

Comprehensive Nutrient Management Plan

(New Mexico Version 1, 8/23/2011)

The State of New Mexico is required under the New Mexico Water Quality Act (Subsection C of Section 74-6-4 NMSA 1978) and the Federal Clean Water Act, as amended (33 U.S.C. Section 1251 et seq.) <ftp://ftp.nmenv.state.nm.us/www/swqb/Standards/2010/20.6.4NMAC-Integrated2010-12-15.pdf> to adopt water quality standards that protect the public health or welfare, enhance the quality of water and are consistent with and serve the purposes of the New Mexico Water Quality Act and the federal Clean Water Act. It is the objective of the federal Clean Water Act to restore and maintain the chemical, physical and biological integrity of the nation's waters, including those in New Mexico.

This CNMP provides the basic information on how the wastes produced from EXPO New Mexico will be utilized. The CNMP will assist in maintaining compliance with the New Mexico Water Quality Act and associated New Mexico Environment Department, (NMED) requirements. Adoption of this plan and the practices described within will prevent contact of animals and manure with state waters.

This CNMP documents the planning decisions and operation and maintenance for the animal feeding operation. It includes background information and provides guidance, reference information and Web-based sites where up-to-date information can be obtained.

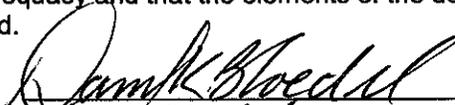
The CNMP will be updated at least once every five years. It will reflect the current operation of the AFO. Changes to the CNMP may be required if changes at the operation have occurred. Refer to the Producer Activity document for information about day-to-day management activities and recordkeeping. Both this document and the Producer Activity document shall remain in the possession of the producer/landowner.

Contact information: EXPO New Mexico
John Jaramillo
P.O. Box 8456
Albuquerque, NM 87198
505-222-9700

Latitude/Longitude: 35.0832/-106.5728
Plan period: 6/1/2013-5/31/2014

Conservation Planner

As a Conservation Planner, I certify that I have reviewed both the *Comprehensive Nutrient Management Plan* for technical adequacy and that the elements of the documents are technically compatible, reasonable and can be implemented.

Signature:  Date: 5-16-13
Name: Daniel K. Bloedel
Title: Resource Conservationist Certification Credentials: NRCS

Owner/Operator

As the owner/operator of this CNMP, I, as the decision maker, have been involved in the planning process and agree that the items/practices listed in each element of the CNMP are needed. I understand that I am responsible for keeping all the necessary records associated with the implementation of this CNMP. It is my intention to implement/accomplish this CNMP in a timely manner as described in the plan.

Signature: _____
Name: _____

Date: 5-16-13

Wastewater Handling and Storage

Signature: _____
Name: _____

Date: 5-16-13

Title: ENGINEER

Certification Credentials: NMPE 17154



As a Professional Engineer I certify that the facility provides the surface water containment described herein. The pond is lined with impervious material. There is no significant leakage or hydrologic connection to surface waters of the United States.

Sensitive data as defined in the Privacy Act of 1974 (5 U.S.C. 552a, as amended) is contained in this report, generated from information systems managed by the USDA Natural Resources Conservation Service (NRCS). Handling this data must be in accordance with the permitted routine uses in the NRCS System of Records at http://www.nrcs.usda.gov/about/foia/408_45.html. Additional information may be found at http://www.ocio.usda.gov/gi_request/privacy_statement.html.

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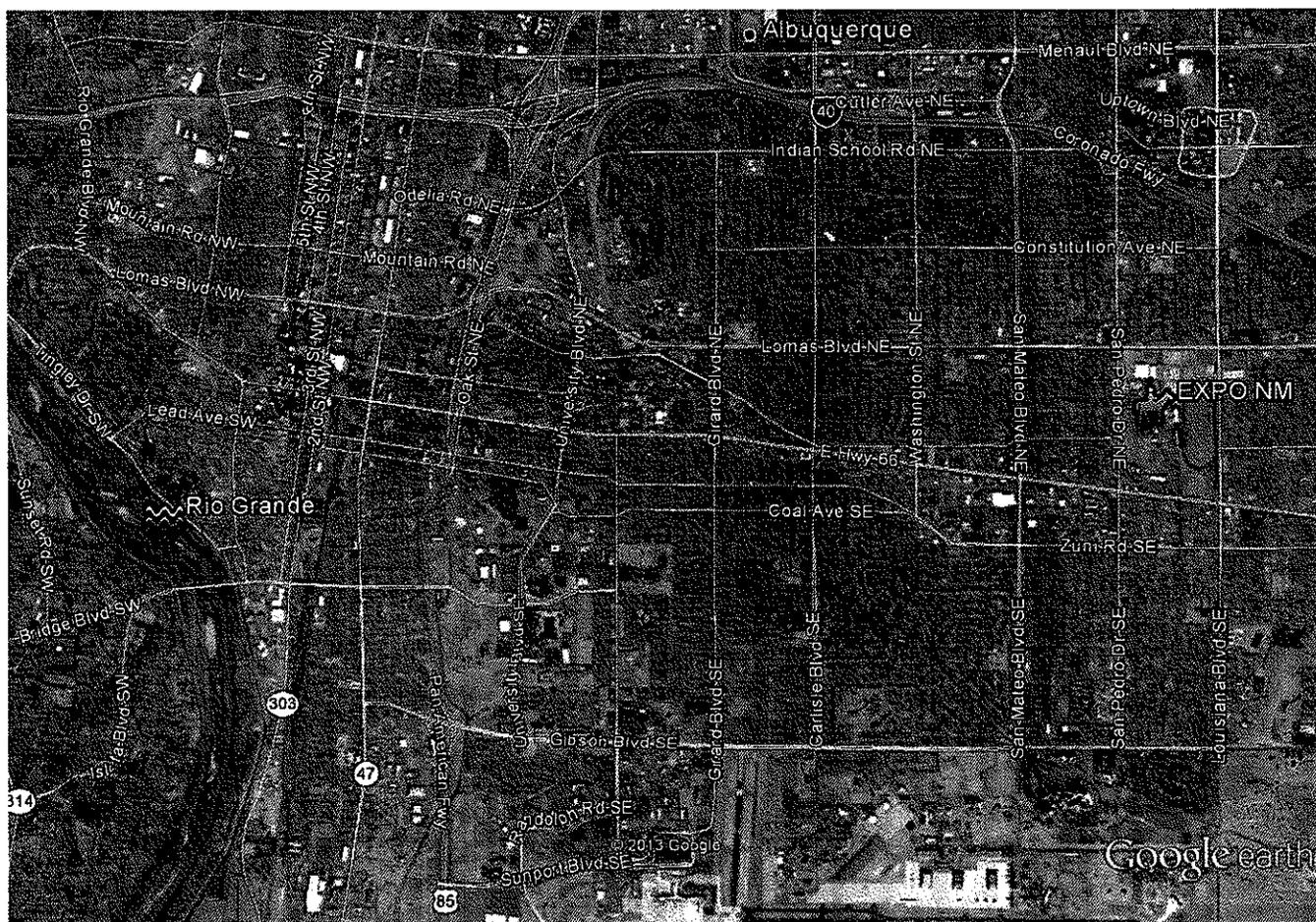
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Section 5. Operation and Maintenance

Section 1. Background and Site Information

1.1. Description of Operation

The EXPO New Mexico site is located within the metropolitan area of Albuquerque, New Mexico (Coordinates: 35.0832, -106.5728). The surrounding area is a fully developed urban community. The EXPO New Mexico site encompasses 224 acres, which includes a variety of uses, buildings, parking areas, barns, stalls and racing facilities. EXPO New Mexico is responsible for the New Mexico State Fair and operates a year-round service and events facility on the EXPO New Mexico site. EXPO New Mexico has leased the operation of a race track and casino on approximately 83 acres of the site to the Downs at Albuquerque, Inc. The animal operations are limited to the 45.2 acres of the facility. The stabling, feeding and maintenance of the animals on site are conducted within the containment of the stables and barns of this area. There is no direct contact of animals with waters of the U.S. As shown on the Area Map the nearest surface water body of the Rio Grande is 4.8 miles from the animals confined to the site.



Area Map

1.2. Summary of CNMP

Decision maker: John Jaramillio
Address: P.O. Box 8456, Albuquerque, NM 87198
Phone: 505-222-9700
Date: 12/31/12

General

The Comprehensive Nutrient Management System for EXPO New Mexico was planned and designed with the involvement of Mr. John Jaramillo. The plan is based on decisions and choices made by him. The system is planned to manage waste generated by the facility in a manner that prevents or minimizes degradation of soil, water, air, plant, and animal resources and protects public health and safety. It is also planned to preclude discharge of pollutants to surface water from a 25-year, 24-hour storm event, to minimize ground water contamination, and to recycle the waste produced through a waste transfer to the municipal compost facility. EXPO New Mexico will not be directly utilizing land application.

Special Conditions

This plan addresses the requirements required by Part III of General Permit NM010000 for the development and implementation of a CNMP. Section 2 of the plan includes the site specific practices and procedures to implement the applicable effluent limitations and standards. The following describes the functions of production, collection, transfer, and storage. The operation and maintenance, and safety requirements for the system presented in this plan are organized by these functions.

System description

The CNMP was planned to accommodate manure and effluent for at least 60 days of storage from the 150 to 1500 horses contained in the facility, and to contain runoff from a 25-year, 24-hour storm event.

The facility is primarily unpaved, within the exception of parking areas and stalls. Manure within the stalls are collected, stacked and transferred to a municipal compost facility.

Decision maker's responsibilities

Mr. John Jaramillo is responsible for the proper installation, operation, and maintenance of the waste management system. The pond system was designed by THE Group. This CNMP was reviewed by Daniel K. Bloedel with the Natural Resources Conservation Service.

Mr. Dan Mourning is responsible for obtaining a surface water discharge permit (NPDES) from the Environmental Protection Agency, and all other necessary permits to operate the system. The system must be operated and maintained in accordance with these permits and other laws and regulations that pertain to its operation including any local and state governmental agencies. All personnel must be trained and informed of the safety and the operation and maintenance requirements for the system.

Production function requirements

The facility provides animal wash racks in the stable areas. The process wastewater will be transferred to the sanitary sewer system unless bypassed to the evaporation pond. Solids are removed and placed in a nearby covered storage.

The system is also designed to store runoff (liquid) in a retention pond.

Collection function requirements

Storm water runs off the CAFO area and flows west and ends up at the northwest corner of the containment area. At the northwest corner lays an evaporation pond.

Storage function requirements

The runoff retention pond has an estimated storage capacity of 6.6 acre feet. The two month storage requirement is 3.9 acre feet. Additional storage capacity exists within the containment area if one calculates the ditches which convey runoff.

The pond shall be inspected at least annually and after unusual storm events. The embankments will be inspected for leaks, slope failures, erosion, and excessive settlement. Excavated slopes will be inspected for slope failures and erosion. Repairs shall be made promptly.

Transfer function requirements

The transfer function applies to movement and transport of the waste throughout the system. Solid manure will be removed and stacked. This will be done daily and staged at a collection sites located throughout the CAFO area. Heavy equipment will be used to remove the manure and place it into solid manure storage bin.

Unless bypassed to the evaporation pond, process wastewater will be transferred to the Albuquerque Bernalillo County Water Utility Authority for treatment at the municipal wastewater treatment plant.

Storm water collected in the retention pond will be allowed to evaporate.

Contingency Plan

In the case of equipment or other facility malfunction, the equipment failure or facility malfunction will be repaired and corrected immediately. Materials for repairs are on hand or can be obtained easily.

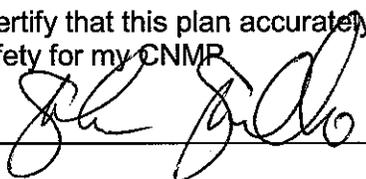
In the case of a wastewater spill: a pump is on hand to pump and remove the spill and properly apply it to the waste storage pond.

Public Protection

This CNMP Plan for EXPO New Mexico can be put into operation and managed as the plan states; and at the same time the public will be assured of water quality protection. This plan is the result of a coordinated resource conservation planning effort of the landowner, the USDA Natural Resources Conservation Service.

Decision maker acknowledgement

I certify that this plan accurately represents my decisions for installation, operation, maintenance, and safety for my CNMP



Mr. John Jaramillo, Deputy Director

5-16-13

Date

Reviewed by:


Daniel Bloedel, Planner, NRCS

Section 2. Handling and Storage

2.1. Manure Collection and Storage

1. The manure and litter will be removed from stalls and placed in poly transport carts.
2. Poly carts will be emptied into multiple covered temporary storage bins. Angle of repose for dry stacked solids may vary from 1:1 to 1½ :1 (horizontal : vertical). Rapid surface drying minimizes fly propagation.
3. Heavy equipment will be used to remove the manure from the temporary bins and place it into the large solid manure storage bin.
4. Contract waste hauler will transfer the contents of the large solid manure storage bin to a municipal compost facility.

EXPO New Mexico will maintain records of the transfer of manure, litter, and process wastewater to other persons or operations. Transfer records will include:

- Date of Transfer
- Recipient name and address
- Measured (tons or gallons) amount of manure, litter, or process wastewater transferred to other persons or operations; and
- Verification that prior to transferring manure, litter, or process wastewater to other person or operations, the CAFO has provided the recipient of the manure, litter, or process wastewater with a current nutrient analysis

2.2. Sampling, Calibration and Other Statements

Sampling Manure

Manure will be analyzed at least annually from each storage structure for Total Kjeldahl Nitrogen, nitrate-nitrogen, total phosphorus, total potassium, and % solids or % moisture. Analysis results must be reported on an "as is" basis in units of lbs/1000 gallons (liquid manure) or lbs/ton (dry manure).

Collect a composite sample by following the procedures listed below. A method for mixing a composite sample is to pile the manure and then shovel from the outside to the inside of the pile until well mixed. Fill a one-gallon plastic heavy-duty zip lock bag approximately one-half full with the composite sample, squeeze out excess air, close and seal. Store sample in freezer if not delivered to the laboratory immediately. (for more information see <http://www.mt.nrcs.usda.gov/technical/ecs/agronomy/nutrient/sampling.html>)

Procedure 1. Sampling while loading - *Recommended method for sampling from a stack or bedded pack.* Take at least ten samples while loading and combine to form one composite sample. Thoroughly mix the composite sample and take an approximately one pound sub sample using a one-gallon plastic bag. *Sampling directly from a stack or bedded pack is not recommended.*

Procedure 2. Sampling daily haul - Fill a five-gallon bucket under the barn cleaner 4-5 times while loading a spreader. Thoroughly mix the composite sample together and take a one-pound sub sample using a one-gallon plastic bag. Repeat sampling 2-3 times over a period of time and test separately to determine variability.

Sample Identification and Delivery

Identify the sample container with information regarding the farm, animal species and date. This information will also be included on the sample information.

Manure samples will be frozen until shipped or delivered to a laboratory. Ship early in the week (Mon.-Wed.) and avoid holidays and weekends.

2.3. Normal Mortality Management

To decrease non-point source pollution of surface and ground water resources, reduce the impact of odors that result from improperly handled animal mortality, and decrease the likelihood of the spread of disease or other pathogens, approved handling and utilization methods shall be implemented in the handling of normal mortality losses.

Animal mortalities must be handled to prevent the discharge of pollutants to state waters. Animal mortalities will be managed to ensure that they are not disposed of in a liquid manure, storm water, process waste water storage or treatment system, or that is not specifically designed to treat animal mortalities.

The handling of horse mortality is under the jurisdiction of the New Mexico Racing Commission. In the event of the death of an animal, a request for a postmortem examination shall be filed with the official veterinarian by the owner's or trainer's veterinarian within one hour of the death. Upon completion of the postmortem examination, dead animals will be hauled away by a licensed service to a licensed landfill within 3 hours of animal mortality.

2.4. Wastewater Handling and Storage

As shown on the Structural Control Map, the facility provides animal wash racks in the stable areas. The process water from these operations is collected in surface drains and flows to the treatment structure and pumping station. The treatment structure removes sediments and floatables from the wastewater. The process wastewater is transferred by the pumping station to the municipal sanitary sewer. The system is equipped with a bypass that allows for the flow to be diverted to the evaporation pond during precipitation events. Solids are removed and placed in a nearby covered storage.

2.5. Clean Water Handling and Storage

As shown on the Structural Control Map, the storm water runoff from the area adjacent to the facility is diverted through storm drains and curbed street flow to prohibit the entry of the water onto the CAFO area. Clean water falling within the boundaries of the CAFO is diverted with surface control measures to an evaporative retention pond. The runoff retention pond has an estimated storage capacity of 6.6 acre feet. The two month storage requirement is 3.9 acre feet.

2.6. Chemical Handling

The facility does not utilize any chemicals in relation to animal operations in the CAFO area. However, the following measures have been implemented by the facility to prevent chemicals and other contaminants from contaminating process waste water, litter, manure or storm water storage and treatment systems.

| |
|--|
| Chemical storage areas are self-contained with no drains or other pathways that will allow spilled chemicals to exit the storage area. |
|--|

| |
|---|
| Chemical storage areas are covered to prevent chemical contact with rain or snow. |
|---|

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|--|
| Emergency procedures and equipment are in place to contain and clean up chemical spills. |
|--|

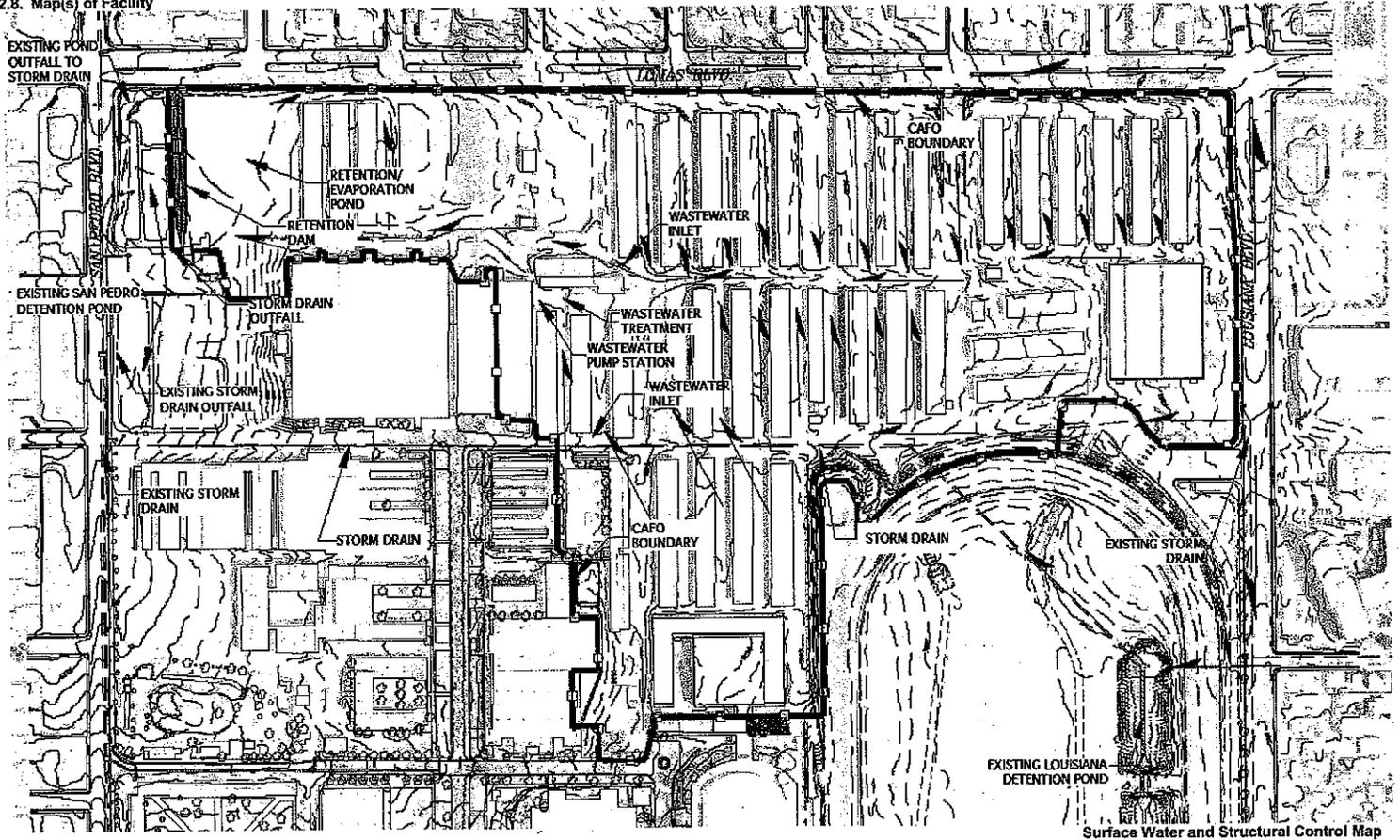
| |
|---|
| Chemical handling and equipment wash areas are designed and constructed to prevent contamination of surface waters and waste water and storm water storage and treatment systems. |
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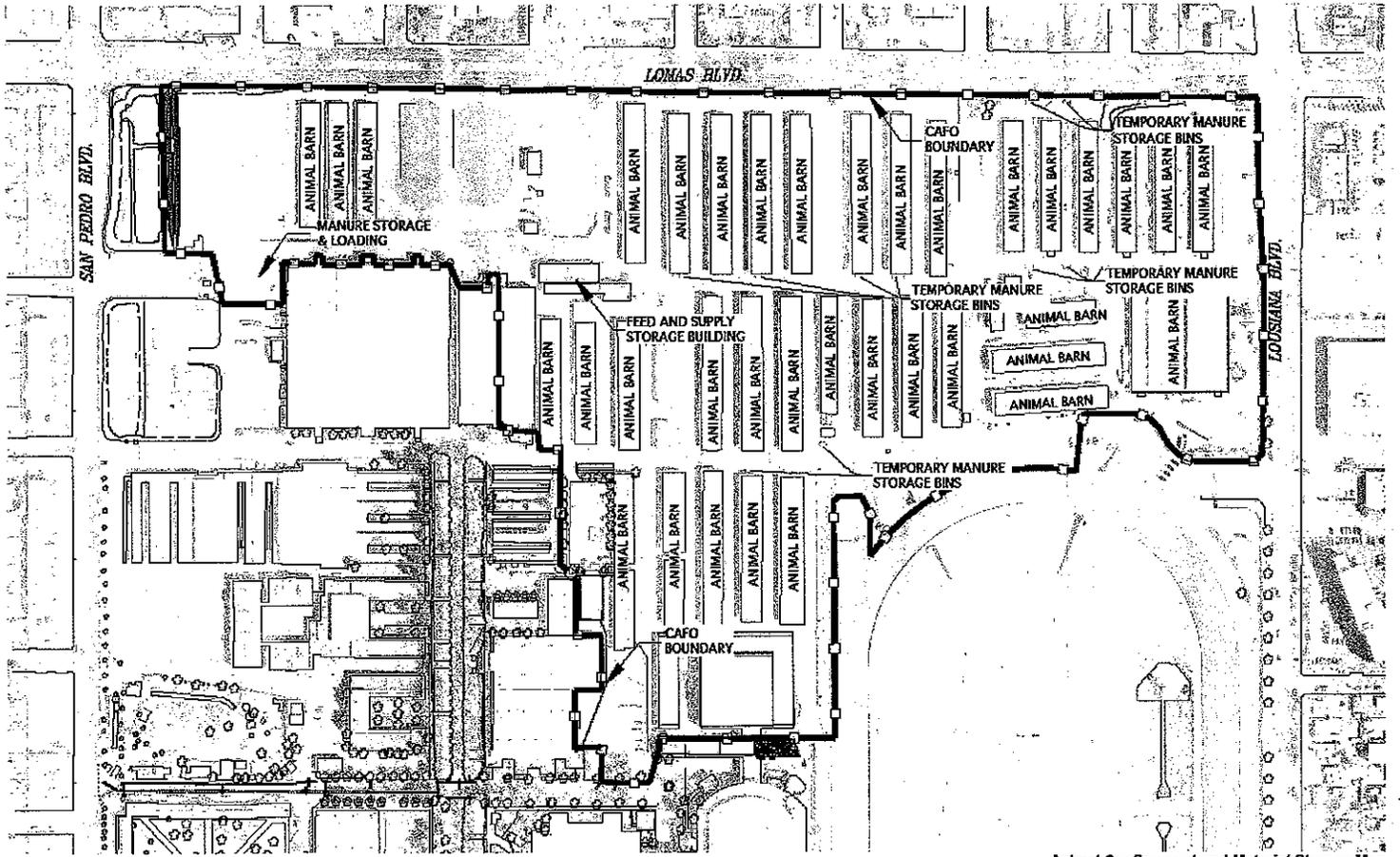
| |
|--|
| All chemicals are custom applied and no chemicals are stored at the operation. Equipment wash areas are designed and constructed to prevent contamination of surface waters and waste water and storm water storage and treatment systems. |
|--|

2.7. Material Storage

The raw material storage (feed and supplies) are contained within the storage area depicted on the Animal Confinement and Material Storage Map.

2.8. Map(s) of Facility





Animal Confinement and Material Storage Map

Section 3. Safety and Security

3.1. Emergency Response Plan

Emergency Contacts

| Department / Agency | Phone Number |
|--|---------------|
| Ambulance/Fire/Police/Sheriff | 911 |
| New Mexico Environment Department http://www.nmenv.state.nm.us/gwb/low.htm | 505-827-9329 |
| EPA Emergency Spill Hotline http://www.epa.gov/epahome/violations.htm | 800-424-8802. |

1. **Stop the release of wastes.** Depending on the situation, this may or may not be possible. The possible responses to several problems are listed below:

Lagoon or slurry basin overflow, (When Lagoon has exceeded the temporary storage level) - possible solutions are:

- add soil to berm to increase elevation of dam
- stop all additional flow to the structure (waters, flushing system, etc.)
- call a pumping contractor
- make sure no surface water is entering storage structure

2. **Assess the extent of the spill** and note any obvious damages.

- *Did the waste reach any surface waters?*
- *Approximately how much was released and for what duration?*
- *Any damage noted, such as employee injury, fish kills, or property damage?*
- *Did the spill leave the property?*
- *Does the spill have the potential to reach surface waters?*
- *Could a future rain event cause the spill to reach surface waters?*
- *Are potable water wells in danger (either on or off the property)?*

3. **Contact appropriate agencies**

- EMERGENCY SERVICES
- New Mexico Environment Department, (NMED-505-827-9329)

You should include:

- your name, location telephone number
- the details of the incident from item 2 above,
- location or direction of movement of the spill,
- weather and wind conditions,
- what corrective measures have been undertaken

4. **Implement procedures** as advised by NMED and technical assistance agencies to rectify the damage, repair the system, and reassess the waste management plan to keep problems with release of wastes from happening again.

The emergency response plan includes provisions for emergency transfer of waste from all waste storage structures in the system. This may include emergency pumping (to prevent overtopping of a storage structure)

The emergency response plan will be available and understood by all employees at the facility. The main points of the plan (order of action) along with the phone numbers should be posted by all telephones at the site. A copy should also be available in remote locations or vehicles if the land application sites are not close by the facility office. It is the responsibility of the owner or manager of the facility that all employees understand what circumstances constitute an imminent danger to the environment or health and safety of workers and neighbors. The employees should be able to respond to such emergencies and notify the appropriate agencies of conditions at the facility.

Safety Precautions

Dangerous Gases

Dangerous situations can be associated with five main gases that are produced in livestock and poultry buildings and manure storage structures. These gases are listed in Table 1 along with some of their characteristics. All of these are colorless.

| Gas | Odor | Density | Health Effects |
|-------------------------------------|------------------|------------------|---|
| Ammonia (NH ₃) | Pungent | Lighter than air | Irritation to eyes and nose. Asphyxiating at high levels. |
| Carbon Dioxide (CO ₂) | None | Heavier than air | Drowsiness, headache. Can be asphyxiating. |
| Carbon Monoxide (CO) | None | Heavier than air | Headache, chest pains, potential for problems with developing fetuses. Can be asphyxiating. |
| Hydrogen Sulfide (H ₂ S) | Rotten-egg smell | Heavier than air | TOXIC: causes headache, dizziness, nausea, unconsciousness, death. |
| Methane (CH ₄) | None | Lighter than air | Headache, asphyxiant, explosive in 5% to 15% mixture methane with air. |

Ammonia (NH₃) is released from fresh manure and urine and during anaerobic decomposition. Ammonia levels tend to be high in buildings where manure is not regularly and thoroughly removed. Examples include buildings with litter, solid floors, or scrapers where manure is spread over the floor. Heated floors can increase ammonia release. Furthermore, when pH levels are higher than 8.0, ammonia is more susceptible to being released. Ammonia is very soluble in water, therefore liquid manure systems tend to release less ammonia. Building ventilation also affects ammonia levels in the air.

Carbon Dioxide, (CO₂). Death of animals in closed confinement buildings following a ventilation-equipment failure (such as a power failure) is due in part to excessive carbon dioxide. Carbon dioxide is released by unvented heaters, through livestock respiration and manure decomposition. In fact, most of the gas in bubbles coming from stored manure or lagoons is CO₂. Vigorous agitation of stored manure can also release a large amount of carbon dioxide in a short time period.

Carbon Monoxide, (CO) can cause workers to develop headaches and experience chest pain. Pregnant women should be aware of the potential health hazard this gas poses to a developing fetus. Carbon monoxide is rare in confinement buildings, but can accumulate in areas with poor ventilation such as swine farrowing rooms and nursery buildings. Evidence of carbon monoxide overexposure among livestock may first appear as aborted litters and stillbirth. The main sources of CO are heaters (LP-fired, radiant brooder, or space).

Hydrogen Sulfide (H₂S) is the most toxic gas generated from the storage liquid manure storage. Exposure to 200 ppm for an hour can cause headaches and dizziness; 500 ppm for 30 minutes can cause severe headaches, nausea, excitement, or insomnia. High concentrations of 800 to 1,000 ppm can cause immediate unconsciousness and death through respiratory paralysis unless the victim is moved to fresh air and artificial respiration is immediately applied. Be aware even the characteristic rotten-egg smell of hydrogen sulfide does not

give adequate warning. The sense of smell is rapidly fatigued by the gas and high concentrations do not give proportionately higher odor intensity. Also note that dangerous concentrations can be released by agitation of stored liquid manure. Concentrations reaching 200 to 300 ppm have been reported in buildings a few minutes after starting to pump waste from a storage pit and can be as high as 800 ppm during vigorous agitation.

Methane (CH₄) is a product of manure decomposition under strict anaerobic conditions, such as those found in an anaerobic or biogas digester. It is insoluble in water, lighter than air, and thus will accumulate in stagnant air corners in the top of enclosed pits or buildings. Methane is not toxic, but at high concentrations may cause an asphyxiating environment. Methane concentrations in confinement housing is normally well below the levels that may be explosive. However, explosions attributed to methane have occurred around manure storage pits.

First Aid for Victims of Manure-Gas Asphyxiation

1. Do not attempt to rescue a victim from a hazardous gas situation unless you are protected with a supplied air-breathing apparatus.
2. Have someone telephone for an emergency medical (rescue) squad, informing them there is a "victim of toxic gas asphyxiation."
3. If the victim is free from the immediate area of danger and there is no personal threat to life, check for breathing (with the victim on his/her back). If there is no breathing, give four quick breaths and check for a pulse.
 - *If there is a pulse*, continue mouth-to-mouth breathing every 5 seconds (12 per minute).
 - *If there is no pulse*, start CPR (cardio-pulmonary resuscitation) immediately.

Effect of Air Quality on Human Health

Health problems associated with poor air quality include coughing, phlegm production, wheezing, chest tightness, headaches, shortness of breath, eye irritation, sneezing, runny nose, and nasal congestion. Problems are usually greater the more time a worker spends in the presence of the contaminant and the greater the concentrations of airborne contaminants. In addition, some people are more susceptible than others.

Safety Precautions with Manure Storage

The following major safety points will be considered when installing and operating manure equipment, structures, or systems:

- Do not enter a manure pit unless following procedures for entering a confined space.
- When possible, construct lids for manure pits and tanks. Keep these lids in place. If an open, ground-level tank or pit is necessary, build a fence around it and post with "Keep Out" and "Danger Manure Storage" signs.
- Fence in earthen storage ponds and lagoons, and erect signs: "Danger Manure Storage." Additional precautions include a minimum of one lifesaving station equipped with a reaching pole and a ring buoy on a line.
- Don't smoke, weld, or use an open flame in confined, poorly ventilated areas where methane can accumulate. Electric motors, fixtures, and wiring near manure storage structures should be kept in good condition to prevent a spark from igniting the methane.
- Keep all guards and safety shields on all mechanical equipment such as pumps, manure spreaders, and irrigation equipment.

Vehicle Safety

Only employees with a current, valid NM driver's license should drive vehicles. In the case of specialized vehicles, only trained operators should operate the vehicles. The driver of the vehicle should inspect the vehicle prior to operating it.

- All vehicles should be operated within the legal speed limit at all times or at a lower speed where conditions warrant.
- Vehicles should not be used to transport unauthorized personnel.
- The driver should be familiar with the capacity and required clearances for safe use of the vehicle.
- Vehicle windshields and windows should be kept clear of obstructions.

- Objects or persons being transported should be located so that they do not obstruct the driver's view.
- Always know the proper operating procedures for each piece of equipment used.

Heavy Equipment Vehicles

- Make sure that the air brake system (if present) has reached operating pressure before driving the vehicle.
- Make sure everyone is clear of the vehicle before starting. Slight steering movement can occur as the engine starts causing machine movement.
- Stay clear of the engine when it is running. Work on the engine only when it is off.
- Do not move the steering wheel until everyone is clear of the vehicle.

Power Take-Off (PTO)

- Refer to the safety section of owner's manual.
- Stay clear of rear of vehicle during operation.
- Do not wear loose fitting clothing, scarves, or jewelry that could get caught in the PTO.
- Tie back long hair.

Hydraulic Systems

- Do not open pressurized lines. Hydraulic fluid can cause severe burns, eye injury, or skin irritation.
- Search for leaks in the line using a piece of cardboard or wood, not your hands.
- If anyone is injured by hydraulic fluid, administer first aid and then contact a physician.
- Stay clear of leaky hydraulic lines.

Electrical Safety

All employees must lock-out/tag-out any piece of equipment they are working on where the unexpected energization, startup, or release of stored energy could occur. In case of electrocution, turn off power to the electrical source or use an insulated implement, such as a piece of wood, to separate the victim from the source. Do not attempt to pull a victim away from the electrical source with your bare hands.

Responsibilities of the Site Supervisor

The following will be the responsibility of the site supervisor:

- Establish and supervise an accident prevention program and a training program that is designed to improve the skills and competency of all employees in the field of occupational safety and health.
- Conduct preliminary investigations to determine the cause of any accident that results in injury. The results of this investigation should be documented for reference.
- Establish and maintain a system for maintaining records of occupational injuries and illnesses.
- Provide new employees with a safety orientation on the special hazards and precautions of any new job.
- Conduct job briefings with employees before starting any job to acquaint them with unfamiliar procedures.
- Issue necessary safety equipment and manuals.
- Conduct periodic group safety meetings with all employees.

The Safety Program will include:

- procedures for reporting injuries;
- procedures for reporting unsafe conditions or practices;
- use and care of personal protective equipment;
- proper actions to be taken in the event of emergencies;
- identification of hazardous gases, chemicals, or materials; and
- instructions on safe use of hazardous gases, chemicals, or materials and emergency procedures following exposure.

First Aid Training

There will be a person available at all times with first aid training in:

- bleeding control and bandaging
- artificial respiration, including mouth-to-mouth resuscitation
- poisons
- shock, unconsciousness, stroke
- burns
- sunstroke, heat exhaustion
- frostbite, hypothermia
- strains, sprains, hernia
- fractures, dislocations
- bites, stings
- transportation of the injured
- specific health hazards likely to be encountered by co-workers

There will be adequate, readily available first aid kits and supplies on site. Emergency telephone numbers must be posted by telephones.

Eyewash

Suitable facilities for quick drenching or flushing of the eyes and body should be provided in areas where the eyes or body of any person may be exposed to injurious chemicals and materials.

Responsibilities of the Employer (Safe Place Standards)

The following are the responsibility of the *employer*:

The employer will furnish to each of his employees a workplace free from recognized hazards that may cause serious injury or death.

- The employer will furnish and use safety devices and practices that are reasonably adequate to render the employee workplace safe. The employer should do everything reasonably necessary to protect the life and safety of employees.
- Employer will not require an employee to be in any workplace that is not safe.

Responsibilities of the Employee

The following are the responsibility of the *employee*:

- Each employee should keep themselves informed of the contents of the appropriate sections of this manual and any other safety manuals provided by the employer and apply it to their work.
- Each employee should perform their duties so as to provide safety to themselves and other employees.
- An employee should request instruction from the site supervisor if there is a question as to the safe performance of an assigned task.
- Each employee should wear clothing that is suitable for the job performed.
- Each employee is responsible to report to the site supervisor any unsafe condition, acts, or hazards.
- Each employee should wear appropriate personal protective equipment.

Personal Protective Equipment (PPE)

Employees will use the appropriate personal protective equipment, or protective devices, provided for their work. Before starting work, these items should be inspected by the employee to ensure that they are in safe operating condition. These items include, but are not limited to:

- Hard hats should be worn when appropriate.
- Hearing protection should be used, as needed, to reduce noise levels when working around generators and heavy equipment.
- Eye protection should be worn when operating shop tools, and when working around chemicals.
- Safety belts/seat belts should be worn at all times in vehicles.
- Approved welding goggles or helmets and gloves should be worn while welding, cutting, or both. Fasten clothing around the neck, wrists, and ankles.

Lifting and Carrying

Everyone should observe the following guidelines to avoid possible injury when lifting and carrying objects:

- Set your feet far enough apart to provide good balance and stability (approximately the width of your shoulders).
- Get as close to the load as practical, bending your legs at the knees, and bending at the hips to keep your back as straight as possible.
- Straighten your legs to lift the object, and at the same time bring your back to a vertical position.
- When lifting an object with another person, be sure that both individuals lift at the same time and let the load down together.
- Do not carry loads above people. Do not hoist, lower, or move any person with a crane by allowing them to stand on the hook, or by any non-approved method.
- Do not stand under a suspended load or boom unless the nature of the work requires it.

Personal Hygiene

Wastewater contains pathogens (disease-causing organisms). Hence, good personal hygiene is very important!

- Keep your hands away from your nose, mouth, eyes, and ears to avoid ingestion of wastewater.
- Non-permeable gloves should be worn when handling any equipment covered with wastewater or residuals.
- Special care (e.g., protective, waterproof dressing) should be taken to keep any area of broken skin covered to avoid possible infection. If a worker suffers an injury which results in an open wound or laceration, they should be given a tetanus booster.
- Wash hands thoroughly with soap before smoking, eating, drinking, or after work.
- Work clothing should be changed and washed daily.
- If contact with wastewater does occur, wash the area thoroughly with water and soap. Sponge any cuts with an antiseptic solution and cover with a clean, dry gauze dressing and waterproof adhesive.

Immunization

Each facility may want to consult a physician or the local health department to determine the need for immunizations for the employees working at the site. Adult tetanus and diphtheria should be given routinely every 10 years, or at shorter intervals when injury occurs.

Working in a Confined Space

A confined space is defined as a space that has limited means of entry and exit, has an adequate size and configuration for employee entry, and is not designed for continuous worker occupancy. Under new OSHA regulations, there are certain confined spaces that require a permit for entry. A permit-required confined space is defined as a confined space that has one or more of the following characteristics:

- it contains or has the potential to contain a hazardous atmosphere
- it contains a material that has the potential for engulfing an entrant
- it has an integral configuration such that an entrant could be trapped or asphyxiated by inwardly-converging walls or by a floor which slopes downward and tapers to a smaller cross-section or
- it contains any other recognized serious safety or health hazard.

If a facility has permit-required confined spaces, to be in compliance with the new OSHA regulations, a written confined space entry program must be developed and implemented. Enclosed facilities which are used to handle wastewater or wastewater solids, such as the tanks and/or tanker trucks, would fall under the permit-required confined space regulations. Do not enter a permit-required confined space without proper training, equipment, and support personnel. (*The confined space regulations can be found in the Code of Federal Regulations 29 CFR 1910.147.*)

When working in a space that does not require a confined space permit, the following safety actions must be taken:

- Wear ear protection, as needed. Noise within a confined space can be amplified because of the design and acoustic properties of the space.
- Use only an air-supplying respirator, such as a self-contained breathing apparatus (SCBA) or a supplied-air respirator with an auxiliary escape-only SCBA in confined spaces where there is insufficient oxygen.

Fire Prevention and Protection

Employees will be knowledgeable of the fire conditions at the site and operate accordingly. Poor site maintenance, worn or defective electrical systems, and welding and cutting may contribute to dangerous situations. The following precautions will be observed:

1. Do not smoke near equipment or fuel trailers. No open flame should be allowed near wastewater storage tanks. Combustible gases can accumulate and when vented to the surrounding area, may become explosive.
2. Do not tamper with or remove fire-fighting equipment from designated locations for purposes other than fire-fighting or rescue operations. Access to fire equipment should not be hindered. If fire extinguishers are used, they should be promptly recharged. Inspect fire extinguishers monthly to be sure they are in good operating condition.

3.2. Biosecurity Measures

Biosecurity is critical to protecting livestock and poultry operations against contagious organisms and other diseases.

Effective biosecurity requires several components including isolation, traffic control, and sanitation that aim to reduce exposure to bacteria, viruses and other organisms that may infect animals with disease. Additionally, maintain a high sense of awareness for unusual occurrences of animal diseases in the community.

General Potential Signs of Foreign Animal Diseases

- Sudden, unexplained death loss
- Severe illness affecting a high percentage of animals
- Blistering around an animal's mouth, nose, teats, or hooves
- Unusual ticks or maggots
- Staggering, falling or central nervous system disorders.

Section 4. Recordkeeping and Activity Documentation

1. The number and type of animals.
2. Amount of total manure, litter and process wastewater generated by the facility.
3. Amount of total manure, litter and process wastewater transferred to others by the facility.
4. Results of all samples of manure, litter or process wastewater.
5. Inspection reports of all storm water diversion devices and containment structures.
6. Design documentation for all manure, litter and wastewater storage structures.

Section 5. Operation and Maintenance

1. Manure and Wastewater Handling Summary

EXPO New Mexico will follow safety and emergency action plan and operation and maintenance included in this CNMP, in addition to the following general items.

a. Manure

- Manure produced at the facility will be removed from the stalls at least daily and hauled offsite by a contract manure hauler. Records of manure removal will be maintained in the CNMP.
- Manure will be sampled annually to determine the nutrient content of the material. This information will remain on-site and be provided to the manure hauler.

- Solids will be removed from the area and handled in a similar manner. Sludge will be removed from the retention pond when the volume of sludge reduces the 60 day storage volume in the retention pond. Sludge that is removed will be stockpiled until it can be utilized in one of the ways described above.
- Rainfall runoff associated with the manure stockpile will be contained.

b. Wastewater

- The wastewater storage system at the facility will consist of the utilization of a pond. A permanent marker will be installed with a mark identifying the required 25-year, 24-hour storm volume in the pond. The level of the pond should be recorded on a weekly basis, after each precipitation.
- The wastewater disposal system consists of evaporation. Wastewater is allowed to evaporate within the pond.
- All lagoons and berms shall be inspected on a monthly basis to identify signs of erosion, foreign debris, or root intrusion. Operators shall immediately remove any foreign debris in or adjacent to the lagoon, and remove deep-rooted plants from the liner and/or berms.
- Repairs to address erosion, cracking or settlement shall be made immediately.

c. Inspections and maintenance over 20-year design life

- Do not dispose of dead animals, greases, syringes or other wastes in the facility
- A thorough inspection of clay or geosynthetic liners, and concrete sumps, pits, walls, ramps and floors for separations and/or cracks, which would indicate potential failure. This should be done each time the pond is emptied. Repairs should be made immediately.
- All pipes, pumps, valves, gates, should be inspected a minimum of twice a year. Inspect for functional and structural soundness. Repair as needed.
- Check frequently for burrowing animals. When found, remove the burrowing animals, replace embankment materials.
- The livestock facility, including the embankments, should be fenced. All fences and gates should be inspected at least twice a year. Damaged fences and gates should be repaired or replaced.
- Maintain appropriate warning signs.
- Safety stations should be inspected at least twice a year. Safety items should be replaced as necessary.
- Immediately repair any vandalism, vehicular or livestock damage to any earth fills, spillways, outlets or other appurtenances.
- Immediately remove any foreign debris in or adjacent to the waste storage facility.

2. Pond Solids Removal and Handling

- Solids shall be removed when encroaching on the volume reserved for the 25-year, 24-hour storm event and the 60 day storage volume. At no time shall emissions from cleaning activities create a nuisance.
- Storage of pond solids shall not cause a discharge of pollutants to waters in the state, cause a water quality violation in waters in the state or cause a nuisance condition. At all times, sufficient volume shall maintained within the control facility to accommodate manure, other solids, wastewaters and contaminated storm waters (rain water runoff) from the concentrated animal feeding areas.

3. Manure Handling

- At all times, sufficient volume will be maintained within the control facility to accommodate manure, other solids, wastewaters and contaminated storm waters from the concentrated animal feeding areas.
- Storage and/or surface disposal of manure in the 100-year flood plain, near water courses or recharge zone/feature is prohibited unless protected by adequate berms or other structures; berms or other structures must be certified by a licensed professional engineer to be adequate and properly constructed.
- When manure is stockpiled, it will be stored in a well drained area with no ponding of water, and the top and sides of stockpiles will be adequately sloped to ensure proper drainage. Stockpiles should be located away from watercourses, above the 100-year flood plain, at least 150 feet downstream of wells. Runoff from manure storage pile must be retained on-site. It is recommended that manure be stored on an elevated berm or roofed area, and on an impervious layer such as a concrete or lined pad.

4. Dust and Odor Control

Practices follow to address odor and dust concerns:

- Clean stalls frequently to remove manure.
- Manure and litter storage will be covered.
- Use windbreaks to reduce dust and odor problems.
- Communicate with neighbors to ensure they understand the dairy operation and are not harboring complaints.