include, at a minimum, the following information: a  
29 description of the drainage concept for the facility; a description of existing facility drainage conditions; a  
30 description of the proposed post-development drainage conditions; a description of the calculations performed to  
31 support the drainage analysis; and a map prepared from a 7.5 minute quadrangle map showing the facility location  
32 and drainage basin influences on drainage flows at the facility from on-site and off-site locations.

33 (b) The grading and drainage plan shall include, at a minimum, the following information:  
34 north arrow and scale; property boundaries; delineation of off-site watersheds that contribute drainage to the facility;  
35 benchmark location, description and elevation; existing and proposed land contours; spot elevations at key points,  
36 grade breaks, critical locations, floors or pads of existing and proposed structures, and inverts of piping associated  
37 with the drainage system; identification of all existing and proposed on-site structures, including drainage facilities;

1 identification of internal contributory drainage areas, including roof areas, parking lots, and other disturbed areas;  
2 flows in cubic feet/second and flow lines defined by arrows and spot elevations; and details of impoundments, inlets,  
3 rundowns, emergency spillways, impoundment outlets, slopes, and all other significant drainage structures with  
4 contours, cross-sections and spot elevations.

5 (c) Supplemental information supporting the grading and drainage plan shall be submitted to  
6 the department with the plan and shall include, at a minimum, the following information: calculations for both  
7 existing and post-development drainage conditions; hydraulic calculations demonstrating capacity or adequacy of  
8 existing and proposed stormwater impoundments; hydraulic calculations demonstrating capacity of existing and  
9 proposed conveyance channels to contain and transport runoff to the stormwater impoundment(s); and a description  
10 of computer software, documents, circulars, manuals, etc. used to develop the drainage calculations.

11 **B. Engineering Design Requirements**

12 (1) Designs for wastewater and combination wastewater/stormwater impoundments shall include a  
13 method(s) for separation of manure solids prior to discharging to an impoundment in order to maintain the  
14 impoundment capacities required by Sections 20.6.2.3213 and 20.6.2.3214 NMAC.

15 (2) Impoundments intended to contain only wastewater shall not be designed with a spillway.

16 (3) Stormwater impoundments intended to contain only stormwater shall be designed to contain  
17 stormwater runoff and direct precipitation as specified by current EPA regulatory requirements for Concentrated  
18 Animal Feeding Operations in accordance with 40 Code of Federal Regulations, Parts 122 and 412.

19 (4) Stormwater conveyance channels shall be designed to contain and transport stormwater runoff  
20 and direct precipitation to stormwater impoundments as specified by current EPA regulatory requirements for  
21 Concentrated Animal Feeding Operations in accordance with 40 Code of Federal Regulations, Parts 122 and 412.

22 (5) Any applicant or permittee proposing or required to construct a new or to improve an existing  
23 wastewater or combination wastewater/stormwater impoundment, shall, at a minimum, utilize a liner meeting the  
24 following requirements:

25 (a) Where the vertical distance between the seasonal high ground water level and the finished  
26 grade of the floor of the impoundment is less than or equal to 50 feet as documented through recent ground water  
27 data obtained from an on-site test boring(s) or monitoring well(s), the impoundment shall, at a minimum, utilize an  
28 upper (primary) and lower (secondary) liner. The upper liner material shall be a minimum of 60-mil high density  
29 polyethylene (HDPE) or other material having equivalent characteristics with regard to permeability, resistance to  
30 degradation by ultraviolet light, compatibility with the liquids anticipated to be discharged to the impoundment,  
31 tensile strength, and tear and puncture resistance. The lower liner material shall be a minimum of 40-mil HDPE or  
32 other material having equivalent characteristics with regard to permeability, compatibility with the liquids  
33 anticipated to be discharged to the impoundment, tensile strength, and tear and puncture resistance. A leak detection  
34 system shall be constructed between the upper and lower liners and shall consist of a drainage layer, filter layer,  
35 fluid collection pipes, fluid collection sumps, and fluid removal system.

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1 (i) A drainage layer shall be constructed of granular soil materials or geosynthetic  
2 drainage net (geonet). The drainage material shall have a hydraulic conductivity of  $10^{-2}$  centimeters/second or  
3 greater. The drainage layer shall be constructed with a slope of at least two percent.

4 (ii) A filter layer shall be constructed above the drainage layer and below the upper liner.  
5 A filter layer above a granular drainage layer shall be composed of granular soil materials that are finer than the  
6 granular drainage layer or a geotextile filter fabric; a geotextile filter fabric shall be used as a filter layer above a  
7 geosynthetic drainage net. A filter layer shall provide for adequate flow of fluid through the filter while providing  
8 adequate retention of fine particles.

9 (iii) Perforated fluid collection pipes shall be installed to transmit fluid from the drainage  
10 layer to a fluid collection sump(s). Collection pipe material, diameter, wall thickness, and slot size and distribution  
11 shall be sufficient to prevent deflection, buckling, collapse or other failure. Collection pipes shall be installed with  
12 slopes equivalent to the slope of the drainage layer. Collection pipe systems shall be designed to allow for cleaning  
13 of all collection pipes with standard pipe cleaning equipment.

14 (iv) A fluid removal system shall be installed to remove fluid from the leak detection  
15 system. The fluid removal system shall consist of a sump(s), a dedicated pump(s), an automated pump activation  
16 system that activates the pump(s) when a specific fluid level is reached in a sump(s), and an automated alarm system  
17 that provides warning of pump failure.

18 (b) Where the vertical distance from the seasonal high ground water level and the finished  
19 grade of the floor of the impoundment is greater than 50 feet as documented through recent ground water data  
20 obtained from an on-site test boring(s) or monitoring well(s), the impoundment shall, at a minimum, utilize a single  
21 liner that has a minimum of 60-mil HDPE or other material having equivalent characteristics with regard to  
22 permeability, resistance to degradation by ultraviolet light, compatibility with the liquids anticipated to be  
23 discharged to the impoundment, tensile strength, and tear and puncture resistance.

24 (6) Any applicant or permittee proposing or required to improve an existing stormwater  
25 impoundment shall, at a minimum, utilize a liner that has a minimum of 60-mil HDPE or other material having  
26 equivalent characteristics with regard to permeability, resistance to degradation by ultraviolet light, compatibility  
27 with the liquids anticipated to be discharged to the impoundment, tensile strength, and tear and puncture resistance.

28 (7) Impoundments shall not be constructed in a location where the vertical distance between the  
29 seasonal high ground water level and the finished grade of the floor of the impoundment is less than or equal to four  
30 feet as documented through recent ground water data obtained from an on-site test boring(s) or monitoring well(s).

31 (8) Impoundments shall meet the following design and construction requirements:

32 (a) Inside slopes shall be a maximum of three (horizontal) to one (vertical), and a minimum of  
33 four (horizontal) to one (vertical). Outside slopes shall be a maximum of three (horizontal) to one (vertical).

34 (b) Sub-grade shall be compacted to a minimum of 95% of standard proctor density.

35 (c) The finished grade of the floor of the impoundment shall be as uniform as possible and shall  
36 not have surface deviations which vary more than +/- 1.5 inches from the finished grade.

37 (d) The minimum dike width shall be eight feet to allow vehicle traffic for maintenance.

1 (9) Impoundments requiring a liner shall meet the following additional design and construction  
2 requirements:

3 (a) The liner shall be installed with sufficient liner material to accommodate shrinkage due to  
4 temperature changes. Folds in the liner are not acceptable.

5 (b) The sub-grade shall be free of sharp rocks, vegetation and stubble to a depth of at least six  
6 inches below the liner. Liners shall be placed on a sub-grade of sand or fine soil. The surface in contact with the  
7 liner shall be smooth to allow for good contact between liner and sub-grade. The surface shall be dry during liner  
8 installation.

9 (c) Liners shall be anchored in an anchor trench in the top of the berm. The trench shall be a  
10 minimum of 12 inches wide, 12 inches deep and shall be set back at least 24 inches from the inside edge of the  
11 berm.

12 (d) Liner panels shall be oriented such that all sidewall seams are vertical.

13 (e) A liner vent system shall be installed if an impoundment is installed over areas of  
14 decomposing organic materials or shallow ground water.

15 (f) Any opening in the liner through which a pipe or other fixture protrudes shall be sealed in  
16 accordance with the liner manufacturer's requirements. Liner penetrations shall be detailed in the construction plans  
17 and record drawings.

18 (g) A liner shall not be installed in temperatures below freezing.

19 (h) The liner shall be installed by, or the installation supervised by, an individual that has the  
20 necessary training and experience as required by the liner manufacturer.

21 (i) All manufacturer's installation and field seaming guidelines shall be followed.

22 (j) All liner seams shall be field tested by the installer and verification of the adequacy of the  
23 seams shall be submitted to department along with the record drawings.

24 (k) Any concrete slabs installed on top of a liner for operational purposes shall be completed in  
25 accordance with manufacturer and installer recommendations to ensure liner integrity.

26 **C.** A licensed New Mexico surveyor shall certify all surveys of wastewater, stormwater, and  
27 combination wastewater/stormwater impoundments, monitoring well locations and casing elevations, and other  
28 work products requiring the practice of surveying in accordance with and rules authorized by the New Mexico  
29 Engineering and Surveying Practice, Sections 61-23-1 through 61-23-32 NMSA 1978.

30  
31 **20.6.2.3213 ADDITIONAL ENGINEERING DESIGN REQUIREMENTS FOR DAIRY FACILITIES**  
32 **DISCHARGING TO A LAND APPLICATION AREA:**

33 **A.** Wastewater impoundments intended to store wastewater prior to discharging to a land application  
34 area shall be designed to contain the maximum daily discharge volume authorized by the discharge permit for a  
35 minimum period of 60 days to accommodate periods when land application is not feasible, while preserving two feet  
36 of freeboard.

1           **B.**       Impoundments intended to contain both wastewater and stormwater runoff for storage prior to  
2 discharging to a land application area shall be designed to contain the maximum daily discharge volume authorized  
3 by the discharge permit for a minimum period of 60 days to accommodate periods when land application is not  
4 feasible and stormwater runoff and direct precipitation as specified by current EPA regulatory requirements for  
5 Concentrated Animal Feeding Operations in accordance with 40 Code of Federal Regulations, Parts 122 and 412, while  
6 preserving two feet of freeboard.  
7

8 **20.6.2.3214        ADDITIONAL ENGINEERING DESIGN REQUIREMENTS FOR DAIRY FACILITIES**  
9 **DISCHARGING TO AN EVAPORATIVE WASTEWATER DISPOSAL SYSTEM:**

10           **A.**       Wastewater impoundments intended to dispose of wastewater by evaporation shall be designed to  
11 contain the maximum daily discharge volume authorized by the discharge permit for disposal by evaporation, while  
12 preserving two feet of freeboard.

13           **B.**       Combination wastewater/stormwater impoundments intended to dispose of both wastewater and  
14 stormwater runoff by evaporation shall be designed to contain the maximum daily discharge volume authorized by  
15 the discharge permit and stormwater runoff and direct precipitation as specified by current EPA regulatory  
16 requirements for Concentrated Animal Feeding Operations in accordance with 40 Code of Federal Regulations, Parts  
17 122 and 412, while preserving two feet of freeboard.  
18

19 **20.6.2.3215        OPERATIONAL REQUIREMENTS FOR ALL DAIRY FACILITIES:**

20           **A.**       Written notification shall be submitted to the department 90 days prior to the estimated initial  
21 discharge date indicating the date discharge is proposed to commence. Written verification of the actual date of  
22 discharge commencement shall be submitted to the department within 30 days of commencement.

23           **B.**       Domestic wastewater shall not be commingled with wastewater or stormwater generated at a dairy  
24 facility. Domestic wastewater shall be treated or disposed in accordance with the requirements of Part 20.7.3  
25 NMAC or a discharge permit issued solely for the discharge of domestic wastewater, as appropriate.

26           **C.**       Construction of a new impoundment or improvements to an existing impoundment, including  
27 relining of an existing impoundment, shall be performed in accordance with the construction plans and  
28 specifications and supporting design calculations submitted with the application for a new, renewed or modified  
29 discharge permit, or as required by the department through a discharge permit. The department shall be notified at  
30 least five working days prior to construction or improvement of an impoundment to allow for an inspection by  
31 department personnel. A Construction Certification Report signed and dated by a licensed New Mexico  
32 professional engineer verifying that installation and construction was completed in accordance with Section  
33 20.6.2.3212 NMAC shall be submitted. The Construction Certification Report shall include: record drawings, final  
34 specifications, final capacity calculations and the CQA/CQC report.

35           (1) For new facilities, impoundment construction shall be completed and the Construction  
36 Certification Report shall be submitted to the department prior to discharging from the facility.

1 (2) For existing facilities, impoundment construction shall be completed within one year of the  
2 effective date of the discharge permit. The Construction Certification Report shall be submitted to the department  
3 within 90 days of completion of impoundment construction.

4 **D.** The thickness of settled solids in each existing wastewater and combination  
5 wastewater/stormwater impoundment shall be measured to demonstrate that impoundment capacities are consistent  
6 with the requirements of Sections 20.6.2.3213 and 20.6.2.3214 NMAC. The measurements shall be performed  
7 within one year prior to the submission of an application for a renewed or modified discharge permit and in  
8 accordance with the following procedure:

9 (1) The total surface area of the impoundment shall be divided into nine equal sub-areas.

10 (2) A settled solids measurement device shall be utilized to obtain one settled solids thickness  
11 measurement (to the nearest half-foot) per sub-area. The nine settled solids measurements shall be taken on the  
12 same day and the dates shall be recorded and submitted to the department with the measurements.

13 (3) The nine settled solids measurements shall be averaged and the average depth multiplied by the  
14 surface area at the top of the settled solids layer of the impoundment to estimate the total volume of settled solids in  
15 the impoundment.

16 (4) The estimated volume of settled solids shall be subtracted from the design capacity of the  
17 impoundment (less two feet of freeboard) to estimate the actual free-liquid capacity.

18 (5) The settled solids measurements, calculations, estimation of total settled solids volume and  
19 volume of free-liquid capacity for each impoundment shall be submitted to the department with the application for a  
20 renewed or modified discharge permit.

21 **E.** In the event that record drawings are unavailable or have not been completed in accordance with  
22 Section 20.6.2.3212 and 20.6.2.3215 NMAC to indicate the impoundment capacity of each existing wastewater,  
23 stormwater, or combination wastewater/stormwater impoundment, an up-to-date survey and capacity calculations of  
24 each impoundment shall be completed. The survey data and capacity calculations shall be submitted to the  
25 department with the application for a renewed or modified discharge permit.

26 **F.** To maintain impoundment capacities as required by Sections 20.6.2.3213 and 20.6.2.3214  
27 NMAC, manure solids separation shall be employed prior to discharging to a wastewater impoundment.

28 (1) New dairy facilities and facilities installing a new wastewater storage or disposal system shall,  
29 prior to discharging to the new system, construct a manure solids separator(s) in accordance with the construction  
30 plans and specifications submitted with the application for a new, renewed or modified discharge permit, or required  
31 by the department through a discharge permit. Confirmation of solids separator construction, including separator  
32 type(s) and location(s), shall be submitted to the department prior to discharging to the new system.

33 (2) Existing dairy facilities shall construct a manure solids separator(s) within 150 days of the  
34 effective date of the discharge permit. Confirmation of solids separator construction, including separator type(s) and  
35 location(s), shall be submitted to the department within 180 days of the effective date of the discharge permit.

36 **G.** A flow metering system shall be employed that utilizes flow measurement devices (flow meters)  
37 to measure the volume of wastewater discharged at the facility. Flow meter(s) shall be installed in accordance with

1 the plans and specifications submitted with the application for a new, renewed or modified discharge permit, or  
2 required by the department through a discharge permit and the requirements of this section and Sections 20.6.2.3212  
3 and 20.6.2.3216 NMAC. Flow meters shall be physically and permanently labeled with the discharge permit  
4 number, meter identification nomenclature required by the department through a discharge permit, and the month  
5 and year of meter installation. Confirmation of installation shall include a description of the device type,  
6 manufacturer, meter identification, location, record drawings, and the results of the initial field calibration  
7 completed in accordance with the requirements of Subsection C of 20.6.2.3219 NMAC. Flow meters shall be kept  
8 operational at all times.

9 (1) New facilities shall install flow meters and submit confirmation of flow meter installation to the  
10 department prior to discharging from the facility.

11 (2) Existing facilities shall install flow meters within 150 days of the effective date of the discharge  
12 permit and submit confirmation of flow meter installation to the department within 180 days of the effective date of  
13 the discharge permit.

14 **H.** Flow meter locations shall be identified in the application for a new, renewed or modified  
15 discharge permit. All flow meters shall be located in accordance with this section and Section 20.6.2.3216 NMAC,  
16 and indicated on the scaled map required by Subsection U of this section.

17 **I.** Flow metering shall be accomplished by the following methods:

18 (1) For pumped flow discharge situations, a closed-pipe velocity sensing totalizing flow meter(s)  
19 shall be installed on the pressurized discharge line(s).

20 (2) For gravity flow discharge situations, an open-channel primary flow measuring device(s) (flume  
21 or weir), equipped with head sensing and totalizing mechanisms, shall be installed on the discharge line(s).

22 **J.** A flow meter(s) shall be installed to measure the volume of wastewater discharged from all  
23 wastewater sources to the wastewater or combination wastewater/stormwater impoundment(s). The flow meter(s)  
24 shall be installed on the discharge line(s) from all wastewater sources to the wastewater impoundment(s). Meter  
25 installation and confirmation of meter installation shall be performed in accordance with the requirements of this  
26 section and as required by the department through a discharge permit.

27 **K.** An applicant or permittee proposing to use an existing flow meter(s) shall submit documentation  
28 demonstrating that the existing flow meter(s) is installed in accordance with the requirements of this section and  
29 Section 20.6.2.3216 NMAC. The proposal shall be submitted with an application for a new, renewed and modified  
30 discharge permit and shall include the following documentation:

31 (1) The location of each existing flow meter indicated on the scaled map required by Subsection U of  
32 this section and identified relative to the discharge it is intended to measure.

33 (2) A copy of the record drawings or manufacturer plans and technical specifications specific to each  
34 existing flow meter.

35 (3) A field calibration report for each existing flow meter, completed in accordance with Subsection  
36 C of 20.6.2.3219 NMAC.

1           **L.**       Solids captured by and removed from the manure solids separation system(s), and stored at the  
2 facility prior to removal or land application shall be managed to minimize generation and infiltration of leachate.  
3 Leachate from manure solids shall be collected and contained on an impervious surface prior to disposal. Disposal  
4 shall be in accordance with any applicable local, state, or federal regulations.

5           **M.**       Stormwater from the corrals and other applicable areas at the facility (i.e., calf pens, alleys, feed  
6 storage and mixing, etc.) shall be diverted into the stormwater or combination wastewater/stormwater  
7 impoundment(s) in accordance with the grading and drainage plan required by Section 20.6.2.3212 NMAC and as  
8 specified by current EPA regulatory requirements for Concentrated Animal Feeding Operations in accordance with 40  
9 Code of Federal Regulations, Parts 122 and 412. Conveyance channels shall be constructed and maintained to  
10 minimize ponding and infiltration of stormwater.

11           **N.**       Stormwater collected in an unlined impoundment(s) shall be pumped to the wastewater  
12 impoundment(s) or the distribution system for the land application area as soon as possible after a storm event to  
13 minimize the potential for movement to ground water and to restore the necessary free capacity to contain the  
14 volume of stormwater runoff and direct precipitation as specified by current EPA regulatory requirements for  
15 Concentrated Animal Feeding Operations in accordance with 40 Code of Federal Regulations, Parts 122 and 412.  
16 Operational pumps shall be maintained on-site at all times for the discharge of stormwater from stormwater  
17 impoundment(s) to the wastewater impoundment(s) or the distribution system for the land application area, as  
18 authorized by the department through a discharge permit.

19           **O.**       Stormwater collected in a synthetically lined impoundment(s) shall be pumped to the wastewater  
20 impoundment(s) or the distribution system for the land application area as soon as possible after a storm event to  
21 restore the necessary free capacity to contain the volume of stormwater runoff and direct precipitation as specified by  
22 current EPA regulatory requirements for Concentrated Animal Feeding Operations in accordance with 40 Code of  
23 Federal Regulations, Parts 122 and 412. Operational pumps shall be maintained on-site at all times for the discharge  
24 of stormwater from stormwater impoundment(s) to the wastewater impoundment(s) or the distribution system for  
25 the land application area, as authorized by the department through a discharge permit.

26           **P.**       Impoundments shall be maintained to prevent conditions which could affect the structural integrity  
27 of the impoundments and associated liners. Such conditions include, but are not limited to erosion damage; animal  
28 burrows or other animal damage; the presence of vegetation including aquatic plants, weeds, woody shrubs or trees  
29 growing within five feet of the impoundment edge or within the impoundment itself; evidence of seepage; evidence  
30 of berm subsidence; and the presence of large debris or large quantities of debris in the impoundments.  
31 Impoundments and surrounding berms shall be inspected on a monthly basis to ensure proper condition and control  
32 vegetation growing around the impoundments in a manner that is protective of the liners. Any evidence of damage  
33 to a berm or liner of an impoundment shall be reported to the department within 24 hours of discovery.

34           **Q.**       In order to maintain the required capacity for wastewater, stormwater and combination  
35 wastewater/stormwater impoundments as specified in Sections 20.6.2.3212 through 20.6.2.3214 NMAC, solids shall  
36 be removed from the impoundments as needed in a manner that is protective of the impoundment liner. A plan shall  
37 be submitted for the removal, storage and disposal of the solids-slurry, including a schedule for implementation

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1 through completion, to the department for approval. In the event the plan proposes land application of the solids-  
2 slurry, the plan must also include analytical results of a representative sample of the solids-slurry to be applied. The  
3 plan shall be implemented upon department approval.

4 **R.** Management practices prior to removal of manure solids and composted material stored at the  
5 facility shall minimize the generation and infiltration of leachate by diverting stormwater run-on and run-off and by  
6 preventing the ponding of water within areas used for manure and compost stockpiling.

7 **S.** Manure solids and composted material, unless authorized by the discharge permit to be land  
8 applied at the facility, shall be removed from the facility and handled in accordance with any applicable local, state,  
9 or federal regulations.

10 **T.** Ponding of leachate from silage storage areas shall be minimized, and collected and contained on  
11 an impervious surface prior to disposal. Disposal shall be in accordance with any applicable local, state, or federal  
12 regulations.

13 **U.** A scaled map of the facility shall be prepared and submitted to the department with the application  
14 for a new, renewed or modified discharge permit. The map shall be clear and legible, and drawn to a scale such that  
15 all necessary information is plainly shown and identified. The map shall show the scale in feet or metric measure, a  
16 graphical scale, a north arrow, and the effective date of the map. Documentation identifying the means used to  
17 locate the mapped objects (i.e., GPS, land survey, digital map interpolation, etc.) and the relative accuracy of the  
18 data (i.e., +/- XX feet or meters) shall be included with the map. Any object that cannot be directly shown due to its  
19 location inside of existing structures or because it is buried without surface identification, shall be identified on the  
20 map in a schematic format and identified as such. The map shall include the following objects:

- 21 (1) Overall dairy facility layout (barns, feed storage areas, pens, etc.).
- 22 (2) Location of all sumps.
- 23 (3) Location of all manure solids separators.
- 24 (4) Location of all wastewater, stormwater, and combination wastewater/stormwater impoundments.
- 25 (5) Location of all mix tanks.
- 26 (6) Location and acreage of each field or sub-field within the land application area.
- 27 (7) Location of all monitoring wells.
- 28 (8) Location of all irrigation wells.
- 29 (9) Location of all meters measuring wastewater discharges to and from impoundments.
- 30 (10) Location of all meters measuring stormwater discharges to the land application area.
- 31 (11) Location of all discharge pumps.
- 32 (12) Location of all wastewater and stormwater distribution pipelines.
- 33 (13) Location of each ditch irrigation system, acequia, irrigation canal and drain.
- 34 (14) Location of all backflow prevention.
- 35 (15) All wastewater sampling locations, with the exception of impoundments for disposal by  
36 evaporation.
- 37 (16) Location of all septic tanks and leachfields.

1           V.       The facility map required by this section shall be updated and resubmitted to the department  
2 within 90 days of any additions or changes to the facility layout which includes any of the items required by this  
3 section.

4           W.       All animal mortalities intended to be disposed of (buried or composted) on dairy facilities shall be  
5 managed in accordance with the following requirements:

- 6           (1)       Only mortalities originating at the facility shall be disposed of at the facility.
- 7           (2)       Mortalities shall not be stored near wells or surface water prior to disposal.
- 8           (3)       Stormwater run-on to disposal areas shall be prevented by use of berms or other physical barriers.
- 9           (4)       Mortalities disposed of by burial shall be placed in a pit(s) where the vertical distance between the  
10 seasonal high ground water level and the floor of the pit(s) is greater than 30 feet as documented through recent  
11 ground water data obtained from an on-site test boring(s) or monitoring well(s).
- 12           (5)       Burial pits shall be at least 200 feet from private or public wells, or any continuously flowing  
13 watercourse; and at least 100 feet from the 100-year flood zone of any other significant watercourse, as defined by  
14 the most recent Federal Emergency Management Administration, FEMA, map.
- 15           (6)       Mortality composting shall be accomplished by an individual certified by and in accordance with  
16 the requirements of the Compost Facility Operator Certification Program and the Mortality and Butcher Waste  
17 Composting Guidelines, administered by the New Mexico Environment Department Solid Waste Bureau.

18  
19 **20.6.2.3216       ADDITIONAL OPERATIONAL REQUIREMENTS FOR DAIRY FACILITIES**  
20 **DISCHARGING TO A LAND APPLICATION AREA:**

21           A.       A flow meter(s) shall be installed to measure the volume of wastewater discharged from the  
22 wastewater or combination wastewater/stormwater impoundment(s) to the land application area. The flow meter(s)  
23 shall be installed on the discharge line(s) from the wastewater impoundment(s) to the distribution system for the  
24 land application area. Meter installation and confirmation of meter installation shall be performed in accordance  
25 with the requirements of Section 20.6.2.3215 NMAC and as required by the department through a discharge permit.

26           B.       For facilities discharging stormwater from the stormwater impoundment(s) directly to the  
27 distribution system for the land application area, a flow meter(s) shall be installed to measure the volume of  
28 stormwater applied directly to the land application area. The flow meter(s) shall be installed on the discharge line(s)  
29 from the stormwater impoundment(s) to the distribution system for the land application area. Meter installation and  
30 confirmation of meter installation shall be performed in accordance with the requirements of Section 20.6.2.3215  
31 NMAC and as required by the department through a discharge permit.

32           C.       Wastewater or combination wastewater/stormwater impoundment(s) shall be operated and  
33 maintained for the purpose of storing wastewater prior to discharging to the land application area. Capacity of the  
34 wastewater or combination wastewater/stormwater impoundment(s) shall be managed in accordance with the  
35 requirements of Section 20.6.2.3213 NMAC.

36           D.       Irrigation water shall not be introduced into any impoundment authorized for the storage of  
37 wastewater or stormwater by the department through a discharge permit.

1           **E.**       Documentation of irrigation water rights from the Office of the State Engineer for all fields or sub-  
2 fields within the land application area shall be submitted to the department with the application for a new, renewed  
3 or modified discharge permit. The documentation shall demonstrate adequate irrigation water is available to  
4 produce and harvest the crops necessary for the removal of nitrogen applied in wastewater and stormwater in  
5 accordance with Subsection C of 20.6.2.3109 NMAC.

6           **F.**       Wastewater shall only be applied to fields or sub-fields within the land application area receiving  
7 fresh irrigation water. Fresh irrigation water shall be used as the primary source to meet the water consumptive  
8 needs of the crop to support crop production and nutrient removal. Wastewater and stormwater are intended as  
9 sources of crop nutrients and shall not be used as a primary source to meet the water consumptive needs of the crop.

10          **G.**       Documentation of the existing infrastructure necessary to properly transfer, distribute and apply  
11 wastewater or stormwater to all fields or sub-fields within the land application area that have previously received  
12 wastewater shall be submitted to the department with the application for a new, renewed or modified discharge  
13 permit. Written documentation shall confirm the existing land application distribution system including the type(s)  
14 and location(s) of the systems, and the method(s) of backflow prevention employed.

15          **H.**       Prior to initial discharge to any field or sub-field within the land application area that has not  
16 previously received wastewater or stormwater, a land application distribution system shall be installed to discharge  
17 wastewater and stormwater to all fields or sub-fields that will be actively receiving wastewater and stormwater. The  
18 land application distribution system shall be utilized to distribute and apply wastewater and stormwater to fields and  
19 sub-fields within the land application area to meet the requirements of this section. Prior to initial discharge to any  
20 field or sub-field within the land application area, documentation confirming installation of the land application  
21 distribution system, including the type(s) and location(s) of the system, and the method(s) of backflow prevention  
22 employed shall be submitted to the department.

23          **I.**       Wastewater and stormwater shall be applied to fields and sub-fields within the land application  
24 area and up to the maximum acreage of irrigated cropland specifically authorized by department through a discharge  
25 permit. Wastewater shall not be mixed with irrigation water in-line or in the impoundment(s), but may be blended  
26 in a mix-tank(s), or applied alternately in the same line or in a separate line, as authorized by the department through  
27 a discharge permit. Wastewater and stormwater shall be distributed evenly over the fields or sub-fields in which  
28 application is occurring, and ponding shall be minimized.

29          **J.**       Nutrients and other constituents present in wastewater and stormwater shall be applied to irrigated  
30 cropland under cultivation according to the following requirements:

31           (1)     The amount of nitrogen applied to each field or sub-field within the land application area from all  
32 combined nitrogen sources, including but not limited to wastewater, stormwater, manure solids, composted  
33 material, irrigation water and other additional fertilizer(s), along with residual soil nitrogen and nitrogen credits from  
34 leguminous crops, shall be performed in accordance with a plan demonstrating that the nitrogen applied does not  
35 exceed by more than 25% the amount reasonably expected to be taken up and removed by a mechanically harvested  
36 crop. The plan shall contain, at a minimum, the crop(s) to be grown for all fields or sub-fields within the land  
37 application area, estimated or actual crop yields, estimated or actual nitrogen content of the harvested crop(s),

1 estimated amounts of all nitrogen sources to be land applied from the dairy facility and an estimated nitrogen  
2 balance for the facility. The nitrogen content of the aforementioned inputs shall not be adjusted to account for  
3 volatilization or mineralization processes. The plan shall be submitted to the department with the application for a  
4 new, renewed, or modified discharge permit and shall be implemented as required by the department through a  
5 discharge permit.

6 (2) In lieu of Paragraph (1) above, a proposal to apply wastewater and stormwater to each field or  
7 sub-field within the land application area in accordance with the requirements of a nutrient management plan may be  
8 submitted to the department. The nutrient management plan shall be signed and dated by an individual certified by  
9 the American Society of Agronomy as a Certified Crop Advisor (CCA) or Certified Professional Agronomist  
10 (CPAg). In addition, the plan must be signed and dated by a Nutrient Management Planner certified by the New  
11 Mexico Natural Resources Conservation Service. A nutrient management plan shall be developed and contain all  
12 plan component identified in accordance with the Natural Resources Conservation Service General Manual Title  
13 190, Part 402, and the Natural Resources Conservation Service Conservation Practice Standard 590 for New  
14 Mexico. Plant material and soil sampling shall be equivalent to the requirements of Subsections I, K, and L of  
15 20.6.2.3220 NMAC, and the method of crop removal to be employed shall be identified. A proposed nutrient  
16 management plan shall be submitted to the department with the application for a new, renewed, or modified  
17 discharge permit. The nutrient management plan shall be implemented as required by the department through a  
18 discharge permit.

19 **K.** Crop removal from fields or sub-fields within the land application area shall be accomplished by  
20 mechanical harvest. The use of grazing as a means of crop removal as an alternative to mechanical harvest may be  
21 proposed with the application for a new, renewed, or modified discharge permit. Proposals for the use of grazing for  
22 crop removal shall be included in a nutrient management plan prepared in accordance with the requirements of  
23 Paragraph (2) of Subsection J of this section, shall quantify the degree of nitrogen removal expected to be achieved  
24 by grazing, and shall provide scientific documentation supporting the estimated nitrogen removal and justification  
25 for the selection of input parameters used in calculations or computer modeling. The nutrient management plan  
26 proposing grazing for crop removal shall be implemented in its entirety as required by the department through a  
27 discharge permit. A nutrient management plan which proposes grazing for crop removal shall also include, at a  
28 minimum, the following elements:

- 29 (1) Length of grazing season
- 30 (2) Size and number of animals to be grazed.
- 31 (3) Calculations to determine stocking rates and total acreage needed.
- 32 (4) Plant species used to establish pastures and pasture renovation practices to be employed.
- 33 (5) Yield of plant species grown in each pasture and the forage supplied on a monthly basis.
- 34 (6) Map showing the cattle lanes, water tanks, fencing and paddock layout with numbering system  
35 and acreage of each paddock.
- 36 (7) Grazing management system employed.

1           **L.**       Each dairy facility shall install and maintain backflow prevention to protect all wells used within  
2 the land application distribution system from contamination by wastewater or stormwater backflow. Backflow  
3 prevention shall be achieved by a total disconnect (physical air gap) between the fresh irrigation water and  
4 wastewater and stormwater delivery systems.

5           (1)     New facilities shall install backflow protection and submit written confirmation of installation to  
6 the department prior to discharging from the facility.

7           (2)     Existing facilities shall install backflow protection within 90 days of the effective date of the  
8 discharge permit. Written confirmation of installation shall be submitted to the department within 180 days of the  
9 effective date of the discharge permit.

10          **M.**       With the exception of monitoring wells, all wells located on a dairy facility shall have a surface  
11 pad constructed in accordance with Subsection G of 19.27.4.29 NMAC; a permanent well cap or cover in  
12 accordance with Subsection I of 19.27.4.29 NMAC; and an access for ground water level monitoring in accordance  
13 with Subsection H of 19.27.4.29 NMAC.

14  
15 **20.6.2.3217        ADDITIONAL OPERATIONAL REQUIREMENTS FOR DAIRY FACILITIES**

16 **DISCHARGING TO AN EVAPORATIVE WASTEWATER DISPOSAL SYSTEM:** The wastewater or  
17 combination wastewater/stormwater impoundment(s) shall be operated and maintained for the purpose of disposing  
18 of wastewater or both wastewater and stormwater by evaporation. Capacity of the wastewater or combination  
19 wastewater/stormwater impoundment(s) shall be maintained in accordance with the requirements of Section  
20 20.6.2.3214 NMAC.

21  
22 **20.6.2.3218        GROUND WATER MONITORING REQUIREMENTS FOR ALL DAIRY FACILITIES:**

23          **A.**       Monitoring of ground water quality shall be required hydrologically downgradient of each  
24 potential source of ground water contamination, including but not limited to wastewater, stormwater, and  
25 combination wastewater/stormwater impoundments, and fields within the land application area. Monitoring wells  
26 shall be located as close to the potential source as is practicable to detect exceedance(s) or trends towards  
27 exceedance(s) of the ground water standards at the earliest possible occurrence, so that source control or abatement  
28 may be implemented as soon as possible. A minimum of one monitoring well shall be installed hydrologically  
29 downgradient of each potential contamination source, also including previously utilized impoundments and fields to  
30 which discharge has ceased. Monitoring well(s) shall be located within 50 feet of the toe of the berm of each  
31 impoundment and within 50 feet of the edge of each field within the land application area. When appropriate, based  
32 on the documented ground water flow direction, the department may authorize through a discharge permit one  
33 monitoring well to monitor more than one field within the land application area. Additionally, at least one  
34 monitoring well shall be installed hydrologically upgradient of all potential ground water contamination sources at  
35 the facility in order to establish ground water quality conditions at a location not likely to be affected by potential  
36 contamination sources at the facility.

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1 (1) Monitoring wells intended to monitor ground water hydrologically downgradient of  
2 impoundments and fields within the land application area shall be installed as follows:

3 (a) For new facilities, monitoring wells shall be installed prior to discharging from the facility.

4 (b) For existing facilities, monitoring wells shall be installed within 90 days of the effective  
5 date of the discharge permit.

6 (c) Existing facilities activating a new field(s) or installing a new impoundment(s) shall install  
7 a monitoring well(s) prior to discharging to the field(s) or impoundment(s).

8 (2) Monitoring wells intended to monitor ground water hydrologically upgradient of the facility shall  
9 be installed as follows:

10 (a) Monitoring wells shall be installed at new facilities prior to discharging from the facility.

11 (b) Monitoring wells shall be installed at existing facilities within 90 days of the effective date  
12 of the discharge permit.

13 **B.** All monitoring wells required by these regulations shall be identified by a well identification tag.  
14 For above-grade wells, the tag shall be affixed to the exterior of the steel well shroud using rivets, bolts or a steel  
15 band. For wells finished below-grade, the tag shall be placed inside the well vault adjacent to the well riser. The tag  
16 shall be:

17 (1) Made of aluminum.

18 (2) At least two inches by four inches in size.

19 (3) Engraved with the discharge permit number; well identification nomenclature identified by the  
20 department: name of the well driller and New Mexico well driller license number; and the month and year of well  
21 installation.

22 **C.** Monitoring well locations shall be identified in the application for a new, renewed or modified  
23 discharge permit in accordance with Subsection A of this section, and shall include the following information:

24 (1) The location of each monitoring well relative to the source it is intended to monitor shall be  
25 indicated on the scaled map required by Subsection U of 20.6.2.3215 NMAC.

26 (2) A written description of the specific location for each monitoring well including the distance in  
27 feet and compass bearing of each monitoring well from the toe of the impoundment berm or edge of the field it is  
28 intended to monitor.

29 (3) Ground water flow direction beneath the facility used to determine the monitoring well  
30 location(s), including supporting documentation used to determine ground water flow direction.

31 **D.** Monitoring wells shall be installed pursuant to a well permit granted by the Office of the State  
32 Engineer prior to well drilling in accordance with Section 29 of 19.27.4 NMAC, should a well permit for monitoring  
33 well installation be required by the Office of the State Engineer.

34 **E.** Monitoring wells shall be constructed in accordance with Part 19.27.4 NMAC and the following  
35 requirements:

36 (1) All well drilling activities shall be performed by an individual with a current and valid well driller  
37 license issued by the State of New Mexico in accordance with Part 19.27.4 NMAC.

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1 (2) Drilling methods that allow for accurate determinations of water table locations shall be  
2 employed. All drill bits, drill rods, and down-hole tools shall be thoroughly cleaned immediately prior to the start of  
3 drilling. The bore hole diameter shall be drilled a minimum of 4 inches larger than the casing diameter to allow for  
4 the emplacement of sand and sealant.

5 (3) After completion, the well shall be allowed to stabilize for a minimum of 12 hours before  
6 development is initiated.

7 (4) The well shall be developed so that formation water flows freely through the screen and is not  
8 turbid, and all sediment and drilling disturbances are removed from the well.

9 (5) Schedule 40 (or heavier) PVC pipe, stainless steel pipe, or carbon steel pipe shall be used as  
10 casing. The casing shall have an inside diameter not less than two inches. The casing material selected for use shall  
11 be compatible with the anticipated chemistry of the ground water and appropriate for the contaminants of interest at  
12 the facility. The casing material and thickness selected for use shall have sufficient collapse strength to withstand  
13 the pressure exerted by grouts used as annular seals and thermal properties sufficient to withstand the heat generated  
14 by the hydration of cement-based grouts.

15 (6) Casing sections shall be joined using welded or threaded joints; the method selected shall provide  
16 sufficient joint strength for the specific well installation.

17 (7) The casing shall extend from the top of the screen to at least one foot above ground surface. The  
18 top of the casing shall be fitted with a removable cap, and the exposed casing shall be protected by a locking steel  
19 well shroud. The shroud shall be large enough in diameter to allow easy access for removal of the cap.  
20 Alternatively, monitoring wells may be completed below grade. In this case, the casing shall extend from the top of  
21 the screen to six to twelve inches below the ground surface; the monitoring wells shall be sealed with locking,  
22 expandable well plugs; a flush-mount, watertight well vault that is rated to withstand traffic loads shall be emplaced  
23 around the wellhead; and the cover shall be secured with at least one bolt. The vault cover shall indicate that the  
24 wellhead of a monitoring well is contained within the vault.

25 (8) A 20-foot section (maximum) of continuous-slot, machine slotted, or other manufactured  
26 Schedule 40 (or heavier) PVC or stainless steel well screen shall be installed across the water table. Screens created  
27 by cutting slots into solid casing with saws or other tools shall not be used. The screen material selected for use  
28 shall be compatible with the anticipated chemistry of the ground water and appropriate for the contaminants of  
29 interest at the facility. The screen slot size shall be selected to retain 90 percent of the filter pack.

30 (a) Requests for a 30-foot section of well screen may be authorized by the department through  
31 a discharge permit when the most recent two years of ground water level data demonstrates a declining water level  
32 trend of at least two feet per year. Data supporting ground water levels shall be specific to monitoring wells located  
33 at the facility and obtained with a water level measuring device as required by this section.

34 (b) Requests for additional screen length shall be submitted to the department in the application  
35 for a new, renewed or modified discharge permit.

36 (9) Screen sections shall be joined using welded or threaded joints; the method selected shall provide  
37 sufficient joint strength for the specific well installation and shall not introduce constituents that may reasonably be

1 considered contaminants of interest at the facility. A cap shall be attached to the bottom of the well screen; sumps  
2 (i.e., casing attached to the bottom of a well screen) shall not be installed.

3 (10) The bottom of the screen shall be installed no more than 15 feet below the water table; or 25 feet  
4 below the water table when additional screen length is authorized by the department through a discharge permit.  
5 The top of the well screen shall be positioned not less than five feet above the water table. The well screen slots  
6 shall be appropriately sized for the formation materials.

7 (11) Casing and well screen shall be centered in the borehole by installing centralizers near the top  
8 and bottom of the well screen.

9 (12) A filter pack shall be installed around the screen by filling the annular space from the bottom of  
10 the screen to two feet above the top of the screen with clean silica sand. The filter pack shall be properly sized to  
11 exclude the entrance of fine sand, silt, and clay from the formation into the monitoring well. For wells deeper than  
12 30 feet, the sand shall be emplaced by a tremmie pipe. The well shall be surged or bailed to settle the filter pack and  
13 additional sand added, if necessary, before the bentonite seal is emplaced.

14 (13) A bentonite seal shall be constructed immediately above the filter pack by emplacing bentonite  
15 chips or pellets (three-eighths inch in size or smaller) in a manner that prevents bridging of the chips/pellets in the  
16 annular space. The bentonite seal shall be three feet in thickness and hydrated with clean water. Adequate time  
17 shall be allowed for expansion of the bentonite seal before installation of the annular space seal.

18 (14) The annular space above the bentonite seal shall be sealed with a bentonite-cement grout (five  
19 lbs. of powdered bentonite, 94 lbs. of Portland cement, and six and a half to eight and a half gallons of clean water),  
20 neat cement grout (94 lbs. of Portland cement and five to six gallons of clean water), or bentonite grout (20 percent  
21 solids, created by mixing 50 lbs. of bentonite grout with 24 gallons of clean water). Emplacement of the annular  
22 space seal shall be performed by using a tremmie pipe (flow by gravity or pumping through the pipe). Annular  
23 space seals shall extend from the top of the bentonite seal to the ground surface (for wells completed above grade) or  
24 to a level three to six inches below the top of casing (for wells completed below grade).

25 (15) A concrete pad (two-foot minimum radius, four-inch minimum thickness) shall be poured  
26 around the shroud or well vault and wellhead. The concrete and surrounding soil shall be sloped to direct rainfall  
27 and runoff away from the wellhead.

28 **F.** All ground water sample collection, preservation, transport and analysis shall be performed  
29 according to the following procedure, unless an alternate sample collection method is authorized by the department  
30 through a discharge permit.

31 (1) Depth-to-most-shallow ground water shall be measured from the top of well casing at point of  
32 survey to the nearest 0.01 feet using an electronic water level indicator consisting of dual conductor wire encased in  
33 a cable or tape graduated to 0.01 feet, a probe attached to the end of the conductor wire, and a visual or audible  
34 indicator;

35 (2) Three well volumes of water shall be purged from the well prior to sample collection;

36 (3) Following purging and immediately prior to sample collection the following field parameters shall  
37 be measured and recorded: pH, specific conductance, and temperature;

1 (4) Samples from the well shall be obtained for analysis in accordance with the methods authorized  
2 by Subsection B of 20.6.2.3107 NMAC;

3 (5) Samples shall be prepared, preserved and transported to a qualified analytical laboratory for  
4 analysis in accordance with the methods authorized by Subsection B of 20.6.2.3219 NMAC.

5 **G.** Ground water samples shall be collected in all newly installed monitoring wells. Samples shall be  
6 analyzed for nitrate as nitrogen, total Kjeldahl nitrogen, chloride, sulfate and total dissolved solids, and other  
7 constituents that may be required by the department through a discharge permit, in accordance with the requirements  
8 of this section.

9 (1) Samples shall be collected from the newly installed monitoring wells at new facilities prior to  
10 discharging from the facility.

11 (2) Samples shall be collected from the newly installed monitoring wells at existing facilities within  
12 120 days of the effective date of the discharge permit.

13 **H.** All monitoring wells shall be surveyed to a U.S. Geological Survey (USGS) benchmark. Survey  
14 data shall include northing, easting and elevation to the nearest hundredth of a foot or in accordance with the  
15 "Minimum Standards for Surveying in New Mexico", Part 12.8.2 NMAC. A survey elevation shall be established at  
16 the top-of-casing, with a permanent marking indicating the point of survey. The survey shall be completed and  
17 certified by a licensed New Mexico professional surveyor. Depth-to-most-shallow ground water shall be measured  
18 from the point of survey to the nearest hundredth of a foot in all surveyed wells in accordance with Paragraph (1) of  
19 Subsection F of this section, and the data shall be used to develop a map showing the location of all monitoring  
20 wells and the direction and gradient of ground water flow at the facility.

21 (1) All monitoring wells shall be surveyed at new facilities prior to discharging from the facility.

22 (2) All monitoring wells shall be surveyed at existing facilities within 120 days of the effective date  
23 of the discharge permit.

24 **I.** A monitoring well completion report pertaining to all monitoring wells shall be submitted to the  
25 department. For new facilities, the report shall be submitted prior to discharging from the facility. For existing  
26 facilities, the report shall be submitted within 180 days after the effective date of the discharge permit or within 60  
27 days of completion as required by the department through a discharge permit. The report shall contain the following  
28 information:

29 (1) Construction and lithologic logs for the new monitoring wells including well record information  
30 specified by Part 19.27.4 NMAC.

31 (2) Depth-to-most-shallow ground water measured in each new and existing monitoring well.

32 (3) Survey data and a survey map showing the locations of each new and existing monitoring well  
33 and a ground water elevation contour map developed in accordance with Subsection L of this section.

34 (4) Analytical results of ground water samples collected from the new monitoring wells, including  
35 laboratory quality assurance and quality control summary reports, and field parameters measurements.

36 **J.** For facilities required to survey existing monitoring wells in accordance with this section, the  
37 monitoring well survey report shall be submitted to the department within 180 days of the effective date of the

1 discharge permit. The report shall contain the depth-to-most-shallow ground water measured in each monitoring  
2 well, and a surveyed map showing the locations of the monitoring wells, and the direction and gradient of ground  
3 water flow at the facility.

4 **K.** Ground water samples shall be collected quarterly from all monitoring wells as required by the  
5 department through a discharge permit. Samples shall be analyzed for nitrate as nitrogen, total Kjeldahl nitrogen,  
6 chloride, sulfate and total dissolved solids, and other constituents that may be required by the department through a  
7 discharge permit, in accordance with the requirements of this section. Depth-to-most-shallow ground water and  
8 field parameter measurements, analytical results, including laboratory quality assurance and quality control  
9 summary report, and a facility layout map showing the location and number of each well, shall be submitted to the  
10 department in the quarterly or annual monitoring reports as required by the department through a discharge permit.

11 **L.** Ground water elevation contour maps shall be developed on a quarterly basis using data associated  
12 with all monitoring wells used for monitoring at the dairy facility. Top of casing elevation data obtained from  
13 monitoring well surveys completed in accordance with this section and quarterly depth-to-most-shallow ground  
14 water measurements in monitoring wells shall be used to calculate ground water elevations at monitoring well  
15 locations. Ground water elevations between monitoring well locations shall be estimated using common  
16 interpolation methods. Ground water elevation contour lines shall be drawn by connecting points of equal elevation.  
17 Ground water elevations shall be expressed in feet and a contour interval no greater than 0.5 feet shall be used.  
18 Ground water elevation contour maps shall depict the ground water flow direction based on the orientation of the  
19 ground water elevation contours. Ground water elevation contour maps shall be submitted to the department in the  
20 quarterly or annual monitoring reports as required by the department through a discharge permit.

21 **M.** The department shall have the option to perform downhole inspections of all monitoring wells.  
22 The department shall establish the inspection date, identify the monitoring wells to be inspected, and provide at least  
23 60 days notice to the permittee by certified mail. All existing dedicated pumps shall be removed at least 48 hours  
24 prior to department inspection to allow adequate settling time of sediment agitated from pump removal. Should a  
25 facility decide to install dedicated pumps in any of the monitoring wells, the department shall be notified prior to  
26 pump installation so that downhole well inspection(s) can be scheduled prior to pump installation.

27 **N.** Any additional monitoring wells required to be installed due to the enactment of a contingency or  
28 a corrective action plan shall be installed, surveyed and sampled in accordance with this section.

29  
30 **20.6.2.3219 MONITORING REQUIREMENTS FOR ALL DAIRY FACILITIES**

31 **A.** Monitoring reports shall be submitted to the department on an annual schedule. Facilities with a  
32 record of noncompliance with the requirements of the previous discharge permit may be required to submit  
33 monitoring reports on a quarterly schedule. Monitoring reports shall be submitted in accordance with Sections  
34 20.6.2.3218 through 20.6.2.3221 NMAC and as required by the department through a discharge permit.

35 (1) Facilities required by the department through a discharge permit to submit monitoring reports on  
36 an annual schedule shall submit annual monitoring reports to the department no later than August 1 of each year.  
37 Annual monitoring reports shall contain monitoring data and information collected as required by the department

1 during the third and fourth quarters of the prior calendar year and the first and second quarters of the current  
2 calendar year. Annual monitoring reports shall include the results of quarterly monitoring which shall be performed  
3 according to the following schedule: January 1 through March 31 (first quarter); April 1 through June 30 (second  
4 quarter); July 1 through September 30 (third quarter); and October 1 through December 31 (fourth quarter).

5 (2) Facilities required by the department through a discharge permit to submit monitoring reports on a  
6 quarterly schedule shall submit quarterly monitoring reports to the department containing monitoring data and  
7 information collected as required by the department during the prior quarter. Quarterly monitoring reports shall be  
8 submitted according to the following schedule: January 1 through March 31 (first quarter) – report due by May 1;  
9 April 1 through June 30 (second quarter) – report due by August 1; July 1 through September 30 (third quarter) –  
10 report due by November 1; and October 1 through December 31 (fourth quarter) – report due by February 1.

11 **B.** Sampling and analysis of water shall be conducted in accordance with Subsection B of  
12 20.6.2.3107 NMAC, and sampling and analysis of soil shall be conducted in accordance with Methods of Soil  
13 Analysis: Part 1. Physical and Mineralogical Methods and Part 2. Chemical and Microbiological Properties,  
14 American Society of Agronomy.

15 **C.** All flow meters shall be capable of having their accuracy ascertained under actual working (field)  
16 conditions. A description of the field calibration method to be utilized shall be developed for each flow meter and  
17 that method shall be utilized to check the accuracy of each respective meter. Field calibrations shall be performed  
18 upon installation and, at a minimum, annually thereafter. Flow meters shall be calibrated to within +/- 10% of actual  
19 flow, as measured under field conditions. Field calibrations shall be performed by an individual knowledgeable in  
20 flow measurement and in the installation/operation of the particular device in use. The results of annual field  
21 calibrations shall be submitted to the department annually in the monitoring report due by August 1. The flow meter  
22 calibration report shall include:

- 23 (1) The location and meter identification nomenclature identified by the department through a  
24 discharge permit.
- 25 (2) The method of flow meter calibration used.
- 26 (3) The measured accuracy of each flow meter prior to adjustment indicating the positive or negative  
27 offset as a percentage of actual flow as determined by an in-field calibration check.
- 28 (4) The measured accuracy of each flow meter following adjustment, if necessary, indicating the  
29 positive or negative offset as a percentage of actual flow of the meter.
- 30 (5) Any flow meter repairs made during the previous year or during calibration.

31 **D.** The monthly volume of wastewater discharged from all wastewater sources to the wastewater  
32 impoundment(s) shall be measured using a flow meter(s). Monthly meter readings including units of measurement,  
33 and average daily and monthly discharge volumes reported in gallons shall be submitted to the department in the  
34 quarterly or annual monitoring reports as required by the department through a discharge permit.

35 **E.** Stormwater samples shall be collected on a quarterly basis from each stormwater impoundment  
36 from which stormwater is transferred to the wastewater or combination wastewater/stormwater impoundment(s).  
37 The samples shall be collected as soon as possible after a storm event, prior to transferring to the wastewater

1 impoundment(s). The samples shall be analyzed for nitrate as nitrogen, total Kjeldahl nitrogen, chloride, sulfate and  
2 total dissolved solids, and other constituents that may be required by the department through a discharge permit, in  
3 accordance with the requirements of this section. Analytical results, or a statement that stormwater runoff did not  
4 occur, shall be submitted to the department in the quarterly or annual monitoring reports as required by the  
5 department through a discharge permit.

6  
7 **20.6.2.3220 ADDITIONAL MONITORING REQUIREMENTS FOR DAIRY FACILITIES**  
8 **DISCHARGING TO A LAND APPLICATION AREA:**

9 **A.** All wastewater discharges from the wastewater or combination wastewater/stormwater  
10 impoundment(s) to each field or sub-field within the land application area shall be measured using a flow meter(s)  
11 and recorded. A log shall be maintained indicating the date and location of each discharge, flow meter readings  
12 immediately prior to and after each discharge, and the calculated total volume of each discharge reported in gallons  
13 and acre-feet. A copy of the log entries including units of measurement shall be submitted to the department in the  
14 quarterly or annual monitoring reports as required by the department through a discharge permit.

15 **B.** All stormwater discharges from the stormwater impoundment(s) to each field or sub-field within  
16 the land application area shall be measured using a flow meter(s) and recorded. A log shall be maintained indicating  
17 the date and location of each discharge, flow meter readings immediately prior to and after each discharge, and the  
18 calculated total volume of each discharge reported in gallons and acre-feet. A copy of the log entries including units  
19 of measurement shall be submitted to the department in the quarterly or annual monitoring reports as required by the  
20 department through a discharge permit.

21 **C.** For facilities discharging wastewater from the impoundment(s) to the land application area using  
22 irrigation ditches; all ditches shall be concrete-lined. The ditch system shall be visually inspected on a monthly  
23 basis to ensure proper maintenance. Any damage to the lined ditches shall be repaired immediately. A log shall be  
24 kept on-site documenting the inspection findings and repairs made, and the log shall be made available to the  
25 department upon request.

26 **D.** Wastewater samples shall be collected between the manure solids separator(s) and wastewater  
27 impoundment(s) on a quarterly basis and analyzed for nitrate as nitrogen, total Kjeldahl nitrogen, chloride, sulfate  
28 and total dissolved solids, and other constituents that may be required by the department through a discharge permit,  
29 in accordance with the requirements Subsection B of 20.6.2.3219 NMAC. The wastewater location(s) shall be  
30 identified in the application for a new, renewed and modified discharge permit. Wastewater samples shall be  
31 collected after each separator associated with an individual parlor during active milking. Analytical results shall be  
32 submitted to the department in the quarterly or annual monitoring reports as required by the department through a  
33 discharge permit.

34 **E.** Stormwater samples shall be collected on a quarterly basis from each stormwater impoundment  
35 that discharges directly to the distribution system for the land application area. The samples shall be collected as  
36 soon as possible after a storm event, prior to discharging to the land application area. The samples shall be analyzed  
37 for nitrate as nitrogen, total Kjeldahl nitrogen, chloride, sulfate and total dissolved solids, and other constituents that

1 may be required by the department through a discharge permit, in accordance with the requirements of this section.  
2 Analytical results, or a statement that stormwater runoff did not occur, shall be submitted to the department in the  
3 quarterly or annual monitoring reports as required by the department through a discharge permit.

4 **F.** Irrigation wells used to supply fresh water to the fields or sub-fields within the land application  
5 area shall be monitored to account for additional potential nitrogen supplied to the land application area in the  
6 following manner:

7 (1) Each irrigation well shall be identified in association with the field(s) or sub-field(s) to which it  
8 supplies fresh water.

9 (2) An annual sample of irrigation water supplied from each well shall be collected and analyzed for  
10 nitrate as nitrogen and total Kjeldahl nitrogen, in accordance with the requirements Subsection B of 20.6.2.3219  
11 NMAC.

12 (3) The annual volume of irrigation water applied to each field or sub-field within the land  
13 application area shall be estimated for each well.

14 (4) Analytical results and the annual estimated volume of irrigation water applied from each well to  
15 each field or sub-field within the land application area shall be submitted to the department in the quarterly  
16 monitoring reports due by August 1 or annual monitoring reports as required by the department through a discharge  
17 permit.

18 **G.** The nitrogen content of the manure solids applied to each field or sub-field within the land  
19 application area shall be estimated at 25 pounds of nitrogen per ton. Should the permittee choose to use actual  
20 nitrogen content values of on-site manure solids, a composite sample shall be collected on an annual basis. The  
21 composite sample shall consist of a minimum of 30 sub-samples, thoroughly mixed. Manure samples shall be  
22 analyzed for total Kjeldahl nitrogen and moisture content. The analytical results shall be submitted to the  
23 department in the quarterly or annual monitoring reports as required by the department through a discharge permit.

24 **H.** Yield documentation and plant and harvest dates of each crop grown shall be submitted to the  
25 department in the quarterly or annual monitoring reports as required by the department through a discharge permit.  
26 Yield documentation shall consist of copies of scale-weight tickets or harvest summaries based on scale-weights.

27 **I.** The total nitrogen concentration of each harvested crop shall be determined to verify plant  
28 nitrogen removal levels. A composite sample consisting of 15 sub-samples of plant material shall be taken from  
29 each field or sub-field during the final harvest of each crop grown per year. Samples shall be analyzed for percent  
30 total nitrogen and percent dry matter. Analytical reports shall be submitted to the department in the quarterly or  
31 annual monitoring reports as required by the department through a discharge permit.

32 **J.** A nitrogen removal summary shall be submitted for each crop grown on each field or sub-field  
33 within the land application area utilizing crop yield and nitrogen concentration information collected in accordance  
34 with the requirements of this section. The summary shall be submitted to the department in the quarterly or annual  
35 monitoring reports as required by the department through a discharge permit.

36 **K.** For the first soil sampling event following the effective date of the discharge permit, soil samples  
37 shall be collected from each field or sub-field within the land application area. Composite soil samples shall be

1 collected between December 1 and May 31 for all fields or sub-fields regardless of whether the field or sub-field is  
2 cropped, remains fallow, or has received wastewater or stormwater. One surface composite soil sample (first-foot)  
3 and two sub-surface composite soil samples (second-foot and third-foot) shall be collected from each field or sub-  
4 field. Composite soil samples shall be collected and analyzed according to the following procedure:

5 (1) Each surface and sub-surface soil sample shall consist of a single composite of 15 soil cores  
6 collected randomly throughout each field or sub-field. If a field is divided into sub-fields (i.e., two separate crops on  
7 a single pivot), soil samples shall be collected from each sub-field. Should a field or sub-field consist of  
8 considerably different soil textures (i.e., sandy and silty clay); soil samples shall be collected from each soil texture  
9 within each field or sub-field;

10 (2) Surface soil samples (first-foot) shall be collected from a depth of 0 to 12 inches;

11 (3) Each second-foot sub-surface soil sample shall be collected from a depth of 12 to 24 inches;

12 (4) Each third-foot sub-surface soil sample shall be collected from a depth of 24 to 36 inches.

13 (5) Each surface and sub-surface composite sample shall be analyzed for pH, electrical conductivity,  
14 total Kjeldahl nitrogen, nitrate as nitrogen, chloride, organic matter, potassium, phosphorus, sodium, calcium,  
15 magnesium, sulfate, soil texture, and sodium adsorption ratio.

16 (6) pH, electrical conductivity, sodium, calcium, magnesium, and sulfate shall be analyzed using a  
17 saturated paste extract in accordance with the analytical methodology required by Subsection B of 20.6.2.3219  
18 NMAC. Phosphorus shall be analyzed using the Olsen sodium bicarbonate method in accordance with the analytical  
19 methodology required by Subsection B of 20.6.2.3219 NMAC. Nitrate as nitrogen shall be analyzed by a 2 molar  
20 KCl extract in accordance with the analytical methodology required by Subsection B of 20.6.2.3219 NMAC. Total  
21 Kjeldahl nitrogen, chloride, organic matter, potassium, soil texture, and sodium adsorption ratio shall be analyzed in  
22 accordance with the analytical methodology required by Subsection B of 20.6.2.3219 NMAC.

23 (7) The analytical results and a map showing the fields or sub-fields as well as the sampling locations  
24 within each field/sub-field shall be submitted to the department in the quarterly or annual monitoring reports as  
25 required by the department through a discharge permit.

26 **L.** Following the initial soil sampling required by this section, annual soil samples shall be collected  
27 from each field or sub-field within the land application area that has received or is actively receiving wastewater or  
28 stormwater. Composite soil samples shall be collected between December 1 and May 31. For those fields or sub-  
29 fields that have never before received wastewater, soil samples shall be collected immediately prior to initial  
30 wastewater application and annually thereafter. Once a field or sub-field has received wastewater it shall be  
31 sampled annually regardless of whether the field or sub-field is cropped, remains fallow, or has recently received  
32 wastewater or stormwater. One surface composite soil sample (first-foot) and two sub-surface composite soil  
33 samples (second-foot and third-foot) shall be collected from each field or sub-field. Composite soil samples shall be  
34 collected and analyzed according to the following procedure:

35 (1) Each surface and sub-surface soil sample shall consist of a single composite of 15 soil cores  
36 collected randomly throughout each field or sub-field. If a field is divided into different sub-fields (i.e., two separate  
37 crops on a single pivot), soil samples shall be collected from each sub-field. Should a field or sub-field consist of

1 considerably different soil textures (i.e., sandy and silty clay); soil samples shall be collected from each soil texture  
2 within each field or sub-field;

3 (2) Surface soil samples (first-foot) shall be collected from a depth of 0 to 12 inches;

4 (3) Each second-foot sub-surface soil sample shall be collected from a depth of 12 to 24 inches;

5 (4) Each third-foot sub-surface soil sample shall be collected from a depth of 24 to 36 inches;

6 (5) Surface soil samples shall be analyzed for pH, electrical conductivity, nitrate as nitrogen,  
7 chloride, organic matter, potassium, phosphorus, sodium, calcium, magnesium, and sodium adsorption ratio;

8 (6) Sub-surface soil samples shall be analyzed for electrical conductivity, nitrate as nitrogen, and  
9 chloride;

10 (7) pH, electrical conductivity, sodium, calcium, and magnesium shall be analyzed using a saturated  
11 paste extract in accordance with the analytical methodology required by Subsection B of 20.6.2.3219 NMAC.

12 Phosphorus shall be analyzed using the Olsen sodium bicarbonate method in accordance with the analytical  
13 methodology required by Subsection B of 20.6.2.3219 NMAC. Nitrate as nitrogen shall be analyzed by a 2 molar  
14 KCl extract in accordance with the analytical methodology required by Subsection B of 20.6.2.3219 NMAC.

15 Chloride, organic matter, potassium, and sodium adsorption ratio shall be analyzed in accordance with the analytical  
16 methodology required by Subsection B of 20.6.2.3219 NMAC.

17 (8) The analytical results and a map showing the fields or sub-fields as well as the sampling locations  
18 within each field/sub-field shall be submitted to the department in the quarterly or annual monitoring reports as  
19 required by the department through a discharge permit.

20 **M.** A log shall be maintained of all additional fertilizer(s) applied to each field or sub-field of the land  
21 application area. The log shall contain the date of fertilizer application, the type and fertilizer analysis, and the  
22 amount of fertilizer applied in pounds per acre to each field or sub-field. A copy of the log entries shall be  
23 submitted to the department in the quarterly or annual monitoring reports as required by the department through a  
24 discharge permit.

25 **N.** Land Application Data Sheets shall be completed for each field or sub-field within the land  
26 application area, which document the crop grown and amount of total nitrogen applied from wastewater,  
27 stormwater, manure solids, composted material, irrigation water and other additional fertilizer(s), along with residual  
28 soil nitrogen and nitrogen credits from leguminous crops. The Land Application Data Sheet or a statement that land  
29 application did not occur shall be submitted to the department in the quarterly or annual monitoring reports as  
30 required by the department through a discharge permit. The Land Application Data Sheet shall include, the  
31 following elements:

32 (1) The total monthly volume, reported in acre-feet, of wastewater and stormwater applied to each  
33 field or sub-field of the land application area. Total monthly volumes shall be obtained from flow meter readings of  
34 each discharge required in accordance with Subsections A and B of this section.

35 (2) The total nitrogen concentration of wastewater and stormwater obtained from the corresponding  
36 quarterly analyses collected in accordance with Subsections D and E of this section.

37 (3) The total monthly volume, reported in tons per acre, of manure solids applied to each field or sub-

1 field of the land application area.

2 (4) The total nitrogen content of the manure solids estimated at 25 pounds of nitrogen per ton or  
3 determined from analysis of manure solids samples collected in accordance with Subsection G of this section.

4 (5) The total nitrogen concentration within the irrigation water and the amount of irrigation water  
5 applied in accordance with Subsection F of this section.

6 (6) The amount of nitrogen reported in pounds per acre from additional fertilizer(s) applied, as  
7 required in accordance with Subsection M of this section.

8 (7) The amount of residual soil nitrogen and nitrogen from leguminous crops credited to each field or  
9 sub-field of the land application area, as required in accordance with Subsection N of this section.

10  
11 **20.6.2.3221 ADDITIONAL MONITORING REQUIREMENTS FOR DAIRY FACILITIES**

12 **DISCHARGING TO AN EVAPORATIVE WASTEWATER DISPOSAL SYSTEM:** A composite wastewater  
13 sample shall be collected on a quarterly basis from each wastewater or combination wastewater/stormwater  
14 impoundment used for disposal by evaporation. The composite sample from each impoundment shall consist of a  
15 minimum of six sub-samples collected around the entire perimeter of each impoundment and thoroughly mixed.  
16 Samples shall be analyzed for nitrate as nitrogen, total Kjeldahl nitrogen, chloride, sulfate and total dissolved solids,  
17 and other constituents that may be required by the department through a discharge permit, in accordance with the  
18 requirements of Subsection B of 20.6.2.3219 NMAC. Analytical results shall be submitted to the department in the  
19 quarterly or annual monitoring reports as required by the department through a discharge permit.

20  
21 **20.6.2.3222 CONTINGENCY REQUIREMENTS FOR ALL DAIRY FACILITIES**

22 **A.** In the event ground water monitoring indicates that one or more of the ground water standards of  
23 Section 20.6.2.3103 NMAC are violated, the following actions shall be taken:

24 (1) A second sample shall be collected in accordance with the requirements of Section 20.6.2.3218  
25 NMAC, from the monitoring well(s) within 30 days of the initial sample analysis date to verify the initial results.

26 (2) Analytical results shall be submitted for both the initial and second ground water samples to the  
27 department within 30 days of the analysis date of the second ground water sample.

28 (3) In the event analytical results of the second ground water sample verify the exceedance of one or  
29 more of the ground water standards of Section 20.6.2.3103 NMAC, within 60 days of the second sample analysis  
30 date a corrective action plan and an abatement plan shall be submitted to the department and implemented upon  
31 department approval.

32 (a) The corrective action plan shall propose source control measures and a schedule for  
33 implementation through completion.

34 (b) The abatement plan shall be completed in accordance with Sections 20.6.2.4000 through  
35 20.6.2.4115 NMAC.

36 **B.** In the event the analytical results of a second ground water sample collected from a monitoring  
37 well located adjacent to an impoundment verifies the exceedance of one or more standards of Section 20.6.2.3103

1 NMAC, the corrective action plan required by Subsection A of this section shall, at a minimum, propose the  
2 installation of a liner(s) in accordance with the requirements of Subsection B of 20.6.2.3212 NMAC. The corrective  
3 action plan shall also include construction plans and specifications required by Subsection A of 20.6.2.3212 NMAC  
4 and propose one or more of the following measures:

5 (1) Construction and lining of a new impoundment, which includes permanent closure of the existing  
6 impoundment in accordance with Section 20.6.2.3225 NMAC.

7 (2) Reconstruction of the existing impoundment and installation of a liner.

8 (3) Repair of the existing liner, in the event the existing impoundment liner was installed in  
9 accordance with the requirements of Subsection B of 20.6.2.3212 NMAC and repair is possible.

10 **C.** In the event that information available to the department indicates that a monitoring well(s)  
11 required by Section 20.6.2.3218 NMAC is not located hydrologically downgradient of the intended discharge  
12 location(s) or is not completed in accordance with the requirements of Section 20.6.2.3218 NMAC, a replacement  
13 monitoring well(s) shall be installed within 90 days of notification from the department and a survey of the  
14 replacement monitoring well(s) shall be performed within 120 days of notification from the department in  
15 accordance with the requirements of Section 20.6.2.3218 NMAC. The monitoring well(s) shall be completed in  
16 accordance with the requirements of Section 20.6.2.3218 NMAC. A monitoring well completion report shall be  
17 developed in accordance with Section 20.6.2.3218 NMAC and submitted to the department within 180 days of  
18 notification from the department.

19 **D.** In the event the average daily discharge volume reported as required by Subsection D of  
20 20.6.2.3219 NMAC exceeds the maximum daily discharge volume authorized by the discharge permit by more than  
21 ten percent for three or more monthly measurement events within a 12-month period, one of the following shall be  
22 completed within 60 days of the third exceedance:

23 (1) A corrective action plan for reducing the discharge volume shall be submitted for department  
24 approval and shall be implemented within 30 days of department approval; or

25 (2) An application for a modified or renewed and modified discharge permit shall be submitted to the  
26 department in accordance with Section 20.6.2.3205 NMAC.

27 **E.** In the event the survey or capacity calculations of an existing wastewater, stormwater, or  
28 combination wastewater/stormwater impoundment indicates that the impoundment is not capable of meeting the  
29 capacity requirements as required in Sections 20.6.2.3212, 20.6.2.3213, or 20.6.2.3214 NMAC, a corrective action  
30 plan shall be submitted for department approval within 30 days of submittal of the survey or capacity calculations  
31 and implemented upon department approval. The plan may include, but is not limited to, proposals for constructing  
32 an additional impoundment, reducing the maximum daily discharge volume, changing wastewater or stormwater  
33 management practices, or installing an advanced treatment system, and shall include a schedule for implementation  
34 through completion.

35 **F.** In the event that a minimum of two feet of freeboard cannot be preserved in the wastewater or  
36 combination wastewater/stormwater impoundment, a corrective action plan shall be submitted for department  
37 approval within 30 days of the date of the initial exceedance of the freeboard requirement and implemented upon

1 department approval. The plan may include, but is not limited to, proposals for constructing an additional  
2 impoundment, reducing the maximum daily discharge volume, changing wastewater or stormwater management  
3 practices, or installing an advanced treatment system, and shall include schedule for implementation through  
4 completion.

5 **G.** In the event that damage to the berms or the liner of an impoundment occurs or conditions exist  
6 that may comprise the structural integrity of the impoundment, the damage or condition shall be reported to the  
7 department within 24 hours of discovery. A corrective action plan describing any actions taken or proposed to be  
8 taken to repair the damage or condition shall be submitted to the department within 15 days of the reported  
9 discovery. Any proposed corrective action plan shall be implemented within 30 days of department approval. In the  
10 event that the corrective action plan is not satisfactory to the department, a revised corrective action plan shall be  
11 submitted to the department within 15 days of written notification from the department.

12 **H.** In the event of a spill or release that is not authorized under the discharge permit, notifications and  
13 corrective actions shall be initiated as required in Section 20.6.2.1203 NMAC. Wastewater or stormwater shall be  
14 contained, pumped and discharged to a permitted sump, impoundment, or land application area. Wastewater or  
15 stormwater applied to the land application area shall conform to the requirements of Sections 20.6.2.3216 and  
16 20.6.2.3220 NMAC. Failed components shall be repaired or replaced within 48 hours from the time of failure or as  
17 soon as possible.

18  
19 **20.6.2.3223 ADDITIONAL CONTINGENCY REQUIREMENTS FOR DAIRY FACILITIES**  
20 **DISCHARGING TO A LAND APPLICATION AREA:**

21 **A.** In the event that reporting indicates that nitrogen has been over-applied to a field(s) or sub-field(s)  
22 within the land application area, a corrective action plan, including a schedule for implementation through  
23 completion, shall be submitted for department approval within 30 days of the violation identified in the monitoring  
24 reports. Within 30 days of department approval the corrective action plan shall be initiated and completed in  
25 accordance with the approved schedule. The corrective action plan shall propose actions to reduce nitrogen loading  
26 to the land application area and perform deep soil nitrogen sampling in each field or sub-field of the land application  
27 area in accordance with the following procedure:

28 (1) Composite soil samples shall be collected at depths of two, four, six, eight, and 10 feet from three  
29 separate soil cores. Composite samples for each depth shall be assembled from the three cores.

30 (2) Composite soil samples shall be analyzed for nitrate as nitrogen and total Kjeldahl nitrogen.  
31 Nitrate as nitrogen shall be analyzed by a 2 molar KCl extract in accordance with the analytical methodology  
32 required by Subsection B of 20.6.2.3219 NMAC. Total Kjeldahl nitrogen shall be analyzed in accordance with the  
33 analytical methodology required by Subsection B of 20.6.2.3219 NMAC.

34 (3) The analytical results and a map showing sampling locations within the fields or sub-fields shall  
35 be submitted to the department in the quarterly or annual monitoring reports as required by the department through a  
36 discharge permit.

37 (4) In the event the department determines from deep soil sampling that nitrogen has been over-

1 applied to a field(s) or sub-field within the land application area, within 30 days of notification from the department  
2 deep soil nitrogen sampling shall continue on an annual basis thereafter until notified by the department that such  
3 sampling is no longer required.

4 **B.** Upon department review of analytical results from surface or sub-surface soil sampling, and  
5 determination that nitrogen may be migrating toward ground water, a corrective action plan shall be submitted to the  
6 department within 30 days of notification by the department. The corrective action plan shall address reduction of  
7 nitrogen concentrations in soil and include a schedule for implementation through completion. The plan shall also  
8 include source control measures, such as a reduction in the amount of wastewater, stormwater, manure solids or  
9 other nitrogen sources applied to the land application area, expansion of the land application area, changes in crop  
10 rotation or development of a new or revision of an existing nutrient management plan. Within 30 days of  
11 department approval the corrective action plan shall be initiated and completed in accordance with the approved  
12 schedule.

13  
14 **20.6.2.3224 ADDITIONAL CONTINGENCY REQUIREMENTS FOR DAIRY FACILITIES**

15 **DISCHARGING TO AN EVAPORATIVE WASTEWATER DISPOSAL SYSTEM:** In the event that a  
16 combination wastewater/stormwater impoundment used for disposal by evaporation does not have free capacity  
17 below the two-foot freeboard level to contain the volume of stormwater runoff and direct precipitation as specified  
18 by current EPA regulatory requirements for Concentrated Animal Feeding Operations in accordance with 40 Code of  
19 Federal Regulations, Parts 122 and 412, a corrective action plan shall be submitted for department approval within  
20 seven days of the date of discovery of insufficient free capacity and implemented upon department approval. The  
21 plan shall include, but is not limited to, a request for temporary permission to discharge to allow immediate removal  
22 and disposal of combined wastewater and stormwater, a proposal for long-term corrective actions which may  
23 include constructing an additional impoundment, reducing the maximum daily discharge volume, changing  
24 wastewater or stormwater management practices, or installing an advanced treatment system, and a schedule for  
25 implementation through completion of required actions.

26  
27 **20.6.2.3225 CLOSURE REQUIREMENTS FOR ALL DAIRY FACILITIES**

- 28 **A.** For permanent closure of a facility the following actions shall be performed:
- 29 (1) The department shall be notified no later than 30 days after discharge has permanently ceased.
  - 30 (2) Installation of all monitoring wells shall be completed in accordance with the requirements of  
31 Section 20.6.2.3218 NMAC.
  - 32 (3) All impoundments shall be emptied of wastewater and stormwater within six months of  
33 permanently ceasing discharge. Wastewater and stormwater removed from impoundments shall be discharged to the  
34 designated land application area, as authorized by the department through a discharge permit. In the event that land  
35 application is not authorized by the department through a discharge permit, a disposal plan shall be submitted for  
36 department approval and the plan implemented upon department approval.
  - 37 (4) Manure solids shall be removed from impoundments within two years of permanently ceasing

1 discharge. Manure solids shall be applied to the designated land application area, as authorized by the department  
2 through a discharge permit. In the event that land application is not authorized by the department through a  
3 discharge permit, a disposal plan shall be submitted for department approval and the plan implemented upon  
4 department approval.

5 (5) All manure solids and compost shall be removed from the facility and applied to the designated  
6 land application area, as authorized by the department through a discharge permit, or transferred off-site for proper  
7 disposal within one year of permanently ceasing discharge.

8 (6) Impoundment liner(s) shall be perforated or removed and the impoundment shall be re-graded  
9 with clean fill to blend with surface topography to prevent ponding within one year of permanently ceasing  
10 discharge.

11 **B.** Following completion and confirmation by the department of the requirements of Subsection A of  
12 this section, ground water monitoring shall continue in accordance with Section 20.6.2.3218 NMAC until a  
13 minimum of eight consecutive ground water sampling events confirm that the standards of Section 20.6.2.3103  
14 NMAC are not exceeded. If monitoring results show that one or more of the standards of Section 20.6.2.3103  
15 NMAC is exceeded, the contingency plan shall be implemented as required by Section 20.6.2.3222 NMAC. Upon  
16 notification from the department that post-closure ground water monitoring may cease, all monitoring wells shall be  
17 abandoned and a report shall be submitted to the department in accordance with Subsection C of this section.

18 **C.** Upon notification from the department, monitoring wells shall be abandoned in accordance with  
19 Part 19.27.4 NMAC and the following requirements:

20 (1) The well casing shall be removed and bentonite-cement grout, neat cement grout, or bentonite  
21 grout, prepared as specified in this section, shall be placed from the bottom of the borehole to the ground surface  
22 using a tremmie pipe.

23 (2) In the event the casing cannot be removed, bentonite-cement grout, neat cement grout, or  
24 bentonite grout shall be emplaced in the well using a tremmie pipe from the bottom of the well to the ground  
25 surface.

26 (3) A well abandonment report shall be prepared by the permittee and shall provide information  
27 equivalent to the plugging record requirements of Part 19.27.4 NMAC. The well abandonment report shall be  
28 submitted to the department within 60 days of completion of well plugging activities.

29  
30 **20.6.2.3226 ADDITIONAL CLOSURE REQUIREMENTS FOR DAIRY FACILITIES DISCHARGING**  
31 **TO A LAND APPLICATION AREA: [RESERVED]**

32  
33 **20.6.2.3227 ADDITIONAL CLOSURE REQUIREMENTS FOR DAIRY FACILITIES DISCHARGING**  
34 **TO AN EVAPORATIVE WASTEWATER DISPOSAL SYSTEM: [RESERVED]**

35  
36 **20.6.2.3228 RECORD RETENTION REQUIREMENTS FOR ALL DAIRY FACILITIES**

37 **A.** A written record shall be retained at the facility of all data and information related to field

1 measurements, sampling, and analysis conducted pursuant to this part and the discharge permit. The following  
2 information shall be recorded and shall be made available to the department upon request:

- 3 (1) The dates, exact place and times of sampling or field measurements;
- 4 (2) The name and job title of the individuals who performed each sample collection or field  
5 measurement;
- 6 (3) The date of the analysis of each sample;
- 7 (4) The name and address of the laboratory and the name and job title of the person that performed  
8 the analysis of each sample;
- 9 (5) The analytical technique or method used to analyze each sample or take each field measurement;
- 10 (6) The results of each analysis or field measurement, including raw data;
- 11 (7) The results of any split, spiked, duplicate or repeat sample; and
- 12 (8) A description of the quality assurance and quality control procedures used.

13 **B.** A written record shall be retained at the facility of any spills, seeps, or leaks of effluent, and of  
14 leachate or process fluids not authorized by the discharge permit. Records shall be made available to the department  
15 upon request.

16 **C.** A written record shall be retained at the facility of the operation, maintenance, and repair of all  
17 facilities/equipment used to treat, store or dispose of wastewater, measure flow rates, monitor water quality, or  
18 collect other data required by the department. Records shall include repair, replacement or calibration of any  
19 monitoring equipment and repair or replacement of any equipment used in the waste or wastewater treatment and  
20 disposal system. Records shall be made available to the department upon request.

21 **D.** Records of all monitoring information shall be retained at the facility, including all calibration and  
22 maintenance records, copies of all reports required by the department, and the application for the discharge permit.  
23 Records shall be retained for a period of at least 10 years from the date of the sample collection, measurement,  
24 report or application.

25  
26 **20.6.2.3229 CONTINUING EFFECT OF PRIOR ACTIONS DURING TRANSITION; EXCEPTIONS**

27 **A.** A discharge permit issued pursuant to Section 20.6.2.3109 NMAC that has not expired on or  
28 before the effective date of Sections 20.6.2.3200 through 20.6.2.3230 NMAC shall remain in effect and enforceable  
29 pursuant to the terms and conditions of the discharge permit.

30 **B.** Sections 20.6.2.3204, 20.6.2.3211 through 20.6.2.3228, and 20.6.2.3230 NMAC shall apply to any  
31 discharge permit issued after the effective date of Sections 20.6.2.3200 through 20.6.2.3230. An application for a  
32 new, renewed or modified discharge permit submitted to the department prior to the effective date of Sections  
33 20.6.2.3200 to 20.6.2.3230 NMAC, shall be accepted by the department if the application has been deemed  
34 administratively complete and the requirements of Subsections D and F of 20.6.2.3108 NMAC have been satisfied.  
35 The permittee shall have ninety days from the date of the discharge permit issuance to submit all the necessary  
36 information to comply with Sections 20.6.2.3211 through 20.6.2.3228 NMAC, as specified in Section 20.6.2.3205  
37 NMAC. Any timelines specified in Sections 20.6.2.3211 through 20.6.2.3228 NMAC shall be extended by ninety

1 days.

2 C. Any facility discharging, capable of recommencing discharging, or that has ceased discharging  
3 within the term of its most recent discharge permit shall continue all monitoring and submittal of monitoring reports  
4 as prescribed in the most recent discharge permit until the department issues a renewed or renewed and modified  
5 discharge permit.

6 D. Any draft discharge permit issued by the department pursuant to Section 20.6.2.3109 NMAC but  
7 not made final prior to the effective date of Sections 20.6.2.3200 to 20.6.2.3230 NMAC is withdrawn. Any permit  
8 fee submitted prior to the department’s withdrawal of a draft discharge permit shall be applied towards the assessed  
9 permit fee for the initial permit developed under these regulations.

10

11 **20.6.2.3230 TRANSFER OF DAIRY DISCHARGE PERMITS**

12 A. Transfer of discharge permits for dairy facilities shall be made in accordance with the  
13 requirements of Subsections A, B, and E of 20.6.2.3111 NMAC and this section. Subsections C and D of  
14 20.6.2.3111 NMAC shall not apply to the transfer of discharge permits for dairy facilities.

15 B. The permittee shall request, in writing, department approval to transfer a discharge permit for a  
16 dairy facility to another person. The permittee shall be responsible for all requirements of the discharge permit until  
17 transfer of the discharge permit is approved by the department. Transfer of a discharge permit for a dairy facility  
18 shall become effective upon issuance of written approval by the department.

19 C. The department shall not approve transfer of a discharge permit for a dairy facility unless all of the  
20 following requirements, if applicable, are met:

21 (1) Construction or improvement of an impoundment(s) has been completed and a Construction  
22 Certification Report record drawings, final specifications and final capacity calculations have been received by the  
23 department in accordance with Section 20.6.2.3215 NMAC. If the deadline for construction or improvement of an  
24 impoundment(s) has not passed, performance of such activities shall be completed by the transferee.

25 (2) Construction of a manure solids separator(s) has been completed and required documentation has  
26 been received by the department in accordance with Section 20.6.2.3215 NMAC. If the deadline for construction of  
27 a manure solids separator has not passed, performance of such activities shall be completed by the transferee.

28 (3) Installation of flow meters has been completed and required documentation has been received by  
29 the department in accordance with Section 20.6.2.3215 NMAC. If the deadline for installation of flow meters has  
30 not passed, performance of such activities shall be completed by the transferee.

31 (4) Installation of backflow prevention has been completed and required documentation has been  
32 received by the department in accordance with Section 20.6.2.3216 NMAC. If the deadline for installation of  
33 backflow prevention has not passed, performance of such activities shall be completed by the transferee.

34 (5) Installation, construction, and identification of monitoring wells have been completed and  
35 required documentation has been received by the department in accordance with Section 20.6.2.3218 NMAC. If the  
36 deadlines for installation, construction, and identification of monitoring wells have not passed, performance of such  
37 activities shall be completed by the transferee.

1           (6) All required monitoring reports have been received by the department. If the monitoring  
2 information as required by Sections 20.6.2.3218, 20.6.2.3219, 20.6.2.3220 and 20.6.2.3221 NMAC was not  
3 collected for past due monitoring reports, the permittee shall state the reasons for the failure to collect required  
4 monitoring information for each report.

5           **D.** The department shall not approve transfer of a discharge permit for a dairy facility to another  
6 person if one or more of the circumstances regarding denial of an application for a discharge permit identified in  
7 Section 74-6-5, NMSA 1978 apply to the person seeking to receive transfer of the discharge permit.

draft