CHAPTER 20

PERMITTING, DESIGN AND OPERATION STANDARDS CONFINED SWINE FEEDING OPERATIONS

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PART A. INTRODUCTION AND GENERAL REQUIREMENTS

Section 1. Authority. This regulation is promulgated pursuant to the Wyoming Environmental Quality Act, W.S. 35-11-101 through W.S. 35-11-1207, specifically, W.S. 35-11-301 (a)(iii) and W.S. 35-11-302 (a)(ix).

Section 2. Severability. If any section or provision of this regulation, or the application of that section or provision to any person, situation, or circumstance is adjudged invalid for any reason, the adjudication does not affect any other section or provision of these regulations or the application of the adjudicated section or provision to any other person, situation, or circumstance. The Environmental Quality Council declares that it would have adopted the valid portions and application of this regulation without the invalid part, and to this end the provisions of this regulation are declared to be severable.

Section 3. Definitions. The following definitions supplement those definitions contained in Section 35-11-103 of the Wyoming Environmental Quality Act.

(a) "Adjacent" means two (2) or more housed facilities separated at their closest points by distances not greater than one (1) mile.

(b) "Agronomic rate" means the annual total nutrient application rate designed:

(i) To provide the amount of the limiting constituent needed by the food crop, feed crop, fiber crop, cover crop, or vegetation grown on the land; and

(ii) To minimize the amount of the limiting constituent that runs off to surface waters or passes through the root zone of the crop or vegetation grown on the land to the groundwater.

(c) "Animal unit" means a unit of measurement for any feeding operation relating to the number of swine. Two and one-half (2 ½) swine constitute one (1) animal unit.

(d) "Animal waste" means animal excreta or other commonly associated wastes of animal husbandry including, but not limited to, bedding, litter, or feed losses. Dead animals are not considered animal waste.

(e) "Application" means all the information submitted to obtain a permit to construct and operate a confined swine feeding operation. The application includes the completed "application for confined swine feeding permit" form and the accompanying management plan.

(f) "Best available technology" or "BAT" means that technology and practice that has been tested, proven, and practiced at a number of locations and offers the best performance and protection for the environment and public health and safety for the local site conditions.

(g) "BMP" means best management practice, as defined by Chapter 1, Wyoming Water Quality Division Rules and Regulations.

(h) "Closed facility" and "closure" mean a confined swine feeding operation at which operations have been properly terminated and the site restored to the conditions specified by these regulations and the closure plan as approved as part of the current permit allowing operation of the confined swine feeding operation.

(i) "Common ownership" means the ownership of a confined swine feeding operation as a sole proprietor, or a major ownership interest held by a person or entity, in each of two (2) or more feeding operations as a joint tenant, tenant in common, shareholder, partner, member, beneficiary, limited liability company or other equity interest holder. The majority ownership interest is a common ownership interest when it is held directly or indirectly through a partnership, a corporation, a closely held corporation, a limited liability corporation or partnership, parent or affiliate corporation, a spouse, a dependent child, or other legal entity or any combination thereof.

(j) "Complete application" means an application for a permit and a management plan that has all the necessary components. The major elements of each component as identified by this regulation must be present for the application to be complete. A complete application may or may not be technically adequate.

(k) "Confined swine feeding operation" means an operational unit where swine are confined, fed, and maintained for a total of 45 consecutive days or more in any twelve (12) month period and the operational unit is designed to confine an equivalent of 1,000 or more animal units.

(l) "Corrective action" means all actions necessary to eliminate the threat to public health and safety and the threat to the environment from a release to the environment of pollutants from an operating or closed confined swine feeding operation and to restore the environmental conditions as required.

(m) "Dilute liquid wastes" means those liquid wastes resulting from confined swine feeding operations utilizing a minimum fresh water flushing flow of four (4) gallons/hour/1000 lbs of animal weight on site.

(n) "Division" means the Wyoming Department of Environmental Quality/Water Quality Division.

(o) "Direct human consumption crops" means crops consumed directly by humans. These include but are not limited to fruits, vegetables, and grains grown for human consumption.

(p) "Housed facility" means any structure that is used to enclose, contain, or shelter swine and to treat or store wastes originating from the operation. This includes feed pens and confinement areas that may not be sheltered by a roof, but contain manure or animal waste.

(q) "Indirect human consumption crops" means crops utilized by grazing animals.

(r) "Lagoon" means a manmade or natural basin that is intended for containment, treatment or disposal of animal wastes and wastewater.

(s) "Land application" means the beneficial use of animal waste products by the spraying or spreading of animal wastes onto the land surface; the injection of animal waste below the land surface; or the incorporation of animal waste into the soil so that the animal waste can either condition the soil or fertilize crops or vegetation grown on the soil.

(t) "Liquid wastes" means animal wastes with a solids content of five (5) percent or less by weight. These animal wastes are generally produced when feces and urine are diluted by wash water or flushing water.

(u) "Management plan" means a comprehensive plan for managing the animal wastes from a confined swine feeding operation. The management plan is a mandatory part of the application for a permit. It includes the following:

(i) Construction plan;

(ii) Operation plan;

(iii) Animal waste management plan; and

(iv) Financial assurance, closure and corrective action plan.

(v) "Manure" means animal excreta or other commonly associated animal wastes of animal husbandry including, but not limited to, bedding, litter, or feed losses.

(w) "Manure slurries" means animal wastes with a solids content of five (5) to ten (10) percent by weight that are primarily feces and urine, and when agitated, behave as a liquid. Manure with a solids content greater than ten (10) percent by weight that does not pass the paint filter test shall be managed as a manure slurry.

(x) "Manure storage facility" means any structure, storage basin, bunker, pad, etc., other than a lagoon utilized to store animal waste.

(y) "Monitoring" means all procedures and techniques used to systematically collect, analyze, and inspect data on operational parameters of the confined swine feeding operation or on the quality of the air, groundwater, surface water and soil.

(z) "Notice of Intent" is the notice provided to the ~~d~~Division, local governments, and

the public by a potential applicant for a permit that the construction and operation of a confined swine feeding operation at a specific site is being considered.

(aa) "Occupied dwelling" means a permanent building or fixed mobile home that is occupied on a permanent or temporary basis as a residence.

(bb) "Operational unit" means all adjacent common ownership housed facilities or housed facilities on noncontiguous, common ownership lands that utilize a common area or system for the storage, treatment, or disposal of animal wastes.

(cc) "Operator" means those legal entities or persons who control activities associated with the housed facilities that are part of a confined swine feeding operation as set forth in these regulations.

(dd) "Owner" means those legal entities or persons in whose name the deed for the land occupied by the housed facility is recorded. Owner also includes any legal entity or person with a general interest in any real property that is part of the housed facility.

(ee) "Pathogen" means a disease causing organism. This includes, but is not limited to, certain bacteria, protozoa, viruses, cysts, and viable helminth ova.

(ff) "Permit" means written authorization duly executed by the ~~d~~Director ~~which~~ that authorizes the permittee to construct or operate a confined swine feeding operation as set forth in these regulations.

(gg) "Permittee" means all owners and operators bound by the permit.

(hh) "Public hearing" means a non-adversarial meeting held by the ~~a~~Administrator or the ~~d~~Director. The meeting shall be conducted pursuant to Chapter 3 of the Wyoming Department of Environmental Quality Rules of Practice and Procedure.

(ii) "Release" means, but is not limited to, any spilling, leaking, pumping, pouring, emptying, emitting, discharging, dumping, escaping, leaching, or unauthorized disposal of any animal waste product, organic or non-organic, from a confined swine feeding operation ~~which~~ that may result in the pollution of groundwater, surface water, soils, or air.

(jj) "Relinquished facility" means a facility for which the permittee is not capable or willing to complete closure in compliance with the permit.

(kk) "Sludge" means the accumulated solids settled from a wastewater treatment facility.

(ll) "Slurry" means a mixture of liquids and undissolved solids that behaves primarily as a liquid.

(mm) "Soil" means all unconsolidated material overlaying bedrock.

(nn) "Solid manure" means animal wastes with a solids content greater than ten percent (10%) by weight produced by separating liquid and solid wastes. Solid manure must pass the paint filter test, as defined by Method 9095A from EPA Test Methods For Evaluating Solid Waste.

(oo) "Swine" means butcher or breeding pigs that are over 55 pounds weight. For purposes of determining animal units, three (3) pigs each weighing less than 55 pounds that have been weaned from the sow shall be counted as one (1) swine.

(pp) "Technically adequate" means that the information presented in an application for a permit is scientifically sound, meets all requirements of the regulations and is sufficient to allow the ~~a~~Administrator to determine whether to approve or disapprove the proposed permit.

(qq) "Treatment facility" means an animal waste receiving facility designed to digest or alter the animal waste either mechanically or biologically.

(rr) "Vector" means a carrier that is capable of transmitting a pathogen from one organism to another including, but not limited to, flies, other insects, rodents, birds, and vermin.

(ss) "Waste collection system" means a system, including pipelines, conduits, pumping stations, force mains, and all other construction, devices, appurtenances, and facilities used for collecting animal wastes or conducting animal wastes to an ultimate point for treatment or disposal. The waste collection system is considered to start at the end of or immediately beneath the feeding floor. The collection system shall include all piping, channels, and appurtenances that transfer the animal waste and flush water from the feeding floor to the animal waste treatment or storage facility.

(tt) "Waste storage facilities" are structures or other receptacles that store animal waste for periods of fourteen (14) days or more. Animal waste receiving facilities not designed specifically to alter the animal waste either mechanically or biologically shall be considered storage facilities. Some decomposition of animal waste may occur during extended periods of storage.

Section 4. Purpose. This regulation sets forth the requirements and process for applying for and obtaining a permit for a confined swine feeding operation.

Section 5. Applicability.

(a) These regulations shall apply to all confined swine feeding operations that file a permit application after February 28, 1997.

(b) These regulations shall apply to confined swine feeding operations that filed a permit application before February 28, 1997 if there is an increase in animal unit capacity above permitted levels.

(c) These regulations shall apply to all confined swine feeding operation animal

waste produced by operations permitted under this regulation.

(d) These regulations shall apply to any housed facilities that can be considered an operational unit due to common ownership and collectively meet the criteria of a confined swine feeding operation.

(e) Modifications of facilities, exempted from the provisions of these regulations, ~~which~~ that do not result in an increase in animal unit capacity above permitted levels, shall be regulated by the provisions of Chapters 3 and 11 of the Water Quality Division Rules and Regulations.

(f) These regulations supersede Chapter 3, except for Section ~~15~~ 17, and Chapter 11 for confined swine feeding operations.

Section 6. Prohibitions.

(a) No person shall construct or operate a confined swine feeding operation prior to receiving a permit in accordance with these regulations.

(b) No person shall construct, modify, or operate any confined swine feeding operation unless authorized and in compliance with a permit.

(c) No person shall construct, modify, or operate a confined swine feeding operation with a permit that has expired or has been suspended or revoked.

(d) No person shall construct, modify, or operate any confined swine feeding operation without complying with all financial assurance requirements of these regulations.

(e) No person shall discharge animal waste to the ~~s~~Surface ~~w~~Waters of the ~~s~~State.

Section 7. Requirements for an Application for a Permit. The following procedures shall be used when applying for a permit:

(a) Any person who proposes to construct, modify, or operate a confined swine feeding operation shall submit a written application for a permit on forms provided by the ~~a~~Administrator.

(b) The application for a permit shall be accompanied by a management plan. A complete management plan shall have the following components:

(i) Construction plan;

(ii) Operation plan;

(iii) Animal waste management plan; and

(iv) Financial assurance, closure, post closure, and corrective action plan.

(c) The application for approval of a permit or for modification of an approved permit must be accompanied by three (3) copies of plans, specifications, design data, or other pertinent information covering the project and any additional information requested by the ~~a~~Administrator.

(d) In instances where a groundwater monitoring program is required as determined by the ~~a~~Administrator, the application shall also include a proposed monitoring program to satisfy the requirements of Section ~~15~~ 17, Chapter 3, Wyoming Water Quality Division Rules and Regulations.

(e) All construction plans and specifications submitted shall carry the seal and signature of the designing engineer in accordance with W.S. 33-29-114 through 33-29-139.

(f) All plans and specifications must conform to common and accepted professional practices as determined by the ~~a~~Administrator or as defined by applicable division regulations.

(g) The application form shall be signed by all owners and operators that have a participation in the confined swine feeding operation. The persons signing the permit shall be:

(i) For a sole proprietorship or family farm, the proprietor or the farmer.

(ii) For a corporation, limited liability company, or other form of legal entity, an individual having responsibility for the overall operation of the regulated facility and the authority to encumber the entity.

(iii) For a partnership, a general partner.

(h) One permit shall be issued listing all applicants of record. Each owner or operator signatory to the permit shall be jointly and severely liable for compliance with all terms of the permit.

Section 8. Construction Plan Content.

(a) An engineering design report that describes existing conditions, problems, and the proposed solution is required as part of the management plan. The engineering design report shall include:

(i) A description of the confined swine feeding operation site and vicinity. A site plan prepared on a 7 ½' USGS Quadrangle or a high color reproduction shall be included. Everything within two (2) miles of the site perimeter shall be shown. This plan shall indicate the location of occupied dwellings, public or private schools, incorporated municipalities, domestic water wells, wetlands, and perennial streams within the setback distances specific in W.S. 35-11-302 (a)(ix)(C) and Sections 24 and 25 of these regulations.

(ii) A detailed description of the project and site plan, including:

(A) Present and projected confined swine feeding operation property.

(B) Flood vulnerability.

(I) Indicate areas subject to flooding by a 100-year event.

(II) Indicate areas subject to flooding by the maximum probable flood event.

(C) Present and proposed access.

(D) Distances from occupied dwellings.

(E) Prevailing wind direction.

(F) Proposed fencing and any other site security measures.

(G) Topographic features and contours with indicated datum. The datum must be a standard datum recognized by the U.S. Geological Survey.

(H) Two (2) permanent benchmarks within one (1) mile of the facility tied to the reference datum.

(I) A geologic report signed and sealed by a licensed professional geologist in accordance with W.S. 33-41-101 through 33-41-121 that includes:

(I) A stratigraphic column that illustrates the thickness and geologic names of alluvial materials and geologic formations that comprise the unsaturated, or vadose, zone.

(II) A description of the lithology and hydraulic conductivity of materials and geologic formations comprising the unsaturated zone, the first encountered groundwater section, and the uppermost aquifer underlying the proposed facility.

(III) A potentiometric map of the uppermost water table that illustrates the locations and use of all wells within one (1) mile of the proposed facility, clearly identifying those wells producing in whole, or in part, from the uppermost aquifer. Include project borings or wells.

(IV) A description of the uppermost aquifer in terms of its confinement or unconfinement, type and amount of porosity.

(J) Baseline surface water quality: Baseline water quality shall be established for all surface waters within two (2) miles of the facility. Where adequate water

quality records are not available, four (4) quarterly samples shall be performed. All quarterly sampling need not be completed when the permit application is submitted.

(K) Baseline groundwater quality: Baseline groundwater quality shall be established for any unconfined aquifer and any other Class I, II, or III aquifers being produced within two (2) miles of the facility. All wells owned or developed by the common ownership controlling the facility shall be sampled and tested one (1) time for the parameters listed in Table 1 of Chapter 8 of the Water Quality Division Regulations. The permit applicant shall make all reasonable efforts within the applicant's control to obtain water samples from private wells as necessary to test all aquifers.

(iii) Design conditions, including:

(A) Initial or existing and proposed animal capacity, expressed as number of head and as live animal weight.

(B) Initial or existing and projected waste generation rates and generation rate variations.

(C) Shock loads, with cause and frequency.

(D) Initial or existing and projected waste characteristics.

(E) Projected treated waste characteristics.

(F) Climate conditions at the confined swine feeding operation site.

(G) Existing or proposed water supply.

(H) Odor control requirements.

(I) Dust control requirements.

(J) Pathogen control requirements.

(K) Vector control requirements.

(iv) A demonstration that groundwater quality class of use as identified in Chapter 8, Wyoming Water Quality Rules and Regulations shall be protected in accordance with Chapter 3, Section ~~15~~ 17, Wyoming Water Quality Division Rules and Regulations.

(v) Specific requirements of any applicable approved water quality management, source water or well head protection plan.

(vi) Design calculations for animal waste collection systems.

(vii) Design calculations for animal waste storage and animal waste treatment

facilities.

(b) Detailed plans shall be prepared and submitted.

(i) All plans shall have a suitable title block and legend that includes:

(A) Name of permittee and location of project.

(B) The revision date and number.

(C) North arrow and graphical drawing scale.

(D) Name, seal, and signature of the engineer. The engineer must have a current registration in the State of Wyoming.

(ii) All plans shall be tied to the reference datum used for the project.

(iii) All drawings shall be scaled and dimensioned.

(iv) The first page of each plan set shall be a cover sheet with an index to the plans. The second page shall be the site plan referred to in Section 8 (a)(ii).

(v) Detailed plans of the animal waste collection systems shall include:

(A) Site location and layout, including existing and proposed buildings and facilities.

(B) Locations and dimensions of animal waste collection systems, including those in and under buildings. Constructed pits and flushing gutters shall be shown. All animal waste transmission lines (sewers) and appurtenances shall be shown.

(C) Detailed cross sections and profiles. The location of all cross sections and profiles shall be identified on the plan views.

(D) Schematic flow diagrams and hydraulic profiles.

(vi) Detailed plans of the animal waste storage and animal waste treatment facilities shall include:

(A) Detailed cross sections. The location of all cross sections should be identified on the plan views.

(B) Construction details. Special emphasis shall be given to primary and secondary containment features. All mechanical and electrical devices and lines associated with animal waste management shall be shown.

(C) Additional features affecting animal waste management not otherwise shown on the drawings or covered in the specifications.

(c) The specifications accompanying the construction drawings shall include the following information for all construction related to animal waste management:

(i) Identification of required performance characteristics of all construction materials.

(ii) The type, size, strength, operating characteristics, rating or requirements for all mechanical and electrical equipment; laboratory fixtures and equipment; operating tools; special appurtenances; and chemicals where applicable.

(iii) Construction and installation procedures.

(iv) Testing requirements to ~~assure~~ ensure materials and equipment meet design standards.

Section 9. Operation Plan Content. An operation plan is required for each new or modified confined swine feeding operations. The plan shall be finalized and approved prior to the approval of the permit. The plan shall include a description of the operation of the following as necessary for the proper management of animal waste facilities:

(a) Feeding and production facilities.

(b) Animal waste collection systems.

(c) Animal waste storage facilities.

(d) Animal waste and wastewater application systems.

(e) Description of emergency operation and response actions.

(f) Sampling, analysis and reporting requirements appropriate for the operation.

(g) Disposal of other wastes:

(i) Non-manure solid wastes incidental to the operation.

(ii) Dead animals.

(h) Operation and maintenance manual.

Section 10. Animal Waste Management Plan Content. The animal waste management plan shall address the following, if applicable:

(a) The amount of animal waste to be generated at the facility and a description of storage methods.

(b) The estimated time period that animal waste must be stored before land application.

(c) The total amount of the controlling constituents produced by the operation

(d) The controlling constituents requirements or uptake values for the vegetation or crops to receive the animal waste.

(e) The acreage to receive the animal waste except when solid wastes are sold or given away.

(f) A description of the animal waste conveyance or transportation method to get the animal waste to the land application sites.

(g) A demonstration that adequate and suitable land is available upon which to land apply the animal waste in accordance with the requirements of these regulations.

(h) The estimated application rate in terms of tons of animal waste and controlling constituents per acre, including:

(i) A description of animal waste and soil sampling and analysis procedures to determine application rates.

(ii) A description of record keeping systems for location, dates and rates of animal waste application, and for animal waste and soil testing results.

(i) The planned method and time of application.

(j) Written agreements with landowners for land application must be included in the plan, if animal waste is to be applied on property not owned by the permittee.

(i) Agreements with landowners for land application shall allow the ~~d~~Division to assume the agreement in the event that a facility is relinquished.

(ii) Agreements with landowners for land application must provide right of entry for the ~~d~~Division for the life of the agreement to monitor for compliance with the permit.

(k) Procedures and methods to control odors from animal confinement areas, lagoons, animal waste storage facilities, and land application sites.

(l) Procedures and methods to control vectors associated with confined swine feeding operations.

(m) If the animal waste is to be utilized for uses other than land application, the animal waste management plan must demonstrate that the protection of ~~w~~Waters of the ~~s~~State, public health and safety, and the environment is equal to or greater than that provided by land application conducted in accordance with these regulations.

Section 11. Financial Assurance Plan Content. The financial assurance plan shall be consistent with Parts E and F of these regulations and shall contain the following:

(a) A relinquished site closure plan and an estimate of associated costs in accordance with Sections 44 and 47 of these regulations.

(b) A calculation of the corrective action contingency bond amount prepared in accordance with Section 48.

(c) The financial assurance instruments shall be in amounts determined by the ~~a~~Administrator to be adequate to carry out the activities contained in the relinquished site closure plan plus the corrective action contingency bond amount plus solid waste transfer, treatment, storage or disposal bond amounts as required by Section 21. The entire amount of financial assurance provided shall be available to remedy any violation of this regulation or any other violations of the Environmental Quality Act associated with the confined swine feeding operation permitted by this regulation.

(d) Provision for annual review and updating of the financial assurance instruments.

Section 12. Application Processing Procedures.

(a) Each application for a confined swine feeding operation permit must be submitted with all supporting data necessary for review. Processing of the application shall be in accordance with the provisions of applicable statutes of the ~~s~~State and regulations of the ~~d~~Division.

(b) The ~~a~~Administrator or a designated representative shall review each application and resubmittal within thirty (30) days of receipt in order to determine if it is complete. This completeness review shall determine if all of the components of a management plan, as defined in these regulations, are addressed in the application. All items not specified as incomplete shall be deemed to be complete.

(c) If an application is determined to be incomplete, the necessary information to complete the application shall be requested by the ~~a~~Administrator or his designated representative.

(d) Upon determination than an application is complete, the applicant shall be directed to provide public notice according to Section 13 (b) of these regulations. The public notice of a complete application is intended to allow the public the opportunity to provide comment during the technical review of the proposed permit.

(e) Permit applications determined to be complete shall be reviewed for technical adequacy in the following manner:

(i) A technical review shall be completed by the ~~d~~Division within sixty (60) days of the determination that the application is complete.

(ii) Additional information may be requested by the ~~a~~Administrator or his designated representative to satisfy the technical review and demonstrate that the proposed confined swine feeding operation shall meet the requirements of these regulations.

(iii) Review of additional information submitted shall be completed by the ~~d~~Division within sixty (60) days of receipt. If the information submitted is still inadequate to allow the Administrator and Director to make a decision to deny or approve the application, more information may be requested of the applicant subject to the procedures outlined in this sub-section. All items not specified as technically inadequate shall be deemed to be adequate for purposes of this subsection.

(f) The applicant shall have a maximum of six (6) months to fully comply with any request for necessary or additional information under this subsection.

(i) If the applicant fails to completely satisfy the request for information within eight (8) months of the determination that the application is complete, the permit application shall be terminated.

(ii) The Notice of Intent referred to in Section 13 (a) shall be automatically revoked by the termination of the application.

(iii) The ~~d~~Director has the discretion for good cause to extend the time period to satisfy the request for information beyond eight (8) months from the determination that the application was complete.

Section 13. Notice of Intent, Public Participation, Public Notice, and Public Hearing Requirements.

(a) A prospective applicant for a confined swine feeding operation permit must file a Notice of Intent with the ~~d~~Division. A Notice of Intent is filed for the purpose of establishing a date to fix setback requirements in accordance with Section 24 of these regulations and to keep the public fully informed. The official date of the notification of intent shall be the date that it is received by the ~~d~~Division.

(i) The party filing the Notice of Intent shall have a maximum of twelve (12) months from the filing date to submit a completed permit application.

(ii) If a completed permit application has not been submitted within twelve (12) months, the Notice of Intent shall expire.

(iii) The Notice of Intent shall be filed upon forms provided by the ~~d~~Division and shall include the following information:

(A) Identification of the submitting party.

(B) Size and type of proposed confined swine feeding operation.

(C) Legal description of the proposed housed facility.

(D) A list of all property owners of record within one (1) mile of the perimeter of the proposed housed facility.

(E) The signature of a responsible official for the submitting party and the date.

(iv) The prospective applicant shall:

(A) Send a copy of the Notice of Intent to all property owners within the one (1) mile perimeter by certified mail, return receipt requested.

(B) Provide a Notice of Intent to any local government having jurisdiction over the area where the facility or operation is proposed to be located or to any jurisdiction within five (5) miles of the location. The ~~d~~Division shall receive verification that this requirement was met.

(C) Publish in a newspaper of general circulation in the area of the proposed facility a copy of the Notice of Intent to be filed with the ~~d~~Division. The ~~d~~Division shall be provided a certified published copy of this public notice.

(b) When a proposed permit filed with the ~~d~~Division is determined to be complete, a public notice shall be issued by the applicant.

(i) The public notice shall include the following information:

(A) The names, addresses, and phone numbers of the ~~d~~Division and applicant personnel whom interested persons may contact to review the application.

(B) The name, address, and phone number of the applicant for the confined swine feeding operation permit.

(C) The location of facilities to be constructed, including the housed facility and land application areas.

(D) A brief description of the proposed confined swine feeding operation.

(E) A brief description of comment and public hearing procedures.

(F) Any additional information considered necessary by the ~~d~~Division.

(ii) The applicant shall provide public notice by:

(A) Mailing the notice to any unit of local government (including counties) having jurisdiction over the area where the facility or operation is proposed to be located or jurisdiction within five (5) miles of the location. The ~~d~~Division shall be provided a copy of this notice.

(B) Mailing by first class mail the public notice to all persons and organizations on a general mailing list of interested parties provided by the ~~d~~Division.

(C) Publishing in a newspaper of general circulation and any local papers in the area of the proposed facility, a public notice prepared by the ~~d~~Division. The ~~d~~Division shall be provided a certified published copy of this public notice.

(iii) The intent of the public notice is to provide the public an opportunity to comment. The comment period shall be a minimum of thirty (30) days from the date of publication. During the public comment period, any interested person may submit written comments on the permit application to the ~~d~~Division. Any interested person may submit a written request detailing the need for a public hearing.

(c) When an application for a proposed operation is determined to be technically adequate, the ~~a~~Administrator shall hold a public hearing upon finding a significant degree of public interest. The ~~a~~Administrator also has the discretion to hold a public hearing whenever such a hearing may clarify issues involved in the review of a permit.

(i) If a public hearing is to be held, the ~~a~~Administrator shall provide a notice of the public hearing. Notice of a public hearing shall be given at least thirty (30) days before the hearing. A notice of public hearing shall be provided after the permit application has been determined by the ~~a~~Administrator to be technically adequate to make a decision to either approve or deny the permit.

(ii) The applicant shall be required to provide a public hearing place in the vicinity of the proposed confined swine feeding operation. Such hearing place shall accommodate such attendance as might reasonably be expected. The hearing place shall conform to the accessability standards of the Americans with Disabilities Act.

(iii) The notice of public hearing shall contain the following information in addition to that information required by Section 13 (b)(i):

(A) Reference to previous public notices relating to the proposed permit.

(B) Any additional information considered necessary by the ~~d~~Division.

(C) Date, time, and place of the public hearing.

(D) A brief description of the nature and purpose of the public hearing.

(iv) The public comment period shall automatically extend to the close of any public hearing. The ~~a~~Administrator may also extend the comment period by so stating at the public hearing.

Section 14. Approval or Denial of a Permit Application. A permit shall be approved if the permit application complies with all provisions of these regulations and the Wyoming Environmental Quality Act. The management plan shall show that the proposed confined swine feeding operation can be operated in compliance with these regulations.

(a) The ~~a~~Administrator shall not render a final recommendation to the ~~d~~Director on a proposed permit until after the completion of the final comment period and the public hearing, if one is held. The ~~a~~Administrator shall make a decision as soon as reasonably possible. Before a final decision is issued, the ~~a~~Administrator shall prepare a written response to all comments received during the comment period. The written response shall be provided to members of the public upon request. The written response shall:

(i) Specify any changes made to the management plan as the result of public comment.

(ii) Briefly describe and respond to all comments voicing a legitimate regulatory concern that is within the authority of the ~~d~~Division to regulate.

(b) The ~~d~~Director may deny a permit for any of the following reasons:

(i) The application does not meet applicable minimum design, construction, or operation standards as specified by these regulations.

(ii) The facility, if constructed, would cause violation of applicable state surface or groundwater standards.

(iii) The project does not comply with applicable state and local water quality management plans or approved well head or source water protection plans.

(iv) The facility does not comply with the setback requirements of W.S. 35-11-302 (a)(ix).

(v) The application does not demonstrate the use of BAT to reduce odors, pathogens, and vectors.

(vi) The application does not meet the requirements for financial assurance as

required in Part F of these regulations.

(vii) Other justifiable reasons necessary to carry out the provisions of the Environmental Quality Act.

(viii) The application is incomplete according to Sections 7 through 11.

(c) The procedures to be followed in case of denial are as follows:

(i) The ~~d~~Director shall notify the applicant by registered or certified mail of the decision to deny the permit application and the reason for denial.

(ii) The applicant may request a contested case hearing before the Environmental Quality Council pursuant to the Wyoming Department of Environmental Quality Rules of Practice and Procedure.

Section 15. Periodic Review of the Management Plan.

(a) Prior to ninety (90) days of the fifth anniversary of the date of issuance of the permit and every five (5) years thereafter, the permittee shall submit to the ~~d~~Division a report of review of the management plan. The report shall evaluate compliance of the confined swine feeding operation with the permit and address the following items:

(i) Record of compliance with applicable regulations and statutes.

(ii) A determination of whether BAT is incorporated in the permit as required for animal waste management practices.

(iii) Status of any closure activities or corrective actions that are underway.

(iv) Compliance with financial assurance requirements.

(b) The ~~a~~Administrator or a designated representative shall evaluate the review within sixty (60) days of receipt. The ~~d~~Division may request additional information or modifications as necessary to satisfy the requirements of subparagraph (a) above.

(c) The ~~d~~Division shall publish a notice of the availability of the management plan review and the ~~d~~Division's findings in accordance with the procedures for a public notice as described by Section 13 (b)(ii) of these regulations.

Section 16. Transfer of a Permit. A confined swine feeding operation permit may be transferred upon submittal of a written request to the ~~a~~Administrator signed by all present and proposed parties to the permit. A transfer shall be requested within sixty (60) days of sale or transfer of real estate or real property, or change of operator.

(a) The ~~a~~Administrator shall approve or deny the transfer within thirty (30) days after

receipt of the request.

(b) The ~~a~~Administrator may refuse to approve the transfer of the permit if:

(i) The proposed permittee fails to provide adequate financial assurance; or

(ii) The proposed permittee or a controlling interest in the proposed permittee has a pattern or history of significant violations of the Environmental Quality Act or similar acts in other jurisdictions of the United States.

(c) The new permittee must acknowledge and accept all conditions of the permit.

Section 17. Modification of a Management Plan. A management plan may be modified with the approval of the ~~a~~Administrator upon demonstration that the modification complies with this and other applicable regulations.

(a) The permittee may request a modification to the management plan. Modifications shall be requested when necessary to correct operational problems or to incorporate best available technology (BAT). Modifications to the operation may be requested at the permittee's discretion.

(b) The permittee must receive approval from the ~~a~~Administrator for a modification before initiating any change in operational procedures including but not limited to the following:

(i) Increasing the number of animals permitted at the operation.

(ii) Changing animal waste treatment, storage, or disposal practices from those permitted at the facility.

(iii) Changing the nature and volume of the animal waste generated at the facility.

(iv) Disposing of animal waste at any locations other than those identified in the permit.

(c) The ~~a~~Administrator may require the permittee to modify a management plan as necessary because of:

(i) Significant changes to the operation.

(ii) Significant advances in BAT.

(iii) Changes to the operation determined by the ~~a~~Administrator to be necessary to ensure that the operation complies with the Environmental Quality Act and related statutes and regulations.

(iv) Discovery of existing, unknown, or changing site conditions that could prevent construction or subsequent operations from complying with applicable statutes and regulations.

(v) Discovery of inaccurate or false information in the permit.

(vi) Failure to comply with the permit and these regulations.

Section 18. Probation or Suspension of a Permit.

(a) The ~~d~~Director may place a permit on probation for violation or the threat to violate the terms and conditions of the permit or these regulations. If the permittee fails to resolve the issues leading to probation within ninety (90) days, the ~~d~~Director may suspend or revoke the permit. The ~~d~~Director shall notify the permittee by registered or certified mail of the ~~d~~Department's intent to place the permit on probation. The notification shall include the effective date and the reasons for probation. A permit may be suspended or revoked without being placed on probation.

(b) The ~~d~~Director may suspend a permit for:

(i) A substantial noncompliance with the terms and conditions of the permit or these regulations.

(ii) Unapproved modifications in design, construction, or operation.

(iii) Failure to submit records and information required to show compliance with the permit.

(iv) Violation of any financial assurance requirements.

(v) Failure to request a transfer pursuant to Section 16 of these regulations within sixty (60) days of sale or exchange of an operational unit. Failure to apply for a permit transfer upon sale or exchange of an operational unit is a violation of these regulations that shall allow the ~~d~~Director to declare forfeiture of the financial assurance provided by the permittee of record.

(vi) Any other reason necessary to achieve compliance with applicable statutes, standards, or regulations.

(c) The ~~d~~Director shall notify the permittee of record by registered or certified mail of the ~~d~~Department's intent to suspend the permit. The notification shall include the effective date, the actions with completion dates necessary to lift the suspension, and the reasons for suspension.

(d) If the permittee chooses not to comply with the terms of the suspension, the permittee shall request a hearing before the Environmental Quality Council under the provisions

of Section 19, Permit Termination. In the event of such a hearing, the Environmental Quality Council shall have the option of recommending permit revocation.

(e) Nothing in this section shall be construed to limit or contravene enforcement authority of the ~~d~~Department pursuant to the Environmental Quality Act.

Section 19. Permit Revocation.

(a) A permit shall be revoked upon written request of the permittee and demonstration that the closure in accordance with Section 43 and any corrective action requirements in accordance with Section 45 of these regulations have been satisfactorily completed.

(b) A permit may be revoked by the ~~d~~Director for:

(i) Obtaining a permit by misrepresentation, failure fully to disclose all relevant facts, or false information submitted in the application.

(ii) Changing site conditions that cannot be addressed by modifications to prevent violation of the Environmental Quality Act or applicable regulations.

(iii) A pattern or history of violations of the permit or these regulations.

(iv) Failure to comply with the terms of a permit suspension.

(v) Any other reason necessary to achieve compliance with applicable statutes, standards, or regulations.

(vi) The ~~d~~Director shall notify the permittee of record by registered or certified mail of the ~~d~~Department's intent to terminate the permit. The notification shall include the effective date and detailed requirements of the permit revocation, including:

(A) The date that all animals must be removed from the facility.

(B) The date that all animal waste must be removed from the facility.

(C) The date that closure must begin. A closure plan shall be prepared and approved in accordance with Section 43 of these regulations before closure shall begin.

(vii) The revocation notice shall become final sixty (60) days from the date of receipt of notice unless within that time the operator requests a hearing before the Environmental Quality Council. Such a request shall be made in accordance with the Wyoming Department of Environmental Quality Rules of Practice and Procedure.

(viii) Failure to comply with the terms of the revocation notice, as modified by the contested case hearing if applicable, shall be cause for forfeiture of financial assurance.

(ix) Financial assurance must be maintained by the permittee until the closure and any corrective actions necessary have been completed and approved by the ~~d~~Division.

Section 20. Compliance with State and Local Water Quality Management Plans. A management plan or permit shall not be approved for any facility that is in conflict with an approved water quality management plan, source water protection plan, or well head protection plan.

Section 21. Solid Waste Transfer, Treatment, Storage or Disposal. Any solid waste transfer, treatment, storage or disposal facility, as defined in Chapter 1 of the Wyoming Solid Waste Rules and Regulations, ~~which~~ that is located within the boundaries of a confined swine feeding operation shall be permitted by the Water Quality Division under the authority of these regulations. Storage, treatment (incineration or composting), or disposal (burial) of dead swine is a regulated facility as defined in Chapter 1 of the Wyoming Solid Waste Rules and Regulations.

(a) The permit application shall include solid waste management facilities constructed or operated as part of the confined swine feeding operation. The permit application shall address the requirements and standards described in Chapter 2 "Sanitary Landfill Regulations" or Chapter 6 "Transfer, Treatment and Storage Facility Regulations" of the Wyoming Solid Waste Rules and Regulations.

(b) Financial assurance requirements associated with any solid waste management facility shall be addressed under the provisions of Section 50 of these regulations and calculated according to Solid and Hazardous Waste Division Chapter 2 "Sanitary Landfill Regulations", Chapter 6 "Transfer, Treatment and Storage Facility Regulations" and Chapter 7 “Financial Assurance Requirements.”

Section 22. Relationship to Other Programs.

(a) The Wyoming Department of Environmental Quality, Air Quality Division requires new sources of air emissions to obtain a permit. The disposal of dead swine by incineration is considered such a source.

(b) The Wyoming State Engineer regulates the appropriation and use of water and the safety of dams.

(i) All water well construction requires a permit from the State Engineer. Appropriate water rights must be granted by the State Engineer before the use or detention of surface water.

(ii) Lagoons with above ground berms or dikes may be subject to regulations administered by the State Engineer governing safety of dams.

(c) The Wyoming Department of Environmental Quality, Water Quality Division requires a storm water permit for construction activities including clearing, grading, and

excavation activities that disturb a total land area as designated by the National Pollutant Discharge Elimination System (NPDES) Regulations.

(d) Approval of a permit for a confined swine feeding operation does not relieve the permittee of the responsibility to comply with any local requirements including land use, zoning, or permitting requirements established by any local government.

Section 23. Permit Conditions.

(a) The permittee shall:

(i) Conduct all construction and operation of a confined swine feeding operation consistent with the management plan and the permit. Unauthorized changes, deviations, or modifications are a violation of the permit. An amended application or request for revision to an approved permit must be filed with the ~~a~~Administrator to obtain approval of a modification. No modification shall be started until a modified management plan has been approved pursuant to Section 17 of these regulations.

(ii) Request authorization of the ~~a~~Administrator to use materials or procedures different from those specified in the permit. A modification to a permit component may be granted if materials cannot be obtained or procedures cannot be accomplished and alternative materials or procedures meet the standards specified in these regulations. To prevent delaying construction, the ~~a~~Administrator may grant a modification orally, upon oral request. A written request for modification must be submitted within five (5) days. Failure to do so may result in the ~~a~~Administrator revoking the oral modification.

(iii) Conduct the operation according to statements, representations, and procedures contained in the permit.

(b) Routine maintenance and repair of the facilities that collect, convey, treat, or store animal waste shall not require notification of the ~~d~~Division or modification of the permit.

(c) The owner of the facility shall allow authorized representatives of the ~~d~~Department, upon presentation of credentials, in compliance with the permittee's established, printed biosecurity protocols, and at reasonable times to:

(i) Enter upon the premises of the operation, land application areas, or premises where records are kept as required by the permit.

(ii) Read or copy any records required to be kept under the terms of the permit.

(iii) Inspect any facilities, equipment, and land application areas covered under the permit.

(iv) Sample any animal waste, wastewater, sludge, residuals, and by-products

covered under the provisions of the permit. This includes soils of land application areas.

(d) A permit does not allow the permittee to violate any provision of the Environmental Quality Act or any other applicable regulation.

PART B.
SETBACK REQUIREMENTS FOR SITING

Section 24. Setbacks. A confined swine feeding operation shall comply with W.S. 35-11-302 (a)(ix)(C). Swine confinement areas, animal waste storage facilities, or animal waste treatment facilities shall not be within:

(a) One (1) mile of an occupied dwelling without the written consent of the owner of the house.

(b) One (1) mile of a public or private school without the written consent of the school's board of trustees or board of directors.

(c) One (1) mile of the boundaries of any incorporated municipality without the resolution and consent of the governing body of the municipality.

(d) One-fourth (¼) mile of a water well permitted for current domestic purposes without the written consent of the owner of the well.

(e) One-fourth (¼) mile of a perennial stream unless it is proved to the ~~d~~Division that potential adverse effects to the water quality of the stream can be avoided.

Section 25. Setback Determination. The date for determining whether a permit complies with setback requirements shall be fixed according to Section 13 (a).

(a) Dwellings or schools may be constructed or municipal limits extended to closer than one (1) mile of confined swine feeding operations. Entities intruding into the one (1) mile setback zone after filing of the Notice of Intent shall be considered to have waived permanently their rights to protection of the setback requirement with respect to that operation.

(b) Permitted confined swine feeding operations shall have the right to operate and modify their permits, including expansions, based on conditions as of the setback date fixed according to Section 13 (a).

(c) The one (1) mile setback is considered part of the odor management for a confined swine feeding operation. Odor complaints from entities intruding into the fixed setback zone shall be evaluated at a distance of one (1) mile from the nearest portion of the confined swine feeding operation.

Section 26. Waivers. The setback distances specified in these regulations may be waived with the consent of the party benefitted by the setback distance.

(a) A waiver granted by a private property owner becomes effective upon being recorded with the county clerk of the county where the affected property is located. The waiver shall reflect the full legal description of the proposed confined swine feeding operation site, the full legal description of the property for which the waiver is granted and the signature of the

owner of record as of that date. A certified copy of this recording shall be provided to the ~~d~~Division as part of the permit application. If the proposed confined swine feeding operation site is in a different county than the affected property, the waiver shall also be filed in the county where the proposed confined swine feeding operation site is located.

(b) Public schools and incorporated municipalities shall approve a waiver of setback requirements by action of the governing body. A certified copy of the final action approving the waiver shall be included with the application.

PART C.
DESIGN AND OPERATION STANDARDS

Section 27. Purpose of Design and Operation Standards. The purpose of these designs and operation standards is to ensure that the design, construction, and operation of confined swine feeding operations and any associated facilities capable of causing or contributing to pollution comply with the Environmental Quality Act.

Section 28. General. This part contains the minimum standards for the design, construction, and operation of a confined swine feeding operation. The applicant shall demonstrate to the ~~a~~Administrator that there shall be no surface discharge and that any subsurface discharges from the confined swine feeding operation or animal waste management activities shall not cause a violation of standards for ~~g~~Groundwaters of the ~~s~~State as established by Wyoming Water Quality Rules and Regulations, Chapter 8, Quality Standards for Wyoming Groundwaters.

Section 29. Groundwater Protection.

(a) The design of a confined swine feeding operation shall demonstrate protection of ~~g~~Groundwaters of the ~~s~~State in compliance with Chapter 3, Section ~~15~~ 17 of the Wyoming Water Quality Division Rules and Regulations.

(b) These regulations provide minimum design requirements designated to prevent a threat of discharge to groundwater in accordance with Chapter 3, Section ~~15~~ 17 (a). Alternate designs may be approved if justified by a complete subsurface investigation in accordance with the provisions of Chapter 3, Section ~~15~~ 17 (b).

Section 30. Surface Water Protection. A confined swine feeding operation shall not allow any animal waste to enter the ~~s~~Surface ~~w~~Waters of the ~~s~~State.

(a) All animal confinement areas, animal waste collection, waste storage, and animal waste treatment areas shall either be constructed above the 100-year/24-hour floodplain or protected by diversion channels and dikes from the 100-year/24-hour flood.

(b) All animal waste storage and animal waste collection structures shall be operated with sufficient freeboard to always contain the maximum probable precipitation event safely.

Section 31. Approval of Alternative Technology and Designs.

(a) Each application for a permit for a confined swine feeding operation under this section shall be evaluated on a case-by-case basis and compared to best available technology. The following information, if available, shall be included with the application:

(i) Data obtained from a full scale, comparable installation that demonstrates the acceptability of the design.

(ii) Data obtained from a pilot plant operated under the design condition for a sufficient length of time to demonstrate the acceptability of the design.

(iii) Data obtained from a theoretical evaluation of the design that demonstrates a reasonable probability of the facility meeting the design objectives.

(iv) An evaluation of the flexibility of making corrective changes to a constructed facility that does not function as planned.

(v) An evaluation of the risk and potential costs of failure of the proposed facility or technology. The financial assurance plan must reflect this evaluation. The ~~a~~Administrator may choose to increase or decrease the corrective action bond amount determined under Section 49 based on this evaluation.

(b) A pilot plant may be constructed to provide the data necessary to satisfy these regulations. A separate permit to construct for the pilot plant shall be obtained under the provisions of Chapter 3 of the Wyoming Water Quality Division Rules and Regulations.

Section 32. Domestic Wastes at Confined Swine Feeding Operations. No human or domestic wastes shall be allowed to mix with the animal waste collection, storage, treatment, and disposal operations at a confined swine feeding operation. Separate domestic waste collection and treatment facilities shall be constructed and maintained. Such domestic waste facilities shall be permitted under Chapter 3 and designed according to Chapter 25 of the Wyoming Water Quality Division Rules and Regulations or by the appropriate local agency delegated permitting authority for small wastewater systems.

Section 33. Animal Waste Collection Systems. The design and construction of animal waste and wastewater collection systems for confined swine feeding operations shall meet the following minimum standards:

(a) Gutters and trenches that do not have a constant hydraulic head against the joints or the structure, such as those designed to be free draining and are frequently flushed or scraped, shall have a watertight design.

(i) Construction shall be of air entrained concrete with a 28-day compressive strength of 4000 psi or better. The minimum thickness of any section shall be four (4) inches. All joints shall be keyed construction and sealed with a high quality elastomeric caulk. Any other materials proposed for gutter construction shall be evaluated under the provisions of Section 31 of these regulations.

(ii) Flushing gutters shall have a minimum grade of 0.4 percent.

(iii) Gutters shall be flushed at least every 12 hours or scraped once each 48 hours. Each gutter shall be inspected weekly and any build ups removed or freed using manual scraping or pressure washers.

(iv) Gutters shall be cleaned and visually inspected at least annually for water tightness. Any probable leaks shall be repaired immediately.

(b) Gutters and trenches that normally retain manure and flush water and are subject to a constant hydraulic head shall be described as pull plug gutters. Any waste containment structures normally subject to hydraulic head, including pull plug gutters, shall have secondary containment with a leak collection and recovery system.

(i) Construction shall be of air entrained concrete with a 28-day compressive strength of 4000 psi or better. The minimum thickness of any section shall be four (4) inches. All joints shall be keyed construction and sealed with a high quality elastomeric caulk. All expansion joints shall have bulb type water stops. Any other materials proposed for gutter construction will be evaluated under the provisions of Section 31.

(ii) The secondary containment shall consist of a geomembrane at least 20 mils thick installed by the manufacturer's recommendations, a geosynthetic clay liner or a compacted clay liner at least one foot thick with a permeability of 1×10^{-6} cm/sec or less. Compacted clay liners shall be constructed, tested, and certified in accordance with the provision of Section 35 (d)(i)(A). The secondary containment shall be graded to the recovery system with a minimum grade of 0.4 percent.

(iii) The secondary containment surfaces shall drain by gravity into the recovery system. The recovery pump shall have a totalizing hour meter and a high level alarm.

(A) The amount of the liquids being recovered from the secondary containment surface shall be determined and recorded on a weekly basis. If the calculation of liquids recovered exceeds sixty (60) gallons/week/thousand square feet of confinement building, repair of the gutters and trenches must be completed within six (6) months. The permittee shall report any exceedance of this rate to the ~~d~~Division within seven (7) days.

(B) If the high level alarm is activated or the recovery rate exceeds 120 gallons/week/thousand square feet of confinement building the gutters must be drained immediately and operated as free draining, daily flush type gutters until repairs are made. The permittee shall report any exceedance of this rate to the ~~d~~Division within 48 hours.

(iv) Pull plug gutters shall be charged to a minimum depth of six (6) inches with fresh or recycled water before receiving animal wastes.

(v) A minimum clearance of six (6) inches must be maintained between the top of the animal waste and the bottom of the trench cover.

(vi) Pull plug gutters shall be drained and recharged at least every fourteen (14) days.

(c) Collection lines convey animal waste and flush water from the gutters and trenches to treatment or storage facilities. This section contains the minimum standards for the

design and construction of animal waste piping and transfer systems.

(i) Collection lines shall be designed to accommodate the maximum instantaneous flows. If storm water is collected and introduced to the animal waste treatment or storage facilities, the design of the collection system and the treatment or storage system shall be adequate to accommodate the maximum instantaneous and annual precipitation rates.

(ii) Collection line layouts shall allow isolation of individual lines for testing and cleaning.

(iii) Pipe materials shall resist acid and alkaline solutions, organic solvents, and other animal waste constituents and environmental conditions encountered.

(iv) Pipe materials shall be chosen and the pipeline shall be designed to withstand all trench and superimposed surface live loads with a minimum factor of safety. Rigid pipes shall have a minimum factor of safety of 1.5, and flexible pipes shall have a minimum factor of safety of 1.25.

(v) Piping shall be tested for integrity after all trenches are backfilled. The testing results shall be certified by a Wyoming licensed engineer. Leakage tests shall be infiltration, exfiltration, or air tests. All flexible piping shall be tested for deflection. Deflection tests shall be made with a mandrel or other technology producing comparable data.

(A) Infiltration or exfiltration shall not exceed a maximum of 200 gallons per inch diameter per mile per day (1200 liters/cm/km/day) with a minimum of two (2) feet (0.6 m) of head over the top of the pipe.

(B) Air tests shall conform to ASTM C-828-80.

(C) A maximum five (5) percent deflection after flexible pipe is backfilled for thirty (30) days is allowed. A mandrel of 95 percent of pipe diameter shall be used. No mechanical pulling of a mandrel is permitted.

(vi) Potable water shall be protected according to the AWWA Manual M14, which addresses cross-connection control.

(vii) If animal waste or waste water is pumped, the pumping station shall be designed if possible so that failure shall not result in any release. If such design is not possible, a redundant, fail safe design of the pumping station shall be required.

(d) Gravity drained lines shall be tested at least every five (5) years for leakage according to Section 33 (c)(v) of these regulations. Test results shall be included in the annual report. Lines failing the leakage test shall be repaired within thirty (30) days. After repair, the integrity of the line must be verified by retesting.

(e) Pressure lines shall be tested annually for leakage according to Section 33

(c)(v)(A). Test results shall be included in the annual report. Lines failing the leakage test shall be removed from service and repaired immediately. After repair, the integrity of the line must be verified by retesting.

Section 34. Animal Waste Storage Facilities. The design and construction of animal waste storage facilities for confined swine feeding operations shall meet the following minimum standards:

(a) Animal waste storage structures shall be required to have secondary containment and liquid recovery systems incorporated because they are subject to a constant hydraulic head.

(b) A total minimum animal waste storage capacity equal to nine (9) months waste production shall be provided to allow for the limited periods when manure slurries may be land applied.

(c) The design of the operational unit shall permit any animal waste storage structure to be removed completely from service for repair without significant impact to the feeding operation.

(d) Concrete construction shall conform to recommendations of the "Concrete Manure Storage Handbook," MWPS-36 dated 1994, or later version as adopted by division policy, published by the MidWest Plan Service and available from the land grant universities of the North Central Region.

(e) Structures interior to or beneath swine housing facilities constructed of concrete, shall meet the following requirements: (Construction of other materials shall be addressed pursuant to Section 31 of these regulations.)

(i) Construction shall be of air entrained concrete with a 28-day compressive strength of 4000 psi or better. All joints shall be keyed construction and sealed with a high quality elastomeric caulk. All expansion joints shall have bulb type water stops.

(ii) The secondary containment shall consist of a geomembrane liner at least 30 mils thick installed according to the manufacturer's recommendations, a geosynthetic clay liner, or a compacted clay liner at least one (1) foot thick with a permeability of 1×10^{-6} cm/sec or less. Compacted clay liners shall be constructed, tested, and certified in accordance with the provision of Section 35 (d)(i)(A). The secondary containment shall be graded to the recovery system with a minimum grade of 0.4 percent.

(A) The secondary containment surfaces shall drain by gravity into the recovery system. The recovery pump shall have a totalizing hour meter and a high level alarm.

(B) The amount of the liquids being recovered from the secondary containment surface shall be determined and recorded on a weekly basis. If the calculation of liquids recovered exceeds sixty (60) gallons/week/thousand square feet of confinement building, repair of the storage tank or pit must be completed within six (6) months. The permittee shall

report any rate greater than this to the ~~d~~Division within seven (7) days.

(C) If the recovery rate exceeds 120 gallons/week/thousand square feet of confinement building, the storage facility must be emptied within sixty (60) days and repairs made. The permittee shall report any rate greater than this to the ~~d~~Division within 48 hours.

(D) If the high alarm level is reached, the ~~d~~Division must be notified immediately. The storage tank must be emptied immediately.

(iii) Animal waste shall not be allowed to accumulate to within one (1) foot of the bottom of the floor slats.

(iv) Interior or under floor animal waste storage facilities shall be mechanically ventilated. If the exhaust gas from this mechanical ventilation is determined to be a source of problem odors, treatment of the exhaust gas shall be required. A positive odor control technology resulting in either the adsorption or destruction of the odor causing gases shall be installed.

(f) Above grade structures are subject to the following requirements:

(i) Above grade structures shall be surrounded with a containment dike designed to hold a minimum of 1.5 times the tank volume.

(ii) Secondary containment shall be designed and operated pursuant to Section 34 (e)(ii) of these regulations.

(iii) A floating cover shall be maintained on uncovered above ground structures. Other BAT may be employed or required instead of a floating cover.

(g) Below grade external structures shall be either concrete or lined earthen storage basins.

(i) Concrete structures and secondary containment systems shall be designed according to this section.

(ii) Lined earthen storage basins shall be designed according to Section 35 (c) and (d) of these regulations.

(A) Only earthen basins with geomembrane liners and secondary containment shall be allowed. The geomembrane liner shall be a minimum of 60 mils thick and installed according to the manufacturer's instructions.

(B) The engineering design report must show the animal waste removal operations shall not damage the integrity of the liner.

(iii) A floating cover shall be maintained on uncovered below grade external

structures. Other BAT may be employed or required instead of a floating cover.

Section 35. Animal Waste Treatment Facilities. The construction and operation of solids separators and liquid animal waste treatment lagoons shall meet the following minimum standards. Methane generation, composting, and other treatment systems are encouraged. Permitting of such systems shall be reviewed under provisions of Section 31 of these regulations. When considering alternate technology, primary emphasis shall be given to environmental protection, improved odor management, and pathogen control. The appropriate MidWest Plan Service publications are the preferred basis for alternative designs.

(a) Solids separation techniques may be used to remove solids from the animal waste. To be considered separated solid manure, the solids content must be greater than ten (10) percent by weight and the resultant mass must pass the paint filter test, i.e., when the mass is placed in a paint filter no liquid shall drain through the filter.

(i) Separated solids shall be stored on a water tight paved surface:

(A) The storage area shall be sloped to a gutter that drains to the liquid animal waste treatment facility.

(B) The storage area shall not receive precipitation runoff from other areas of the facility.

(C) The storage floor or pavement shall have adequate structural integrity for the equipment used to load or remove the solids.

(ii) Operation of the solids separator and solids storage area shall follow the odor, dust, and vector control procedures required by Sections 40, 41, and 42 of these regulations.

(A) All solids shall be removed from the storage area and the area cleaned within thirty (30) days after the spring thaw each year.

(B) Pesticides and rodenticides shall be employed as necessary to control rodents or insects breeding or feeding on the solids. The vector control agents used shall not leave any residuals in or on the solid animal waste.

(iii) The solids storage area shall be large enough to hold six (6) months' production of animal wastes unless the management plan demonstrates the ability to use the animal wastes in a more timely fashion.

(b) Wastewater treatment lagoons receiving liquid animal wastes diluted with water to a solids content of five (5) percent or less by weight shall be sized and constructed according to this section and one of the following references, USDA Part 651 Agricultural Waste Management Field Handbook, MWPS-8 Swine Housing and Equipment Handbook, or MWPS-18 Livestock Waste Facilities Handbook, or later version as adopted by division policy.

The design report shall reflect which reference is used as the basis of design. Lagoons receiving dilute liquid wastes as defined in Section 3 (m) may be designed as single cell compacted clay lined structures. Lagoons receiving animal wastes other than dilute liquid wastes shall be designed with a minimum of two (2) cells with the capability to continue confined swine feeding operations with one (1) cell removed from service for maintenance or repair.

(c) Earthwork standards.

(i) Soils used in constructing the lagoon bottom and dike cores (not including the liner) shall be relatively incompressible, have low permeability, and be free from organic material or trash. The soil shall be compacted at a water content that shall ensure structural stability, reduce hydraulic seepage, and reduce settling. The soil shall provide an adequate foundation for the liner, if used.

(ii) For lagoons that are not specified to receive a geomembrane liner, no rocks larger than six (6) inches in length shall be permitted in any of the designated embankment.

(iii) For lagoons specified to be lined with a geomembrane liner, rocks larger than six (6) inches in length shall not be placed within five (5) feet of the interior slope of any lagoon embankment. Material containing by volume less than 25 percent of rock larger than six (6) inches and less than 12 inches in length may be placed in the remainder of the embankment.

(iv) Outer dike slopes shall not be steeper than one (1) vertical to three (3) horizontal. Flatter slopes may be required to maintain slope stability. Outer dike slopes shall prevent surface runoff from entering the lagoons.

(v) Inner dike slopes shall be sloped between one (1) vertical to four (4) horizontal and one (1) vertical to three (3) horizontal. Flatter inner slopes may be allowed where vegetation, due to the shallower slopes, shall not interfere with treatment or the dike's integrity. Interior slopes surfaced with concrete paving or riprap may be constructed at slopes of one (1) vertical to two (2) horizontal.

(vi) The minimum top dike width shall be 12 feet to allow access to maintenance vehicles. Top dikes wider than 12 feet shall be required when necessary to ~~assure~~ ensure structural stability.

(vii) The minimum freeboard at the maximum operating level shall be three (3) feet.

(viii) Interior embankments shall be protected from wave action with riprap, paving, or other erosion resistant material. The following conditions may be exempted from the riprap requirements:

(A) Lagoons of one (1) surface acre or less.

(B) Lagoons with a geomembrane liner.

(C) Embankments cut into natural slopes when a soil liner is not provided.

(D) Lagoons sheltered from wind or where wind velocities are low enough that significant erosion shall not occur.

(ix) Exterior of dikes, top of dikes, and all interior dike surfaces where riprap or a seal is not provided shall be covered with topsoil and seeded with suitable dry land grasses to prevent erosion. A coarse uniform graded gravel may be substituted for the vegetation requirement.

(x) The seepage through the lagoon bottom and side walls shall not cause a violation of the groundwater standards as described in Chapter 8, Quality Standards for Wyoming Groundwaters, Water Quality Division Rules and Regulations.

(d) The allowable permeability of a compacted clay liner shall be based on the type of lagoon construction and the type of liquid animal waste contained in the lagoon.

(i) The specifications for compacted clay liners shall be based upon the results of a preliminary testing program and shall contain the type of material, optimum and acceptable range in water content, acceptable range for compaction, and maximum allowable particle size. Compacted clay liners used to protect groundwater quality shall meet the following criteria:

(A) The tests for water content and density shall be taken during the placement of each lift of the liner. A total minimum liner thickness of one (1) foot shall be provided and shall be constructed with maximum lifts of one-half (0.5) foot. Either permeability testing of undisturbed core samples from the in-place seal, or detailed tests such as particle size distribution and Atterburg limits shall be conducted. Detailed tests should confirm that the soil specified was used for liner construction. One (1) test shall be conducted per acre per lift. For core sampling of the in-place liner, one (1) core of the completed liner shall be tested per acre. The permittee shall provide the ~~d~~Division written certification by a Wyoming registered professional engineer that the soil liner was constructed according to the permit and that final testing indicated results within the allowable limits established by the permit.

(B) For compacted clay liners, a method of maintaining the seal at or above optimum moisture conditions is required.

(ii) Unlined lagoons or lagoons using compacted clay liners as the primary liner shall require a subsurface investigation and monitoring plan according to the provisions of Chapter 3, Section ~~15~~ 17 (b), (c), and (d).

(A) Lagoons receiving dilute liquid wastes may be designed as a single cell system. Dilute liquid waste systems shall not have a combined evaporation and exfiltration

rate that exceeds 25 percent of the minimum daily inflow from operations.

(B) Multiple cell lagoons shall not have a combined evaporation and exfiltration rate that interferes with the treatment processes occurring in the lagoons.

(iii) Control of the exfiltration from lagoons may be provided by a cone of depression. The cone of depression created by the withdrawal of groundwater to provide water for the operation must be adequate to intercept all leachate from the lagoon. Water rights for the pumping necessary to create the cone of depression must be adjudicated before the issuance of a permit for a confined swine feeding operation using this method of animal waste treatment.

(e) Geosynthetic clay liners installed according to the manufacturer's instructions are acceptable. Geosynthetic clay liners shall have a maximum hydraulic conductivity of 1×10^{-8} cm/sec. The liner manufacturer shall have more than ten million square feet of its product installed. The liner installation contractor shall be approved by the manufacturer. Geosynthetic clay liners used as primary liners require:

(i) Surface erosion and abrasion protection provided shall be acceptable to the liner manufacturer. The factor of safety for slope failure of the composite liner shall be shown to be at least 1.5:1. Primary geosynthetic clay liners shall be installed over a compacted clay liner. The compacted clay liner shall have a minimum thickness of one (1) foot and a maximum permeability of 1×10^{-5} cm/sec. Compacted clay liners shall be constructed, tested, and certified in accordance with the provision of Section 35 (d)(i)(A). This type of construction shall satisfy the requirements for a subsurface investigation as required by the provisions of Chapter 3, Section ~~15~~ 17 (b). A monitoring system installed according to the provisions of Chapter 3, Section ~~15~~ 17 (b) shall be required.

(ii) Geosynthetic clay liners may be used as secondary liners. Overlying leachate collections systems shall be sand blankets at least four (4) inches in thickness. Synthetic drainage media shall not be used with geosynthetic clay liners.

(f) Geomembrane liners constructed of polyvinyl chloride or polypropylene shall be at least 30 mils in thickness. High density polyethylene liners shall be at least 60 mils in thickness. The liner manufacturer shall have more than ten million square feet of its product installed. Geomembrane liners installed and operated according to this section shall satisfy the requirements for a subsurface investigation and monitoring as required by the provisions of Chapter 3, Section ~~15~~ 17 (b).

(i) Secondary containment shall be required for all geomembrane liners. The secondary containment shall be one of the following:

(A) A compacted clay liner with a maximum permeability of 1×10^{-6} cm/sec.

(B) A geosynthetic clay liner.

(C) A geomembrane liner with a minimum thickness of 20 mils backed by a compacted clay liner one (1) foot thick with a maximum permeability of 1 X 10^{-5} cm/sec.

(D) Compacted clay liners shall be constructed, tested, and certified in accordance with the provision of Section 35 (d)(i)(A).

(ii) Geomembrane liners require a secondary containment system.

(A) The drainage layer between the primary and secondary liners shall have a minimum hydraulic transmissivity of one (1) gpm/foot. Synthetic drainage media may be used when the secondary liner is a geomembrane. All other construction shall require a durable granular filter blanket with a minimum thickness of four (4) inches. The drainage layer shall have a minimum grade of 0.4 percent.

(B) Perforated or slotted collection lines shall be installed in the drainage layer arranged to create sub-cells with a maximum area of two (2) acres or less. A means of monitoring the collection system to isolate a leak to an individual sub-cell shall be provided. No portion of the drainage layer should be more than 100 feet from a collection line.

(C) The collection lines shall drain to a sump enclosed by the secondary liner. The sump shall be designed so that the maximum high liquid level during operating conditions is below the invert of any collection line discharging to the sump. The sump shall be large enough to allow the pump installed to operate with a minimum pumping time of two (2) minutes between the automatic start and stop levels. A high level alarm shall be installed.

(D) The recovery pump in the sump shall be self-priming and capable of pumping a volume at least four (4) times the failure rate of flow designated in the permit for the lagoon. The pump shall have a totalizing hour meter that records total time of operation.

(E) Monitoring requirements are as follows:

(I) High level alarms shall be continuously monitored.

(II) The totalizing hour meters shall be read at least weekly. If the calculated recovery rate exceeds the allowable for the smallest sub-cell, the inflow from each sub-cell must be measured to determine individual sub-cell compliance.

(F) Reporting and required repair actions are as follows:

(I) If the recovery rate exceeds 400 gpd/acre for any sub-cell as delineated by the recovery system, the permittee shall notify the ~~d~~Division within seven (7) days. Repair of the primary liner must be scheduled within twelve (12) months.

(II) If the recovery rate exceeds 800 gpd/acre for any sub-cell as delineated by the recovery system, the ~~d~~Division shall be notified within 48 hours. Repair of the primary liner must be scheduled within sixty (60) days.

(III) If the high alarm level is reached, the ~~d~~Division must be notified immediately. Repairs must be initiated immediately.

PART D.
ANIMAL WASTE MANAGEMENT

Section 36. Application Controls. The animal waste management plan is part of the permit for a confined swine feeding operation and shall address storage, treatment, and land application of all animal waste produced at the feeding operation including liquid animal waste, manure slurry, solid manure, and sludge. The animal waste management plan shall demonstrate the use of best available technology (BAT) to control odors for all aspects of the operation. The use of animal waste generated by a confined swine feeding operation including liquid animal waste, manure slurry, solid manure, and sludge shall meet the following minimum standards:

(a) Animal waste that is land applied shall be applied at such rates and in a manner to prevent surface and groundwater contamination.

(b) Animal waste shall not be applied at a rate or in any manner that shall allow any surface runoff from the application site.

(c) Buffer zones shall be established for land application areas. Buffer zone requirements for land application are independent of the setback requirements as set forth in Sections 24, 25 and 26. In conjunction with other measures required by these regulations, buffer zones help provide pathogen and odor management.

(d) Animal waste applied at agronomic rates is exempt from the requirements of Chapter 3, Section ~~15~~ 17, Wyoming Water Quality Division Rules and Regulations.

(e) The method for determining the required land treatment area for application of animal wastes shall be based upon the determination of the "agronomic rate" of the crops or vegetation present on the site. The application rate for animal waste constituents shall be limited to appropriate plant uptake values to protect surface and groundwater. The ratio used for this determination is expressed as:

Required Land Treatment Area = L/U

Where:

L= the yearly amount of the controlling constituent to be applied for land treatment. L is expressed in kilograms per year (kg/yr) or pounds per year (lbs/yr).

U= plant assimilative capacity = the yearly amount of the controlling constituent that can be assimilated by plant uptake. U is expressed in kilograms per hectare per year (kg/ha/yr) or pounds per acre per year (lbs/ac/yr).

(f) The following list of constituents shall be evaluated by the permittee to determine the controlling constituents. The method of selecting the controlling constituents shall be

documented in the permit applications.

(i) Organics.

(ii) Nitrogen.

(iii) Phosphorus.

(iv) Metals.

(v) Salts, acids, and bases.

(g) The initial selection of the constituents of concern shall be made by the permittee by estimating chemical make up of animal wastes based on published data or data available from similar operations and by sampling soils at proposed application sites. The constituents of concern selected once land application begins shall be derived from analyses of representative animal waste product samples and soil samples from the application sites.

(h) The permittee shall maintain records to demonstrate compliance with the animal waste management plan and monitoring and reporting requirements as specified:

(i) Animal waste management plans shall be reviewed annually by the permittee and updated as necessary to reflect changes in procedures and management. Permittees shall notify the ~~d~~Division of any changes or updates to the plan and submit changes and updates for review and approval. A representative sample of the animal waste to be land applied shall be collected not more than thirty (30) days before every land application event. The permit shall identify the required sampling parameters. After a sufficient number of samples have been collected and analyzed, the ~~a~~Administrator may adjust the frequency of sampling or the parameters analyzed.

(ii) The soils at each application site shall be sampled and analyzed at least annually before application of the animal waste. The analysis shall include the controlling constituents and phosphorus, potassium, nitrogen, copper, and zinc. The soil samples shall be taken at a minimum rate of one (1) for each ten (10) acres, or as required by variations in soil type. If the soil type is the same on adjacent ten (10) acre tracts, the samples from up to 40 acres may be composited for a single analysis. Soil samples shall be taken in the root zone and below the root zone before repeated seasons of application of animal waste.

(iii) Written records shall be kept of all animal waste applied to the land. Records shall include:

(A) Date of application.

(B) Amount of animal waste applied.

(C) Identification of the application sites.

(D) Acreage of application sites.

(E) Method of application.

(F) Application rate.

(G) Crop or vegetation on the application sites.

(H) Plant assimilative capacity for controlling constituents.

(I) Concentration of controlling constituents in the animal waste.

(J) Amount of controlling constituents of concern applied to the site and soil samples to monitor controlling constituents of concern in the soil.

(iv) All records shall be kept at the facility and made available to a representative of the ~~d~~Division upon request. All records shall be compiled in a format identified in the permit and shall be included in a report submitted to the ~~d~~Division annually.

(v) The permittee is required to provide immediate oral notification and follow-up written notification to the ~~d~~Division of any violations or non-compliance with the terms and conditions of the permit including the animal waste management plan.

Section 37. Liquid Animal Wastes.

(a) Site requirements:

(i) Liquid animal waste may be applied by center pivot sprinkler on slopes with a grades of up to ten (10) percent. Overland flow irrigation systems shall not be developed to spread liquid animal wastes on sites having greater than one (1) percent slope or less than 0.4 percent slope.

(ii) The minimum depth of unsaturated soil strata on which a land application system may be developed is four (4) feet.

(iii) All land application sites shall be protected from up slope runoff by diversion ditches capable of intercepting the overland flow from a 25-year 24-hour storm event. Diversion ditches are not required if it can be shown that a storm of this size will not have an impact on the site.

(b) Pretreatment of liquid animal waste shall provide sufficient organic and inorganic solids reduction to ensure that the infiltration rate of the soil surface is maintained.

(c) Pathogen controls.

(i) Spray irrigation application shall not leave the property used as the land application site.

(ii) Surface runoff containing animal wastes shall not leave the application site.

(iii) Liquid animal wastes shall be only applied to lands with a low potential for public access.

(iv) Public access to all application sites shall be restricted by signing at points of potential public access. The access restriction shall apply one (1) year after the application of liquid animal wastes.

(v) Crops shall not be harvested during the seven (7) days after the application of liquid animal wastes.

(vi) Direct human consumption crops, which are consumed fresh, shall not be harvested during the ninety (90) days after the application of liquid animal wastes.

(vii) Turf grass or sod grown on land where liquid animal wastes are applied shall not be harvested for one (1) year after application of liquid animal wastes.

(d) Buffer zone.

(i) A buffer zone of one-fourth (¼) mile is required between a land application site and any building with human occupancy or area of public use, not including public roadways.

(ii) Liquid animal waste shall not leave the property where it is applied.

(iii) Liquid animal waste shall not be land applied within 200 feet of a perennial, intermittent, or ephemeral water body or water well permitted for current domestic purposes.

(e) Method of application.

(i) Liquid animal waste shall be evenly distributed over application sites at a rate that shall not exceed the agronomic rate and at a rate that shall not result in any surface runoff from the site.

(ii) Land application of liquid animal waste shall not be undertaken when soil is saturated, frozen, or covered with ice or snow or immediately before or during a storm event.

(iii) Surface application by means other than center pivot irrigation may be used when the land slope is no more than five (5) percent or when the yearly average soil loss is less than five (5) tons per acre as determined by the Universal Soil Loss Equation. Injection or

surface application with immediate incorporation shall be used when the land slope exceeds five (5) percent and the yearly soil loss is greater than five (5) tons per acre as determined by the Universal Soil Loss Equation.

(iv) Sprinkler type land application systems shall be equipped with a backflow prevention device to protect any water source or well connected to the system. The required level of protection is a reduced-pressure principal backflow prevention device or air gap. All devices must be approved by the Foundation for Cross-Connection Control, University of Southern California.

Section 38. Manure Slurries and Sludges.

(a) Manure slurries and sludges shall not be applied where the land slope exceeds five (5) percent or the yearly soil loss is greater than five (5) tons per acre as determined by the Universal Soil Loss Equation or in any manner that will allow surface runoff to transport animal waste from the application site.

(b) The minimum depth of unsaturated soil strata on which a land application system may be developed is four (4) feet.

(c) All land application sites shall be protected from up slope runoff by diversion ditches capable of intercepting the overland flow from a 25-year 24-hour storm event. Diversion ditches are not required if it can be shown that a storm of this size will not have an impact on the site.

(d) Pathogen controls.

(i) Spray irrigation application shall not leave the property used as the land application site.

(ii) Manure slurries and sludges shall be applied only to lands with a very low potential for public access.

(iii) Public access to all application sites shall be restricted by signing at points of potential public access. The access restriction shall apply one (1) year after the application of manure slurries.

(iv) Crops shall not be harvested for ninety (90) days after the application of manure slurries and sludges.

(v) Direct human consumption crops, which are consumed fresh, shall not be harvested for one year after the application of manure slurries and sludges.

(vi) Turf grass or sod grown on land where manure slurries or sludges are applied shall not be harvested for one year after application of liquid animal wastes.

(e) Buffer zones shall be required to protect the public from exposure to pathogens or odors that might be present in manure slurries or sludges.

(i) A buffer zone of one-fourth (¼) mile is required between a land application site and any building with human occupancy or area of public use, not including public roadways.

(ii) Manure slurries or sludges shall not leave the property where they are applied.

(iii) Manure slurries or sludges shall not be land applied within 200 feet of a perennial, intermittent, or ephemeral water body or water well permitted for current domestic purposes.

(f) Method of application.

(i) Manure slurries and sludges shall be evenly distributed over application sites at a rate that shall not exceed the agronomic rate and at a rate that shall not result in any surface runoff from the site.

(ii) Land application of manure slurries and sludges shall not be undertaken when soil is saturated, frozen, or covered with ice or snow or immediately before or during a storm event.

(iii) Sprinkler type land application systems shall be equipped with a backflow prevention device to protect any water source or well connected to the system. The required level of protection is a reduced-pressure principal backflow prevention device or air gap. All devices must be approved by the Foundation for Cross-Connection Control, University of Southern California.

(iv) All manure slurries and sludges shall be injected or incorporated within six (6) hours after application.

(g) Metals. Sludges shall not be land applied if the metals concentrations exceed the ceiling pollutant levels established by ~~Section 14, Pollutant Limits, Chapter 15, Water Quality Division Rules and Regulations~~ Chapter 11, Part E, Section 48 of these regulations.

Section 39. Solid Manure Wastes.

(a) Buffer zone.

(i) A buffer zone of 200 feet is required between a land application site and current residential, commercial, school, or industrial development lands where solid manure is to be spread.

(ii) Solid manure shall not be land applied within 200 feet of a perennial or

intermittent water body or water well permitted for current domestic purposes.

(iii) Solid manure shall not leave the property where it is applied.

(b) Pathogen controls:

(i) Solid manure wastes shall not leave the application site when solid manure wastes are land applied.

(ii) Solid manure wastes shall be applied only to lands with a low potential for public contact with the solid manure wastes or the soil. This restriction does not preclude hunting or fishing.

(iii) Crops shall not be harvested for thirty (30) days after the application of solid manure wastes.

(iv) Direct human consumption crops, which are consumed fresh, shall not be harvested for one (1) year after the application of solid manure wastes.

(v) Turf grass or sod grown on land where solid manure wastes are applied shall not be harvested for landscaping for one year after application of solid manure wastes.

(c) Solid manure wastes may be sold or given away. The permittee must maintain a record of who received solid manure and the amount received. The permittee must ~~assure~~ ensure that the use of the solid manure complies with the requirements of this regulation.

Section 40. Odor Controls.

(a) Best available technology (BAT) shall be used to control odors in all phases of animal waste management.

(b) The one (1) mile separation of confined swine feeding operations from occupied dwellings, schools, and incorporated municipalities required by W.S. 305-11-302 (a)(IX) is an odor control provision.

(c) Odor emissions shall not cause a violation of Wyoming Air Quality Standards related to odors.

(d) The animal waste management plan shall include a proposal for controlling odors from animal housing areas, lagoons, storage facilities, and land application sites. The plan shall include a checklist of potential odor sources and identify specific management practices to reduce odors from each source. Potential management practices include, but are not limited to, the following:

(i) Mechanical incorporation of liquid animal waste, manure slurries, solid manure, and sludge.

(ii) Avoidance of land application when wet humid conditions exist.

(iii) Limiting of land application of manure slurries and sludges to the time from one (1) hour after sunrise to one (1) hour before sunset.

(iv) Conducting activities that increase odor emissions during periods of favorable wind conditions.

(v) Controlling volatile solids loading rates for lagoons.

(vi) Aeration of lagoons.

(vii) Collection and treatment of emissions.

(viii) A list of specific actions to be taken by the permittee if odors are identified as a problem.

Section 41. Dust Controls.

(a) Particulate concentrations shall meet Wyoming Air Quality Standards.

(b) The animal waste management plan shall include a proposal for controlling dust from the confined swine feeding operation and facility roads. The proposal shall identify management practices including but not limited to the following:

(i) Maintenance of animal waste moisture content of 20 to 30 percent.

(ii) Solid set sprinklers or portable spray equipment to control dust.

(iii) Conducting activities that could increase dust emissions during periods of favorable wind conditions.

(iv) A list of specific actions to be taken by the permittee if dust is identified as a problem.

Section 42. Vector Controls. The animal waste management plan shall include a proposal for controlling vectors associated with the confined swine feeding operation. The plan shall include a checklist of potential vector sources and identify specific management practices to control each of these sources. Management practices to be considered include:

(a) Normal management practices used to ensure no accumulation of organic or inorganic materials that create a harborage for rodents, flies, or other vectors.

(b) A list of specific actions to be taken by the permittee if vectors are identified as a problem. These actions should be listed for each vector problem, (e.g., actions to be taken for fly

problems, actions to be taken for rodent problems, etc.).

PART E.
CLOSURE REQUIREMENTS

Section 43. Closure by Permittee. A permittee intending to close a confined swine feeding operation shall notify the ~~d~~Division by certified mail. The notice of intended closure shall be given as soon as possible and at least 180 days before initiation of closure. Simultaneous notice shall be made by the permittee to the governing body of each locality and adjacent property owners within one (1) mile of the permitted operation by certified mail.

(a) Closure Plan Standards.

(i) Closure procedures shall be carried out according to plans approved by the ~~a~~Administrator. A closure plan shall be submitted concurrent with the notice of intended closure. In reviewing any closure, the ~~a~~Administrator may require such modifications as may be deemed necessary by the ~~a~~Administrator for the protection of human health and safety and the protection of the environment.

(ii) The permittee shall close the facility according to the closure plan. The post-closure monitoring period shall continue for a minimum of three (3) years after the date of completing closure. The minimum post-closure monitoring period shall be extended if the ~~a~~Administrator determines it is needed to protect human health and safety or the environment.

(b) Closure completed by the permittee shall provide for the following:

(i) Removal and disposal of all animal waste materials.

(ii) Removal of all structures, lagoons, and miscellaneous structures, not incorporated into an approved post-closure use.

(iii) Placement of topsoil and revegetation of the disturbed areas.

(iv) Any other requirement necessary to protect human health and safety and the environment.

(c) The closure plan shall provide for the following post-closure activities:

(i) Evaluation of the beneficial use of structures and other permit related facilities not removed as part of the closure plan. Those facilities for which there is not a documented beneficial use shall be removed and the affected areas reclaimed.

(ii) Monitoring of post closure site impacts on water quality, to include sampling, analysis, and reporting.

(iii) Periodic inspection by the permittee.

(iv) Certification of final closure by the permittee.

(v) Any other requirement determined by the ~~a~~Administrator necessary to protect human health and safety and the environment.

(d) Closure inspection:

(i) After the permittee or other responsible party has completed closure of the facility the ~~d~~Division shall be so notified. The ~~d~~Division shall inspect all closed confined swine feeding operations to determine if the closure is complete and meets the approved plan. The ~~d~~Division shall provide written inspection results to the permittee after the inspection. If the closure is not satisfactory, the ~~d~~Division shall specify necessary steps to bring the site into compliance with closure requirements. When the closure is satisfactory, the permittee or other responsible party shall be so notified.

(ii) Notification by the ~~d~~Division that the closure is satisfactory shall not act as a waiver of any remedy under these regulations or under law that may be available to the State of Wyoming. Such notification does not relieve the permittee of responsibility for corrective action. Environmental problems caused by the operation discovered anytime shall require corrective action by the permittee. Corrective action shall be completed by the permittee according to the regulations of the ~~d~~Division and other applicable laws, and regulations.

Section 44. Relinquished Facility Closure Plan.

(a) Relinquished facility closure plans shall be based on returning the site to its approximate original contour and stable condition. Financial assurance amounts shall be based on costs for closure of a relinquished facility.

(b) A relinquished facility closure plan shall be submitted with the permit application for approval and determination of financial assurance amounts.

(c) If the permittee fails to close the facility, the state shall close the facility according to the relinquished facility closure plan or as modified by the ~~d~~Division with the approval of the ~~d~~Director. Specifically the requirements to remove all structures and to restore the approximate original contours may be waived with the approval of the ~~d~~Director.

(d) The relinquished facility closure plan shall provide for the following:

(i) Removal and disposal of all animal waste materials.

(ii) Removal of all structures, lagoons, and miscellaneous structures.

(iii) Restoration of approximate contour and replacement of topsoil.

(iv) The revegetation and restoration of the site to a stable condition.

(v) Fence installation, signage, and maintenance to protect the revegetation.

(vi) Reseeding as necessary to complete revegetation.

(vii) Periodic inspection by the ~~a~~Administrator or designated agent.

(viii) Post-closure monitoring to include sampling, analysis, and reporting for a minimum of three (3) years.

(ix) Any other requirement necessary to protect human health and safety and the environment.

(x) A detailed estimate of the costs for a third party contractor to carry out the closure plan, with a complete listing of all assumptions upon which the cost estimate is based, and a 15 percent contingency factor.

Section 45. Corrective Action Requirements.

(a) In the event of an unauthorized release of animal waste or other contamination to the environment, the permittee shall:

(i) Immediately notify the ~~d~~Division.

(ii) Initiate immediate measures that shall:

(A) Prevent further release to the environment.

(B) Prevent further migration of the released substance into surrounding soils, air, and waters of the ~~s~~State.

(C) Identify, monitor, mitigate, and remediate any threat to human health or safety and the environment associated with the release.

(iii) Prepare a plan to investigate the release, the release site and any surrounding area that may be affected by the release. The plan shall include but not be limited to the following items:

(A) Comprehensive surface and subsurface investigations to define the extent and degree of contamination.

(B) A schedule for conducting the investigation.

(iv) Submit the investigation plan to the ~~d~~Division within thirty (30) days. The extent of contamination study should begin when the plan has been approved and all necessary permits obtained.

(v) Conduct the extent of contamination study according to the approved plan

and submit a written report of the findings to the ~~d~~Division.

(vi) If required by the ~~a~~Administrator, develop a remediation plan. The remediation plan shall be submitted to the ~~d~~Division for approval. The remediation plan shall be implemented when the ~~a~~Administrator has approved the plan and all necessary permits have been obtained.

(b) Violation of any of these requirements or permit conditions, after notice as required by these rules, shall constitute immediate grounds for forfeiture of the financial assurance accepted pursuant to these regulations.

(c) If deemed necessary by the ~~d~~Division, the permittee shall be required to close the facility and cease all further activities that generate, store, or deposit animal waste materials.

PART F.
FINANCIAL ASSURANCE STANDARDS

Section 46. Purpose. The purpose of this part of these regulations is to establish financial assurance requirements in accordance with W.S. 35-11-302 (a)(ix). Permittees of all confined swine feeding operations permitted under Chapter 20, Water Quality Division Rules and Regulations shall provide financial assurance for relinquished facility closure, and corrective actions. The amount shall be adequate for corrective action, closure and post-closure requirements, as required by these regulations and the ~~a~~Administrator. Nothing in these regulations shall relieve the permittee of confined swine feeding operations of liability for closure and corrective action costs. Violation of any of the financial assurance requirements of these regulations shall be cause for revocation of a bond or other form of financial assurance and the denial or revocation of the permit.

Section 47. Closure Bond Amount Determination.

(a) The closure plan for a relinquished confined swine feeding operation shall include an itemized written projection of the estimated cost of closing the facility. The cost estimate shall be based upon the current Means Site Work & Landscape and Repair & Remodeling Cost Data and the current Wyoming Department of Transportation Weighted Average Bid Prices.

(b) The permittee shall provide the information necessary to determine closing costs for closure after forfeiture of financial assurance in accordance with Section 44 of these regulations. When determining closure costs for financial assurance requirements, the ~~a~~Administrator may also consider information from other sources.

(c) Revised relinquished facility closure cost estimates shall be submitted to the ~~d~~Division annually.

(d) When the revised cost estimates are approved by the ~~d~~Division, the permittee shall have ninety (90) days to adjust the amount of financial assurance provided after receipt of notification by the ~~d~~Division.

Section 48. Corrective Action Contingency Bond Amount Determination.

(a) The corrective action contingency bond amount shall be determined using the following formula:

Bond Amount = Maximum Rate X f_w X f_g X f_i.

From Table 1, the Maximum Rate is determined by the proposed size of the facility.

From Table 2, f_w is a factor that accounts for groundwater monitoring, secondary containment with a liquid collection and recovery system, setback distance of the facility from the permittee's down gradient property line and the class of groundwater that underlies the facility.

From Table 3, f_g is a factor that accounts for the saturated hydraulic conductivity and the thickness of the least permeable stratum between the lowest point of construction and the first encountered groundwater.

The effects of variations in the cost index are corrected for by the factor f_i. The factor f_i is a weighted annual average of the Bureau of Labor Statistics Producer Price Indexes for Capital Equipment, WPUSOP3200; Material and components for construction, WPUSOP2200; and Machinery and equipment, WPU114. On December 31 of each year, $f_{i.}$ shall be calculated for the coming year by dividing the weighted annual index value for the previous year by 100. For example, the $f_{i.}$ for 1998 is calculated by dividing the weighted annual index for 1996, 141.5, by 100. The $f_{i.}$ for 1998 is 1.415.

(b) Table 1

Maximum Rate Determination*	
Number of Swine at the Confined Swine Feeding Operation	Maximum Rate
2500 - 5000	$2,800,000
5000 - 10,000	$3,100,000
10,000 - 20,000	$3,500,000
20,000 - 50,000	$4,400,000

* The Maximum Rate is based on estimates of the cost of remediation and subsequent monitoring of the worst case release from a facility housing the range of swine numbers listed.

**Bond amounts for facilities greater than 50,000 animals shall be determined by the ~~d~~Department based on a case-by-case analysis of the potential corrective action costs.

(c) Table 2

Determination of Groundwater Classification Factor (f_w)				
Groundwater Monitoring	Liquid Collection and Recovery System (Secondary Containment)	Setback Distance from Animal Waste Facility*	Groundwater Classification	f_w
Yes/No	No		Class I	1
No	Yes		Class I	0.7
Yes	Yes	Less than ½ mile	Class I	0.4
Yes	Yes	Greater than ½ mile	Class I	0.25
Yes/No	No		Class II-III	1
No	Yes		Class II-III	0.4
Yes	Yes	Less than ½ mile	Class II-III	0.2
Yes	Yes	Greater than ½ mile	Class II-III	0.1
Yes/No	No		Class IV-VI	1
No	Yes		Class IV-VI	0.2
Yes	Yes		Class IV-VI	0.1

* To Down Gradient Property Boundary or Area Controlled by Groundwater Easement

(d) Table 3

Determination of Vadose Zone Factor (f_g)*		
Saturated Hydraulic Conductivity (k) of Least Permeable Stratum between Impoundment and First Encountered Groundwater	Thickness of Least Permeable Stratum	f_g
Hydraulic conductivity $k > 10^{-4}$ cm/s	Less than 75 ft.	1
$k > 10^{-4}$ cm/s	75 to 250 ft.	0.9
$k > 10^{-4}$ cm/s	Greater than 250 ft.	0.75
10^{-4} cm/s > k > 10^{-6} cm/s	20 to 30 ft.	0.8
10^{-4} cm/s > k > 10^{-6} cm/s	30 to 100 ft.	0.65
10^{-4} cm/s > k > 10^{-6} cm/s	Greater than 100 ft.	0.5
Low Permeability Media $k < 10^{-6}$ cm/s	3 to 10 ft.	0.4
Low Permeability Media $k < 10^{-6}$ cm/s	Greater than 10 ft.	0.2

* For facilities developed within highly sensitive hydrogeologic settings (e.g. fractured, faulted or karst terrain) or within Zones of Contribution to public drinking water systems, the value for (f_g) will be established by the ~~a~~Administrator.

(e) The corrective action contingency bond amount shall be recalculated each year in accordance with Section 11, Financial Assurance Plan Content. When the bond amount is recalculated, the permittee shall have ninety (90) days to adjust the amount of financial assurance

provided after receipt of notification by the ~~d~~Division.

Section 49. Financial Assurance for Facility Closure and Corrective Action.

(a) General.

(i) Every confined swine feeding operation permitted under these regulations shall provide financial assurance equal to the sum of the costs estimated following Section 47 for closure; Section 21 and the appropriate Solid and Hazardous Waste Division Rules and Regulations for a solid waste facility, if required; and Section 48 for the corrective action contingency bond.

(ii) Final determination of the amounts of financial assurance requirements shall be made by the ~~d~~Division.

(iii) The ~~d~~Department shall have the right to conduct an independent review of a surety or a financial institution for its ability to ~~assure~~ ensure performance under the instrument of financial assurance. The ~~d~~Department shall deny, in whole or in part, any proposed form of financial assurance determined inadequate or lacking in soundness.

(iv) Evidence of the selected forms of financial assurance shall be filed with the ~~d~~Division as part of the permit application. Financial assurance shall be accepted by the ~~d~~Division before a permit is approved. Valid financial assurance shall be a condition of conducting a confined swine feeding operation.

(v) The ~~d~~Division may reject the proposed forms of assurance of financial responsibility if the evidence submitted, in the ~~d~~Division 's sole judgment, does not adequately ~~assure~~ ensure that funds will be available as required by these regulations. The permittee shall be notified by the ~~a~~Administrator of the decision to accept or reject the proposed forms of financial assurance according to Section 14, Approval or Denial of a Permit Application.

(vi) All forms of financial assurance shall be made payable to the ~~d~~Department upon demand and shall not be subject to any liens or setoffs. The submittal and acceptance of any form of financial assurance shall be conditioned upon the requirements set forth in these regulations.

(b) Failure to provide an increased amount of financial assurance required by these regulations shall be a failure to satisfy the requirement to demonstrate financial assurance and shall be cause for revocation of the financial assurance and the permit.

Section 50. Forms of Financial Assurance. Financial assurance shall be accepted in a lump sum to be used for any purpose under these regulations. Financial assurance shall be executed in the amount calculated following the methods specified in these regulations. By offering the forms of financial assurance required to meet closure and corrective action requirements, the permittee of a confined swine feeding operation and its surety represent that the form of financial assurance offered is binding, irrevocable, unconditional, is financially

guaranteed by assets sufficient to meet the obligation, is a valid instrument made payable to the ~~d~~Department, and fully complies with these regulations. The following forms of financial assurance may be accepted:

(a) A letter of credit. A letter of credit shall be subject to the following conditions:

(i) A letter of credit shall be accepted only from a bank or lending institution licensed to do business in the State of Wyoming and subject to banking laws and regulations of the State of Wyoming with more than 50 percent of the bank's assets residing in the U.S.

(ii) The letter shall be irrevocable during its term. The ~~d~~Department may approve the use of a letter of credit as security according to a schedule approved within the permit. Any bank or lending institution issuing a letter of credit shall notify the ~~d~~Director in writing by certified mail at least ninety (90) days before the maturity date or expiration of the letter of credit agreement of its intent not to extend the letter of credit. A letter of credit shall be forfeited if not replaced by another form of financial assurance thirty (30) days before expiration of the letter of credit. All forms of financial assurance shall be approved by the ~~d~~Department before being accepted. A forfeited letter of credit shall be converted to cash by the bank or lending institution and the cash transferred to the ~~d~~Department.

(iii) Letters of credit shall be made payable to the ~~d~~Department both in writing and upon the records of the bank issuing the letter of credit. Letters of credit must be payable upon demand by the ~~d~~Department and the lending institutions or banks issuing letters of credit are required to waive all rights of set off or liens against the letters of credit.

(iv) The letter of credit shall not be more than ten (10) percent of the bank's capital surplus account as shown on a balance sheet and a financial statement certified by a certified public accountant in good standing.

(v) No bank or lending institution shall issue a letter of credit to any person or entity, on any permit or financial assurance requirement required of that person or entity, in excess amounts allowed under W.S. 13-3-402. Violation of this provision shall be deemed a violation of the permit and the ~~d~~Department shall declare forfeiture of the letter of credit.

(vi) In addition to those requirements set forth above, letters of credit shall provide that:

(A) The bank or lending institution shall give prompt notice to the permittee and the ~~d~~Director by certified mail of any notice received or action filed alleging the insolvency or bankruptcy of the bank or lending institution, or alleging any violations of regulatory requirements that could result in suspension or revocation of the bank or lending institution's charter or license to do business.

(B) In the event the bank or lending institution becomes unable to fulfill its obligations under the letter of credit for any reason, notice shall immediately be given to the permittee and the ~~d~~Director by certified mail. In the event the permittee becomes aware

that the institution providing a letter of credit has become unable to fulfill its obligations, the permittee shall immediately notify the ~~d~~Director by certified mail.

(C) The permittee is in violation of the permit if the financial assurance becomes invalid due to failure of the issuing bank or lending institution. The bank or lending institution shall be considered incapacitated due to bankruptcy, insolvency, lapse, suspension, or revocation of its charter or license to do business in Wyoming, or violation of the requirements set forth in these regulations. The ~~d~~Director shall issue a notice of violation to any permittee without financial assurance requiring replacement coverage within sixty (60) days. During this period the ~~d~~Director or a designated representative shall conduct weekly inspections to ensure continuing compliance with the permit. If any other permit conditions are violated, the ~~d~~Director may suspend the permit.

(vii) Nothing herein shall limit the right to serve any process, notice , or demand required or permitted by law to be served upon the bank.

(b) Surety bonds. A surety shall not be considered good and sufficient for purposes of these regulations unless:

(i) It is licensed to do business in the State of Wyoming.

(ii) The surety holds the highest rating under the following rating services:

(A) Standard and Poors.

(B) Moodys.

(C) Others accepted by the ~~d~~Division.

(iii) The estimated bond amount does not exceed the limit of risk as provided for in W.S. 26-5-110, nor raise the total of all bonds held by the applicant under that surety above three (3) times the limit of risk.

(iv) The surety agrees:

(A) Not to cancel the bond, except where the ~~d~~Department gives prior written approval of a good and sufficient replacement form of financial assurance complying with these regulations.

(B) To be jointly and severally liable with the permittee for closure and corrective actions as required by Part E of this regulation.

(C) To provide immediate written notice to the ~~d~~Department and permittee once it becomes unable or may become unable to fulfill its obligations under the bond.

(D) To warrant in the bond instrument that the bond is authorized, is

fully enforceable, and is backed by sufficient assets to guarantee execution on the bond.

(E) To further warrant that the bond shall be payable to the ~~d~~Department upon demand and shall not be subject to any liens or setoffs.

(v) If, for any reason, the surety becomes unable to fulfill its obligations under the bond, the permittee and surety shall immediately provide the required notice to the ~~d~~Department. The permittee shall have sixty (60) days to secure alternative bonding complying with the provisions of these regulations. Failure to provide notice to the ~~d~~Department or failure to secure alternative bonding shall result in suspension of the permit.

(c) Federally insured certificate of deposit. The ~~d~~Department shall not accept an individual federally insured certificate of deposit in an amount in excess of the maximum insurable amount as determined by the FDIC. Such certificates of deposit shall be made payable to the ~~d~~Department both in writing and upon the records of the bank issuing the certificate of deposit. All certificates of deposit shall be retained by the Wyoming State Treasurer and shall be payable on demand. The ~~d~~Department shall require the bank or lending institution issuing the certificate to waive all rights of set off or liens against the certificate. The amount of the certificate of deposit shall be calculated after any penalty for payment before maturity is deducted.

(d) Government-backed securities. In lieu of a bond, the permittee or its principal may deposit government securities registered solely in the ~~d~~Department 's name and backed by the full faith and credit of the United States. The market value of the securities shall be utilized to value the security.

(e) Cash. In lieu of a bond, the permittee or its principal may provide cash to be retained on deposit by the Wyoming State Treasurer in the name of the ~~d~~Department. Interest shall not be earned on amount of cash deposited in lieu of a bond or other form of financial assurance.

Section 51. Release of the Permittee from the Requirements of Financial Assurance.

(a) No bond or other form of financial assurance may be canceled by the surety unless sixty (60) days prior written notice is given the ~~d~~Director and the ~~d~~Director gives written consent, which may be granted only when the requirements of these regulations have been fulfilled.

(b) When closure and corrective actions required by a permit are complete, financial assurance shall be released by the ~~d~~Department.

(i) When the ~~a~~Administrator determines that initial closure activities have been completed for a permit, financial assurance less retainages shall be released.

(ii) A sufficient amount of financial assurance shall be retained to pay for estimated costs of post-closure activities. This portion of the financial assurance shall be held for

a period of at least three (3) years after initial facility closure activities are completed.

(iii) The corrective action contingency bond amount shall be reduced 20 percent per year after initial closure activities have been completed. The reduction rate may be adjusted by the ~~a~~Administrator if justified to provide for the costs of unresolved remedial action requirements. Such amounts shall be held until remedial actions are complete.

(iv) Release of any amounts of financial assurance shall not release the permittee or other responsible person from any responsibility for meeting closure or corrective action requirements.

Section 52. Forfeiture of Bond or Other Form of Financial Assurance.

(a) Bond or other financial assurance forfeiture proceedings shall occur only after the ~~d~~Department provides notice to the owner and any surety in accordance with W.S. 35-11-421 that a violation exists and the Council has approved the request of the ~~d~~Director to begin forfeiture proceedings.

(b) With the approval of the Council, the ~~d~~Director may:

(i) Collect forfeited funds from financial assurance provided under these regulations.

(ii) Expend forfeited funds to remedy and abate the circumstances for which any financial assurance was provided.

(d) Use of all financial assurance shall not relieve the permittee or other responsible parties from responsibility and liability for closure and corrective action costs. The Wyoming Attorney General may bring suit to recover any costs incurred by the state for closure or corrective action costs not covered by collected financial assurance monies.