Buddy Garcia, *Chairman*
Larry R. Soward, *Commissioner*
Bryan W. Shaw, Ph.D., *Commissioner*
Mark R. Vickery, P.G., *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

September 3, 2009

TO: Persons on the attached mailing list.

RE: Joseph Wilson Osinga, Jennifer Sheree Osinga, Bert Marcel Velsen, & Heidi Velsen dba Osve Dairy
TPDES Permit No. WQ0003682000

Decision of the Executive Director.

The executive director has made a decision that the above-referenced permit application meets the requirements of applicable law. **This decision does not authorize construction or operation of any proposed facilities.** Unless a timely request for contested case hearing or reconsideration is received (see below), the TCEQ executive director will act on the application and issue the permit.

Enclosed with this letter is a copy of the Executive Director's Response to Comments. A copy of the complete application, draft permit and related documents, including public comments, is available for review at the TCEQ Central office. A copy of the complete application, the draft permit, and executive director's preliminary decision are available for viewing and copying at the Stephenville Public Library, 174 North Columbia, Stephenville, Texas.

If you disagree with the executive director's decision, and you believe you are an "affected person" as defined below, you may request a contested case hearing. In addition, anyone may request reconsideration of the executive director's decision. A brief description of the procedures for these two requests follows.

How To Request a Contested Case Hearing.

It is important that your request include all the information that supports your right to a contested case hearing. You must demonstrate that you meet the applicable legal requirements to have your hearing request granted. The commission's consideration of your request will be based on the information you provide.

The request must include the following:

(1) Your name, address, daytime telephone number, and, if possible, a fax number.

(2) If the request is made by a group or association, the request must identify:
   (A) one person by name, address, daytime telephone number, and, if possible, the fax number, of the person who will be responsible for receiving all communications and documents for the group; and
   (B) one or more members of the group that would otherwise have standing to request a hearing in their own right. The interests the group seeks to protect must relate to the organization's purpose. Neither the claim asserted nor the relief requested must require the participation of the individual members in the case.

(3) The name of the applicant, the permit number and other numbers listed above so that your request may be processed properly.

(4) A statement clearly expressing that you are requesting a contested case hearing. For example, the following statement would be sufficient: "I request a contested case hearing."

Your request must demonstrate that you are an **"affected person."** An affected person is one who has a personal justiciable interest related to a legal right, duty, privilege, power, or economic interest affected by the application. Your request must describe how and why you would be adversely affected by the proposed facility or activity in a manner not common to the general public. For example, to the extent your request is based on these concerns, you should describe the likely impact on your health, safety, or uses of your property which may be adversely affected by the proposed facility or activities. To demonstrate that you have a personal justiciable interest, you must state, as specifically as you are able, your location and the distance between your location and the proposed facility or activities.

Your request must raise disputed issues of fact that are relevant and material to the commission's decision on this application. The request must be based on issues that were raised during the comment period. The request cannot be based solely on issues raised in comments that have been withdrawn. The enclosed Response to Comments will allow you to determine the issues that were raised during the comment period and whether all comments raising an issue have been withdrawn. The public comments filed for this application are available for review and copying at the Chief Clerk's office at the address below.

To facilitate the commission's determination of the number and scope of issues to be referred to hearing, you should: 1) specify any of the executive director's responses to comments that you dispute; and 2) the factual basis of the dispute. In addition, you should list, to the extent possible, any disputed issues of law or policy.

How To Request Reconsideration of the Executive Director's Decision.

Unlike a request for a contested case hearing, anyone may request reconsideration of the executive director's decision. A request for reconsideration should contain your name, address, daytime phone number, and, if possible, your fax number. The request must state that you are requesting reconsideration of the executive director's decision, and must explain why you believe the decision should be reconsidered.

Deadline for Submitting Requests.

A request for a contested case hearing or reconsideration of the executive director's decision must be **received by** the Chief Clerk's office no later than **30 calendar days** after the date of this letter. You may submit your request electronically at http://www.tceq.state.tx.us/about/comments.html or by mail to the following address:

LaDonna Castañuela, Chief Clerk
TCEQ, MC-105
P.O. Box 13087
Austin, Texas 78711-3087

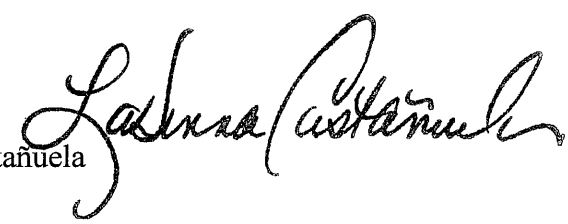
Processing of Requests.

Timely requests for a contested case hearing or for reconsideration of the executive director's decision will be referred to the alternative dispute resolution director and set on the agenda of one of the commission's regularly scheduled meetings. Additional instructions explaining these procedures will be sent to the attached mailing list when this meeting has been scheduled.

How to Obtain Additional Information.

If you have any questions or need additional information about the procedures described in this letter, please call the Office of Public Assistance, Toll Free, at 1-800-687-4040.

Sincerely,



LaDonna Castañuela
Chief Clerk

LDC/lg

Enclosures

MAILING LIST
For
Joseph Wilson Osinga, Jennifer Sheree Osinga, Bert Marcel Velsen,
& Heidi Velsen dba Osve Dairy
TPDES Permit No. WQ0003682000

FOR THE APPLICANT:

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Bert Marcel Velsen and Heidi Velsen
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PROTESTANTS/INTERESTED PERSONS:

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FOR THE EXECUTIVE DIRECTOR
via electronic mail:

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Texas Commission on Environmental Quality
Office of Chief Clerk MC-105
P.O. Box 13087
Austin, Texas 78711-3087

Proposed Amended TPDES Permit No. WQ0003682000

Application by	§	Before the
Joseph Wilson Osinga, Jennifer Sheree	§	
Osinga, Bert Marcel Velsen & Heidi	§	**TEXAS COMMISSION ON**
Velsen dba Osve Dairy	§	
for **TPDES Permit No. WQ0003682000**	§	**ENVIRONMENTAL QUALITY**

EXECUTIVE DIRECTOR'S RESPONSE TO PUBLIC COMMENT

The Executive Director (ED) of the Texas Commission on Environmental Quality (the Commission or TCEQ) files this Response to Public Comment (Response) on the application by Joseph Wilson Osinga, Jennifer Sheree Osinga, Bert Marcel Velsen & Heidi Velsen dba Osve Dairy (Applicant) for a major amendment to Texas Pollutant Discharge Elimination System (TPDES) Permit No.WQ0003682000 and on the ED's preliminary decision on the application. As required by Title 30 of the Texas Administrative Code (30 TAC) Section (§) 55.156, before a permit is issued, the ED prepares a response to all timely, relevant and material, or significant, comments. The Office of Chief Clerk timely received comment letters from The City of Waco (The City) and Richard and Suzanne Webb (The Webb's). This Response addresses all comments received, whether or not withdrawn. If you need more information about this permit application or the wastewater permitting process, please call the TCEQ Office of Public Assistance at 1-800-687-4040. General information about the TCEQ can be found at our website at www.tceq.state.tx.us.

BACKGROUND

Description of Facility

The Applicant has applied to the TCEQ for a major amendment to TPDES Permit No.WQ0003682000 that would authorize the permittee to expand an existing dairy facility from 850 head to a maximum of 1,600 head, of which 700 head are milking cows. The facility is located on the east side of US Highway 281, approximately 10 miles south of the city limit sign of Stephenville, Erath County, Texas. The facility is located in the drainage area of the North Bosque River in Segment No. 1226 of the Brazos River basin.

Procedural Background

The application was received on May 9, 2007, and declared administratively complete on July 20, 2007. Notice of Receipt of Application and Intent to Obtain a Water Quality Permit (NORI) was published August 2, 2007 in the *Stephenville Empire Tribune*. The ED completed the technical review of the application and prepared a draft permit. Notice of Application and

Preliminary Decision for a Water Quality Permit (NAPD) was published November 16, 2008 in the *Stephenville Empire Tribune* and the comment period closed December 15, 2008. This application is subject to the procedural requirements adopted pursuant to House Bill 801 (76th Legislature, 1999).

COMMENTS and RESPONSES

COMMENT 1

The Webb's comment that they cannot enjoy their property, namely their yard and pool, because of the contaminated air, strong odor, dust, and the large number of flies that originate from the dairy." The Webb's comment that expanding the dairy will only serve to exacerbate the already existing problems.

RESPONSE 1

Section VII.D of the draft permit contains provisions related to air quality. The draft permit prohibits the facility from creating a nuisance. TCEQ's CAFO rules define a nuisance as:

> Any discharge of air contaminant(s) including, but not limited to, odors of sufficient concentration and duration that are or may tend to be injurious to or that adversely affects human health or welfare, animal life, vegetation, or property, or that interferes with the normal use and enjoyment of animal life, vegetation, or property. *See* 30 TAC § 321.32(32).

The draft permit also requires the Applicant to take necessary action to abate any nuisance condition as soon as practical or as specified by the ED. Section VII.D.2. and VII.D.3. of the draft permit provides specific requirements related to dust control, maintenance, and housekeeping to reduce or prevent nuisance conditions. Nuisance conditions include, but are not limited to, the discharge of air contaminants or excessive odors.

The draft permit requires the Applicant to maintain a portion of their RCS volume for anaerobic treatment process generated wastewater. Treatment volume is required to minimize odors for facilities requesting air authorization under the Air Standard Permit in 30 TAC § 321.43. Treatment volume is based on the amount of volatile solids produced and the volatile solids loading rate. Volatile solids are solid material in waste that can be decomposed through biological, physical, and chemical activity. The rate of solid decomposition is based on temperature; therefore it varies by geographic location. The volatile solids loading rate for this facility is 5.20 pounds per day of volatile solids per 1000 ft^3 of treatment volume.

Individuals are encouraged to report any concerns about nuisance issues or suspected noncompliance with the terms of any permit or other environmental regulation by contacting

the TCEQ's Stephenville Special Projects Office at 254-965-9200, or by calling the 24-hour toll-free TCEQ Environmental Complaints Hotline at 1-888-777-3186. The TCEQ investigates all complaints received. If the facility is found to be out of compliance with the terms and conditions of its permit, it is subject to enforcement action.

COMMENT 2

The Webb's comment that they have to drill 400 feet to get clean water and that the level is increasing to 600 feet. They comment that they must have a supply of clean water and if the dairy is expanded their supply of drinking water will be reduced even more.

RESPONSE 2

In the wastewater permitting process, TCEQ is tasked by the Legislature with protecting the quality of the water in the state. Water supply is not a factor in determining whether an Applicant has met all of the statutory and regulatory criteria applicable to a wastewater permit.

COMMENT 3

The Webb's comment that the dairy produces a great volume of wastewater, which has the potential to contaminate the stream, rivers, and drinking water, and that if the dairy is expanded the chance of contamination is greater. They are concerned that all the runoff is not contained in the RCSs.

RESPONSE 3

No discharge is authorized except when chronic or catastrophic rainfall, or catastrophic conditions cause an overflow from a properly designed, constructed, operated, and maintained RCS.

The RCSs must be designed by a professional engineer to contain all runoff from open lot pens and wash water from the milking parlor. Process generated wastewater is the wash water from the milking parlor and is directed, by an underground pipe, to the settling basin and then to the RCSs. All manure must be stored within the drainage area or bermed to contain runoff from a 25-year, 10-day rainfall event (approximately 12.0 inches).

This draft permit requires that the Applicant implement an RCS management plan and maintain a copy in the Pollution Prevention Plan (PPP) as required by 30 TAC § 321.42(g). The RCS management plan must establish expected end of the month water storage volumes for each RCS. These maximum levels are based on the design assumptions used to determine the required size of the RCSs. This plan assures that the Applicant will maintain wastewater volumes within the design capacity of the structures. The Applicant must document and

provide an explanation for all occasions where the water level exceeds the expected end of the month storage volumes. By maintaining the wastewater level at or below the expected monthly volume, the RCSs will be less likely to encroach into the volume reserved for the design rainfall event.

To prevent contamination of groundwater, the RCSs at the CAFO must be adequately lined and certified by a professional engineer. A valid liner protects the groundwater from the wastewater stored in the RCSs.

The liner must be designed by a licensed Texas professional engineer and documented to have hydraulic conductivities no greater than 1×10^{-7} cm/sec in accordance with ASTM D 5084, or other method approved by the ED, with a thickness of 18 inches or greater or its equivalency in other materials, and not to exceed a specific discharge through the liner of 1.1×10^{-6} cm/sec with a water level at spillway depth.

The approved recharge feature certification submitted in the permit application must be updated and maintained in the onsite PPP. The recharge feature certification describes the location of the CAFO relative to certain natural and artificial features that could result in adverse groundwater impacts. Groundwater has the potential to resurface as surface water. Therefore, preventing impacts to groundwater also provides protection to surface water.

The recharge feature certification submitted in the permit application identified eight wells located onsite. Two of these wells will be plugged within 180 days of permit issuance. The Applicant will have to maintain a 150 foot buffer between land application areas and all other water wells or must have additional protective measures to protect groundwater from contamination.

COMMENT 4

The Webb's comment that dairy operations have drastically decreased the value of their property and any further expansion will decrease the value of their property even more.

RESPONSE 4

The TCEQ's jurisdiction is established by the Legislature and is limited to the issues set forth in statute. Accordingly, the TCEQ does not have jurisdiction to consider zoning or effects on property values when determining whether to approve of deny a permit application. Except under limited circumstances, which do not exist under this particular permit application, the issuance of a permit cannot be denied on the basis of the facility location.

COMMENT 5

The City comments that the Applicant used two different efficiencies for its screen separator in the storage volume calculations and that the calculations need to be corrected. The City also comments that the TCEQ should require the Applicant to provide the model information for its screen separator and submit the data the Applicant relied upon in its estimation of screen separator efficiency so the information can be evaluated.

RESPONSE 5

The model information for the screen separator has since been provided by the Applicant. The information is now in the permit file for this application. No change to the calculations or draft permit was needed.

COMMENT 6

The City comments that because the system is a multiple cell lagoon operating in a series and the Applicant did not include volume allocations for RCS No.1 & 2, the volume allocations should be re-calculated based on individual allocations made for each RCS. The City also suggests that the TCEQ require the Applicant to determine the number and sizes of RCSs, and how each will be expected to operate, before an application is deemed technically, if not administratively complete. The City recommends that the TCEQ remove all provisions from the draft permit that would allow the Applicant to combine RCS No.1 with No.2.

In addition, the City suggests that the TCEQ should require the Applicant to redesign the facility in a manner that will allow open lot runoff to flow into a secondary RCS as well as the proposed primary RCS, as 30 TAC §321.43(j)(3)(B)(i) dictates. The City comments that because RCS No.1 will receive process wastewater and open lot runoff, the minimum treatment volume design should be adjusted to account for the additional shock loading from the volatile solids contained in the open lot runoff.

RESPONSE 6

Section X.A(1-4) of the draft permit outlines the minimum volume allocation requirements for RCS No.1 & 2. The draft permit also requires that RCS No.1 & 2 be enlarged to meet the 25-year, 10-day rainfall event. Upon completion of RCS modifications, 30 TAC § 321.42(g)(4) requires that a stage/storage table for each RCS be described in the RCS management plan and shall become a component of the PPP. As § X.A(1-4) of the draft permit is in compliance with the rules, the ED declines to require this change.

To qualify for their air standard permit-by-rule to minimize odor issues, 30 TAC § 321.43(j)(3)(B)(i) requires an anaerobic treatment lagoon that shall be designed in accordance

with American National Standards Institute/American Society of Agriculture Engineers EP403.3 July 1999 (or subsequent updates); Natural Resources Conservation Services (NRCS), Field Office Technical Guidance, Practice Standard 359, Waste Treatment Lagoon, or the equivalent for the control of odors. The system proposed in the application is a single stage system, which is allowed by ASABE EP403.3. It is only when a multi-stage system is used that the restrictions pertaining to runoff apply.

COMMENT 7

The City comments that the Applicant should be required to report all soil samples taken on August 29, 2007 including the soil sample taken from LMU No.2.

RESPONSE 7

Soil analysis for LMU No.2 was submitted October 3, 2007, which is more recent that August 29, 2007 and considered to be acceptable.

COMMENT 8

Because the Applicant collected a soil sample from LMU No.2B on August 29, 2007 but did not include it on the application, the City comments that the Applicant should be required to provide a map showing the boundaries of all LMUs sampled on August 29, 2007.

RESPONSE 8

The Soil Analysis Reports submitted with the application correspond to the LMU configuration proposed in the application. The application does not propose a LMU No.2B, therefore the Applicant did not show a LMU No.2B in their LMU Map, nor in the NMP. The Applicant is not required to submit analyses for a field that is not part of the permit application.

COMMENT 9

The City comments that the Applicant has not supplied any supporting sources in its application for its estimate of the daily volume of process wastewater. The City requests that the Applicant be required to produce the site-specific data that supports its 20 gallon per head estimate.

RESPONSE 9

The ED considers 20 gallons per head per day an acceptable estimate for processed water. The lower range provided in NRCS software is 15 gallons per head per day.

COMMENT 10

The City comments that the Applicant has not indicated what other water source it intends to use for removing manure from its Freestall barns and that the TCEQ should require the Applicant to quantify the total amount of fresh water that it will use for manure removal. The City also comments that the TCEQ should revise the draft permit to include a provision that limits the Applicant to that volume.

RESPONSE 10

Section VII.A.6(a) requires that flush/scrape systems must be flushed/scraped in accordance with the design criteria. The required RCS volumes are based on 20 gallons per head per day. An increase in waste production would require the RCSs to be enlarged and would also require a permit amendment. An increase, such as that described in the comment, would impact the Applicant's ability to comply with the planned end of the month storage volumes established in the RCS Management Plan. In circumstances where the water level exceeds the planned end of the month volumes, the Applicant must document in the PPP the reasons why it was exceeded. These records are available to field investigators. Excessive exceedences may be an indication that the facility is not being operated in accordance with the design criteria.

The operator may reduce the wastewater volume without a permit amendment by updating equipment or changing waste management protocols. Reducing the waste production would result in the existing ponds being larger than required. The ED encourages the use of newer technologies or management practices that reduce the volume of potential pollutants.

The engineering calculations account for recycled process water to be used to flush freestall. This was added as Special Provision X.R in response to the comment.

COMMENT 11

The City comments that the Applicant has not provided the location of the recycle lines on the site map submitted with the application, additionally, the City comments that the waste flow chart shown in the application does not indicate that either the freestall barns or the milking parlor will have access to recycled effluent.

RESPONSE 11

A waste flow chart, Figure 2.1, was submitted with the permit application which demonstrates the waste streams from the source to the waste storage areas. This is not a required document and the recycle lines are not required to be shown. The CAFO rules do not specify the requirements of a site map. However, the draft permit identifies the minimum requirements for a site map. The ED believes these requirements are adequate.

COMMENT 12

The City comments that no evaluation has been made of the existing RCSs to determine whether they are designed to meet the capacity requirements under a 25-year 24-hour design rainfall event.

RESPONSE 12

Existing RCS volume requirements are contained in the existing authorization and are enforced under that authorization by TCEQ Field Investigators. If this permit is issued, the new volume allocation requirements will take effect and construction will be required to meet those allocations within 180 days; and must be completed before exceeding 1500 head. The required minimum volume allocations are shown in § X.A.1. of the draft permit. Section VII.A.3.(a) of the draft permit requires that after completion, liner and capacity certifications be maintained in the PPP for all modified RCSs. Section X.A.4 states that all certifications required by § VII.A.3(a) of this permit shall be submitted to the TCEQ Regional Office and CAFO Permitting, Water Quality Division (MC-150) within 30 days of completing modifications.

COMMENT 13

The City comments that because of sludge accumulation in the existing RCSs the TCEQ, before issuing the draft permit, should require the Applicant to submit a new capacity certification, including calculation of sludge accumulation, so that the minimum treatment volume is maintained.

RESPONSE 13

The application review process for this draft permit does not require review of current conditions to determine compliance with the existing permit. The Applicant proposed to modify the ponds and within 30 days of construction completion the permittee will submit to the TCEQ Regional Office a new liner and capacity certifications in accordance with § X.A.4 of the draft permit.

COMMENT 14

The City comments that to ensure accurate evaporation volumes in the water balance, § VII.A.5(a)(2)(iv) of the draft permit should be revised to read "a stage/storage table for each RCS with minimum depth increments of one-foot, including the storage volume and surface area provided at each depth."

RESPONSE 14

The surface area of a RCS is the factor used in designing the required capacity. The expected evaporation surface area used in the water balance was taken as a percentage of the total top of the berm surface area. Surface area will also be a factor in calculating the volume at each depth increment in the stage/storage table for the RCS management plan. For operational purpose, it is the volume measurement at each depth increment that needs to be known, not the surface area.

COMMENT 15

The City comments that the draft permit does not require an RCS Management Plan until after the RCS is modified. The City comments that this does not allow for meaningful staff or public review before the plan is implemented. At a minimum, the City recommends revising the draft permit to require the RCS Management Plan to be submitted to TCEQ permitting staff when completed for review and approval. Additionally, the City comments that the draft permit does not appear to require an RCS Management Plan for the existing RCSs before the permit is issued. The City notes that this seems inconsistent with the requirement of 30 TAC § 321.42(g), which requires an RCS Management Plan for all RCSs.

RESPONSE 15

The CAFO rules at 30 TAC § 321.42(g) and the draft permit require that the Applicant implement an RCS management plan and maintain a copy in the PPP. TCEQ rules do not require review of RCS management plans prior to or after issuing the permit. This requirement is being implemented through issuance of the permit. *See* 30 TAC § 321.42(a). Until the actual expansion and modification of the RCS system is completed and volumes certified, which takes place after the permit is issued, the RCS management plan cannot be completed and implemented.

The purpose of the RCS management plan is to assist the operator with proper management of the RCS system and to provide information for the TCEQ regional investigators to determine if the system is being operated in compliance with the permit and the design of the RCS. Submittal of the RCS management plan is not necessary to achieve these purposes. The RCS management plan is available to TCEQ investigators during the inspection process.

The draft permit does require an RCS management plan for all RCSs authorized in the draft permit. The Applicant has 180 days from the date the permit is issued to make RCS modifications. Until RCS modification is complete, the dairy may not exceed the 850 head currently authorized.

COMMENT 16

The City comments that the site map included in the application is inadequate as it does not show the location of manure stockpiles and it does not show the locations of all of the pen areas. The City comments that the site map should be revised to show the location of the stockpiles, pens, open lot areas, and the adjacent areas, including specification of ground cover, between the pens and control structures so that the areas used in drainage calculations can be confirmed.

RESPONSE 16

If manure is stored outside the drainage area, berms must be constructed to contain any runoff. The permit only authorizes discharges from a properly designed, constructed, operated, and maintained RCS in the event of chronic or catastrophic rainfall events, or catastrophic conditions that cause an overflow. Discharges are not authorized under any circumstances from manure storage areas.

When manure is stockpiled, it shall be stored in a well-drained area, and the top and sides of stockpiles shall be adequately sloped to ensure proper drainage and prevent ponding of water. Runoff from manure or sludge storage piles must be retained on site. If the manure or sludge areas are not roofed or covered with impermeable material, protected from external rainfall, or bermed to protect from runoff during the design rainfall event, the manure or sludge areas must be located within the drainage area of a RCS and accounted for in the design calculations of the RCS.

The Applicant is required to comply with the draft permit after the permit is issued. The locations of all pens authorized by the draft permit are shown on Attachment A of the draft permit. The use of pens that are not shown on Attachment A would be a violation of the permit.

Section VI. B states the application pursuant to which the permit has been issued is incorporated herein; provided, however, that in the event of a conflict between the provisions of this permit and the application, the provisions of the permit shall control. Therefore the groundcover used in the design calculations is available to investigators and is an enforceable component of the permit.

COMMENT 17

The City comments that draft permit provision X.G.3 requires a slurry storage area to prevent overflow into settling ponds and/or RCSs. Because of the consistency of slurry, this material would require a storage basin such as an RCS. Construction of a RCS would require a permit

amendment so draft permit provision X.G.3 should be revised to clarify that slurry storage will require a permit amendment.

RESPONSE 17

TCEQ CAFO rules do not require a permit amendment to construct slurry storage areas. Section X.G of the draft permit requires that any storage of slurry be in the drainage area of the RCSs. To clarify that slurry storage does not require a storage basin, § X.G has been revised as follows:

G. Slurry removed from freestall barns must be stored within the drainage area of an RCS, and the storage area must be large enough to prevent overflow into settling basins and/or RCSs. Storage of slurry in settling basins is prohibited. Any overflow of these storage areas shall be recorded in the PPP and notification shall be provided to the regional office within thirty (30) days. Based on review of the information this permit may be formally amended to require additional controls or other requirements.

COMMENT 18

The City comments that the Applicant has not provided appropriately certified design specifications or completed construction specifications in order to demonstrate that its settling basins are adequately designed and will be properly constructed. The City requests the TCEQ require the Applicant to submit these certifications before permit issuance.

RESPONSE 18

The permit requires that documentation describing the sources of information, assumptions, and calculations used in determining the appropriate volume capacity and structural features of each RCS must be included in the PPP.

The ED agrees that settling basins are defined as RCSs. However, settling basins are an optional treatment practice to reduce sludge accumulation in the RCS designed to store wastewater. Settling basins are not used to store wastewater, so their capacity may not be used to meet the minimum required volume on page 1 of the draft permit. Therefore, the capacity of the settling basin is not relevant for purposes of sizing the RCS so that it meets the 25-year, 10-day design volume.

COMMENT 19

The City comments that there is no technical justification in the application to support the Applicant's proposition that it plans to construct settling basins of the type or design that the

Midwest Plan Service Structures and Environmental Handbook indicates is necessary to achieve a 50% solids removal efficiency. The City comments that the TCEQ should require the Applicant to provide this data so that the Applicant's removal rates can be justified.

RESPONSE 19

The Midwest Plan Service Structures and Environmental Handbook, which the Applicant used to derive the settling basin removal rate, states that "settling basins remove 50%-85% of the solids." The application is based on 50% removal rate, which falls within the acceptable range in the reference material. The draft permit requires that the PPP include documentation describing the sources of information, assumptions, and calculations used in determining the appropriate volume capacity and structural features of each RCS.

COMMENT 20

The City comments that in order to enforce draft permit §X.N., that solids in the settling basin be removed on a "regular and consistent basis so as to assure attainment of 50% designed removal efficiency" the removal requirements should be more specific in the draft permit. The City suggests that the draft permit be revised to include a provision consistent with the Midwest Plan Service Structures and Environment Handbook recommendations, "solids from the settling basin shall be removed after every rainfall event in excess of one inch and at a minimum of four times per year."

RESPONSE 20

The ED declines to make this change. Settling basins are used to reduce the sludge accumulation in RCSs. RCS No.1 & 2 are designed for three years of sludge accumulation and RCS No.3 is designed for five years of sludge accumulation. If the settling basins do not achieve the removal efficiencies proposed in the design calculations, sludge will accumulate in the RCSs at a faster rate than expected. The draft permit addresses this issue by requiring sludge accumulation to be monitored as needed, but at least annually beginning in year one of the permit for RCS No. 1 & 2 and in year three of the permit for RCS No.3. Taking volume measurements starting in year one and three will help reevaluate the accumulation rates prior to reaching the three and five-year design volume. The draft permit also requires the Applicant to maintain the sludge volume at or below the designed sludge volume.

COMMENT 21

The City comments that settling basin solids should be defined as "sludge" and not "manure" as in § X.H.1 of the draft permit.

RESPONSE 21

The ED declines to make this change. Settling basin solids are not "sludge" since there is no sludge volume allocation. Therefore, settling basin solids are defined as "manure." If settling basin solids are land applied, an annual sample must be collected and analyzed in accordance with § VII.A.9(a) of the draft permit, in addition to other manure and wastewater.

COMMENT 22

The City comments that the draft permit should be amended to require annual determination of sludge accumulation instead of three years following permit issuance in RCS No.3.

RESPONSE 22

30 TAC § 321.39(c) and § VII.A.4(a)(7) of the draft permit prohibits the Applicant from allowing sludge accumulation to exceed the design volume. This is achieved by removing the sludge according to the design schedule. The design criterion for this dairy is three years for RCS No.1 & 2 and five years of accumulation for RCS No.3. The RCS management plan will establish accumulation rates in the RCSs, which will identify the current sludge volume in each RCS. Taking volume measurements starting in year one for RCS No.1 & 2 and year three for RCS No.3 will help reevaluate the accumulation rates prior to reaching the three-year and five-year design volume.

By starting measurements in year one for RCS No. 1 & 2 and year three for RCS No.3, the Applicant will have time to complete modification and expansion of RCSs, and to develop and implement an RCS management plan to appropriately manage the sludge volume in the ponds. Furthermore, taking daily pond marker readings should assist in determining excessive sludge accumulation in any RCS.

COMMENT 23

The City comments that the draft permit fails to adequately define capacity certification requirements. The City states that § VII.A.3(a)(2) should make it clear that all capacity certifications require certification of both total as-built capacity and the remaining capacity as a result of sludge accumulation by inserting the following sentence: "Capacity certifications shall include both the total as-built RCS capacity and the remaining RCS capacity due to sludge accumulation."

RESPONSE 23

Capacity certifications reflect the total as-built capacity. This maximum volume does not change, unless modifications are made to the RCS. Sludge accumulations, on the other hand,

fluctuate, just as the wastewater levels fluctuate. Sludge accumulations are required to be monitored and recorded in the PPP, as necessary, but at least annually beginning in year one of the permit for RCS No.1 & 2 and in year three of the permit for RCS No.3 and then annually thereafter.

COMMENT 24

The City comments that the Applicant's proposed settling basins have not been identified as earthen or concrete. If the settling basins will be concrete they need to be certified by a professional engineer, as structurally sound, free of cracks & leaks and "having no hydrologic connection to waters of the state."

RESPONSE 24

Section VII.A.10(a)(3)(i) requires the Applicant to "all control facilities, including RCSs, storm water diversion devices, runoff diversion structures, control devices for management of potential pollutant sources, and devices channeling contaminated storm water to RCSs." Section VII.A.10(b) requires the Applicant to have a licensed Texas professional engineer complete a site evaluation of the structural controls every five years. These inspections will identify conditions that could result in a discharge of pollutants to water in the state. The draft permit also requires the Applicant to correct all deficiencies within 30 days or document the factors that prevent immediate correction.

COMMENT 25

The City comments that RCS No. 3 was not included in the December 10, 2002 registration and before the draft permit is issued, the Applicant should be required to demonstrate the RCS No.3 was built in accordance with the current liner and embankment standards specified in § VII.7.A(3)(f) and § VII.7.A(3)(g) of the draft permit.

RESPONSE 25

The draft permit requires the Applicant to modify the pond to meet the requirements of the permit including liner and embankment requirements. Special Provision X.A.2 in the draft permit requires that all RCS modifications be completed within 180 days after the issuance date of the permit and prior to exceeding 850 head. Failure to comply with the permit requirements is grounds for TCEQ enforcement action. Therefore, the ED declines to make the change.

Following construction or modification, § VII.A.3(a) of the draft permit also requires documentation of liner and capacity certifications for the modified RCS prior to use and requires that documentation be maintained in the on-site PPP. All certifications required by §

VII.A.3(a) of the draft permit must be submitted to the TCEQ Regional Office and CAFO Permitting, Water Quality Division (MC 150) within 30 days of completing modification.

COMMENT 26

The City comments that the current liner certifications are inadequate; however, the TCEQ is allowing the Applicant to rely on inadequately certified RCSs after permit issuance until the RCSs are finally modified.

RESPONSE 26

TCEQ regional investigators can review the current liner certifications during site inspections and determine compliance with the TCEQ rules and the existing permit. The draft permit requires RCS No.1, 2, & 3 to be enlarged to contain the required capacities listed on page 1 of the draft permit. Section VII.A.3 (a) of the draft permit also requires documentation of liner and capacity certifications to be completed for the modified RCSs prior to use and these certifications shall be maintained in the on-site PPP. Also, note that §X.A.2. of the draft permit gives the Applicant 180 days after the permit is issued to complete all RCS modifications required by the draft permit.

COMMENT 27

The City comments that the TCEQ has previously required Applicants to submit a minimum of one floor sample per acre of surface area and a minimum of one sidewall sample per each two acres of surface area, the City believes this to be the more appropriate sampling protocol and that the TCEQ should continue to require this sampling protocol.

RESPONSE 27

The requirement in the draft permit exceeds the requirement of the existing permit and of the rules. Section VII.A.3.(g)(30(ii) of the draft permit requires that:

> For each RCS, a minimum of one undisturbed sample shall be collected per plan surface acre at the spillway elevation. For the purpose of determining the number of samples to collect, surface acres shall be rounded up to the next whole acre. Distribution of the samples shall be representative of liner characteristics, and proportional to the surface area of the sidewalls and floor. Documentation shall be provided identifying the sample locations with respect to the RCS liner.

This requirement is considered to provide certifications that will adequately document the permeability of the RCS liners. Therefore, the ED declines to make the change.

COMMENT 28

The City comments that the draft permit contains some procedures and requirements for liner and embankment testing, but it does not adequately address the testing of embankment construction in § VII.A.3(f)(4). The City comments that TCEQ should: 1) require the field density tests to be based on predetermined moisture-density compaction curves, 2) define the frequency of testing (e.g., number of tests per specific area per lift), 3) require compaction testing on each lift during the construction of the liner (not merely on the last lift after completion of the liner), 4) require documentation and reporting of compaction test locations and results, 5) require continuous on-site inspection during construction. Additionally, the City comments that TCEQ should review compaction testing results to make an independent verification of the certification.

RESPONSE 28

Section VII.A.3(b) of the draft permit requires that the RCS be designed and constructed in accordance with the technical standards developed by NRCS, ASABE, ASCE, or ASTM. Additionally, the draft permit identifies specific RCS design, construction, and testing criteria in § VII.3(f). The construction requirements for embankment lifts are in § VII.A.3(f)(2) and are as follows:

> Embankment Lifts. The embankment shall be constructed in lifts or layers no more than eight (8) inches compressed to six (6) inches thick at a minimum compaction effort of 95 percent (%) Standard Proctor Density (ASTM D698) at -1% to +3% of optimum moisture content.

The compaction testing requirements are in § VII.A.3(f)(4) and are as follows:

> Compaction Testing. Embankment construction must be accompanied by certified compaction tests including in place density and moisture in accordance with ASTM D 1556, D 2167 or D 2937 for density and D 2216, D 4643, D 4944 or D 4959 for moisture, or D 6938 for moisture and density. Compaction tests will provide support for the liner certification performed by a licensed Texas professional engineer as meeting a permeability no greater than 1×10^{-7} centimeters per second (cm/sec) over a thickness of 18 inches or its equivalency in other materials.

More specific liner requirements are included in § VII.A.3(g)(2) of the permit. The liner must be designed by a licensed Texas professional engineer and documented to have hydraulic conductivities no greater than 1×10^{-7}cm/sec in accordance with ASTM D 5084, or other method approved by the ED, with a thickness of 18 inches or greater or its equivalency in other materials and not to exceed a specific discharge through the liner of 1.1×10^{-6} cm/sec with a water level at spillway depth. These testing requirements should be adequate and protective of

water quality.

COMMENT 29

The City comments that draft permit § VII.A.(3)(f)(4) refers to ASTM standard D6938-07, which is no longer in effect and was superseded by standard D3938-08a. The City recommends that the referenced standard be changed simply to "D6938," and the sentence, "The ASTM standards shall be those that are in effect at the time of construction," be added to draft permit § VII.A.(3)(f)(4).

RESPONSE 29

The ED agrees with the comment. Section VII.A.3(f)(4) was changed to D6938. The requested language was not added to the section because it is already stated in § VII.A.3(b) of the draft permit as follows:

(b) Design and Construction Standards. The permittee shall ensure that each RCS is designed and constructed in accordance with the technical standards developed by the NRCS, American Society of Agricultural and Biological Engineers, American Society of Civil Engineers, or American Society of Testing Materials that are in effect at the time of construction. Where site-specific variations are warranted, a licensed Texas Professional Engineer must document these variations and their appropriateness to the design.

COMMENT 30

The City comments that the draft permit lacks the required standards for quality of soils used in construction of the RCS. The City believes that the draft permit should be revised to describe minimum values for the following quality of soil standards: plasticity index, liquid limit, percent passing 200 mesh sieve, and percent passing one-inch screen.

RESPONSE 30

Section VIIA.3(b) specifies design and construction standards for RCSs. Section VIIA.3(f) and (g) specifies additional design and construction standards relative to liners. Analysis of plasticity index, liquid limits, and percent passing a 200 mesh sieve will assist the construction contractor and design engineer in determining if the soil proposed for us as a liner can achieve the compaction, permeability, and specific discharge requirements of the permit. The liner design and construction requirements in the permit will ensure adequate protection of groundwater and meet the requirements of 30 TAC § 321.38(g).

COMMENT 31

The City comments that draft permit § VII.A.3(g)(4) was either excluded by mistake, in which case it should be included so interested parties have an opportunity to review it, or the provision was incorrectly numbered.

RESPONSE 31

The ED agrees with the comment that the section was incorrectly numbered. Draft permit § VII.A.3(g)(5) has been revised to § VII.A.3(g)(4).

COMMENT 32

The City comments that a complete list of specific circumstances that would qualify for an extension to the deadline for completing RCS modifications should be included in the draft permit in § X.A.2.

RESPONSE 32

The conditions that may delay construction of an RCS are numerous and highly variable. The extension request must provide an explanation of the conditions that prevented construction during the specified timeframe. The ED will evaluate the specific reasons on a case-by-case basis to determine whether to grant an extension.

COMMENT 33

The City comments that the permit application does not provide an adequate description of the structural controls, particularly the berms and ditches.

RESPONSE 33

A Runoff Control Map was submitted by the Applicant that clearly identifies the control features directing run-off. This map shows a thick dashed line identified as the diversion berm.

The draft permit only authorizes discharges from a properly designed, constructed, operated, and maintained RCS in the event of chronic or catastrophic rainfall events or catastrophic conditions that cause an overflow. Discharges are not authorized under any circumstances from diversion structures.

The draft permit requires the Applicant to conduct weekly inspections on all control facilities, including the RCS, storm water diversion devices, runoff diversion structures, control devices

for management of potential pollutant sources, and devices channeling contaminated storm water to the RCS; and to annually conduct a complete site inspection of the production area. Additionally, the draft permit requires the Applicant to have a licensed Texas professional engineer complete a site evaluation of the structural controls every five years.

COMMENT 34

The City comments that the Applicant has failed to demonstrate the adequacy of its dewatering capability and asks the ED to verify the dewatering capabilities of equipment listed in the application.

RESPONSE 34

TCEQ rules do not require ED review or approval of the equipment an Applicant will use to dewater the RCS. The draft permit requires that the Applicant ensure that the irrigation system design is capable of removing wastewater from the RCS on a regular schedule. Equipment capable of dewatering the RCS must be available and operational whenever needed to restore the operating capacity required by the RCS management plan. This gives the Applicant flexibility on the type of equipment to be used at the time of dewatering.

COMMENT 35

The City comments that the draft permit does not require the annual facility inspection report or five year evaluation to be sent to TCEQ as required by 30 TAC §§ 321.46(c)(2) and (e)(2). The City states that submission to TCEQ should be required by the draft permit and not just be kept in the PPP.

RESPONSE 35

The rules cited by the City do not require these records be submitted to the TCEQ. However, 30 TAC § 321.46(d) requires that these records be maintained on site for a minimum of five years from the date the record was created and provided to the TCEQ within five days upon written request by the ED. These records should be maintained in the PPP where they are subject to review during site inspections conducted by TCEQ field staff. Failure to conduct an annual site inspection or the five year evaluation; and to document the findings of both in the PPP or failure to correct the deficiencies identified would be a violation of the permit and rules subjecting the Applicant to potential enforcement action by the TCEQ.

COMMENT 36

The City comments that the draft permit should be amended to require that an engineer certify to the adequacy of structural controls in the five year evaluation prior to issuance of the permit

or immediately after the issuance of the permit. Additionally, the City comments that the Applicant should be required to provide a current certification of structural controls before the draft permit is issued.

RESPONSE 36

The draft permit requires a licensed Texas professional engineer to review the existing engineering documentation, complete a site evaluation of the structural controls, review existing liner and RCS capacity documentation, and complete and certify a report of their findings. The site evaluation would be a comparison of what is required by the engineering documentation and the actual structural controls, as constructed, operated, and maintained. Should the engineer determine that the structural controls are inadequate with respect to the design requirements in the engineering documentation, those findings would be included in the certified report. Licensed Texas professional engineers are subject to standards of performance as established by the Texas Board of Professional Engineers.

The applicant is currently required to have a site evaluation conducted every five years. However, neither the rules nor the draft permit require the five year evaluation to be submitted to the TCEQ. Instead, the permit requires these records to be maintained onsite and provided to TCEQ personnel upon request.

The draft permit only authorizes discharges from a properly designed, constructed, operated, and maintained RCS in the event of chronic or catastrophic rainfall events, or catastrophic conditions that cause an overflow. Discharges are not authorized under any circumstances from diversion structures.

The draft permit requires the Applicant to conduct weekly inspections on all control facilities, including the RCSs, storm water diversion devices, runoff diversion structures, control devices for management of potential pollutant sources, and devices channeling contaminated storm water to the RCS; and to annually conduct a complete site inspection of the production area. Additionally, the draft permit requires the Applicant to have a licensed Texas professional engineer complete a site evaluation of the structural controls every five years.

COMMENT 37

The City comments that the draft permit fails to require adequate sampling of wastewater and manure, with respect to sample collection and frequency, and the approximate locations or time of year that soil tests will be taken.

RESPONSE 37

The draft permit provisions for sampling and monitoring are consistent with 30 TAC §§

321.36(e) and (g), and with the requirements of NRCS Practice Standard Code 590. The draft permit requires that representative samples be collected annually for manure, wastewater, and soils. The results of the analyses must be used in determining application rates. Because they are used in determining application rates, the sample collection should be representative of the material, as applied. If manure and wastewater samples are not representative of the materials, as applied, the following year's soil analyses may be higher than expected. This in turn would result in a reduced application rate.

NRCS Practice Standard Code 590 requires the approximate locations where soil tests will be taken and the timing and frequency of soil sampling. Page 7 of the NMP, in the permit application, states the location as "each field" and frequency as "annually." These statements comply with 30 TAC § 321.36(g) and § VII.A.9.(b) of the draft permit.

COMMENT 38

The City comments that the draft permit fails to account for proper management of phosphorus production. The City comments that 1,600 cows will produce 358 lb/day P_2O_5 which is equivalent to 132,292 lb/yr P_2O_5 and only 7,411 /yr of P_2O_5 will be applied to LMU's or third-party fields as indicated in the NMP. The City states that 124,881 lb/yr P_2O_5 (94.4 percent) will be potentially managed on third-party fields within the North Bosque River watershed without any nutrient management plan. The City comments that failure to plan for proper management of this phosphorus will lead to excess phosphorus distribution within the watershed.

RESPONSE 38

The permit application identifies how much phosphorus is generated and the methods used to utilize or dispose of it. It is projected that 1,600 cows will generate 358 lbs. of P_2O_5 per day. The calculation is based on a book value for phosphorus production by dairy cows developed by the American Society of Agricultural and Biological Engineers. It is part of a set of data intended for use in designing facilities to accommodate actual waste production. As long as the phosphorus being land applied or hauled-out is accounted for as required under TCEQ rules, an accounting to reflect what remains in the CAFO production area is not necessary.

The NRCS 590 Standard does not require that all LMUs be limited to the phosphorus removal rate of application. If the soil test levels for phosphorus are below 200 ppm, the crop nitrogen recommendation or some multiple of the crop phosphorus recommendation is the allowable rate depending on the Phosphorus risk index. Only when the soil test levels exceed 200 ppm does the crop phosphorus removal rate of application become a requirement.

COMMENT 39

The City notes that the draft permit allows up to 100% of the manure to be land applied within the watershed. The City comments that the draft permit should be revised to require that up to 50% of the waste generated by the proposed operation be managed outside of the North Bosque watershed in a manner that is consistent with the goals of the applicable TMDL.

RESPONSE 39

The North Bosque TMDL has a goal of a 50% reduction in in-stream loading. The TMDL and TMDL I-Plan address growth of CAFOs through best management practices (BMPs) designed to decrease loading. Neither the TCEQ rules nor the TMDL I-Plan requires a 50% haul-out of collectible manure.

COMMENT 40

The City comments that multiple NMP's have been submitted and that the draft permit should state the date of the most recent NMP that the facility will operate under for the year following the issuance of the permit.

RESPONSE 40

In response to comment, the date of the most recent NMP has been added to § V of the Fact Sheet.

COMMENT 41

The City comments that Texas NRCS Code 590 requires sampling to be conducted in accordance with Texas A&M University ("TAMU") guidance. The course and guidance limit the size of LMUs to 40 acres or less. Nine of the Applicant's LMUs are greater than 40 acres. The City recommends subdividing the nine oversized LMUs to meet the NRCS Code 590 standard and requiring submission of a reviseding the LMU map and NMP.

RESPONSE 41

The CAFO rules in 30 TAC Chapter 321 does not require that the soil sampling area define the size of an LMU. Also, the CAFO rules do not specify or limit the size of a LMU. Management considerations are important when determining LMU size.

COMMENT 42

The City comments that the Applicant has failed to establish proper boundaries for LMU No. 2 and the LMU No.2 pivot is spraying water onto adjacent property. The City comments that the Applicant should be required to shorten the length of the LMU No.2 pivot.

RESPONSE 42

The LMU acreage shown on page 1 of the draft permit is the only authorized acreage owned, operated, controlled, rented, or leased by the Applicant for land application activities. The acreage listed on page 1 for LMU No.2 is graphically represented in Attachment B of the draft permit. Attachment B shows a setback from the property line where the irrigation pivot is not allowed to irrigate. Utilizing unauthorized acreage for land application on the facility or on the neighbor's property is a violation of the permit and Texas Water Code § 26.121.

COMMENT 43

The City comments that the Applicant has not submitted data to justify that the predicted crop yields are reasonable and that the draft permit should be amended to require reports of the actual annual yields of harvested crops be submitted to demonstrate that that the Applicant is using reasonable crop yields.

RESPONSE 43

The Applicant is not required to demonstrate that the crop yields are reasonable, but is required to use realistic yield goals for the location of the facility. The average annual rainfall for Erath County is approximately 31 inches. This rainfall will supply enough water to achieve the yield goals presented in the application. Water availability does not present a limitation in achieving the proposed yield goals. Furthermore, nutrients will not limit the yield goal on any field due to the application of manure and wastewater. The ED determined that the yield goals used in the NMP are achievable.

If the proposed yield goals are not achieved, due to lower than average rainfall, crop damage, or any other crop failure, the soil test results will indicate a higher than expected nutrient value. These values will then be used to determine the maximum application rate for the following year.

Record keeping requirements at 30 TAC § 321.46(d)(8)(f) state the actual yield of each harvested crop must be recorded on a monthly basis. The information is available to the ED during field investigations. Crop removal rates are based on yields when the NMP software is used.

COMMENT 44

The City comments that the NMP should be revised to allow application of only that quantity of nutrients that will benefit optimum crop production. The City comments that the Applicant's NMP is flawed, as it does not account for the nutrients available to plants in the root zone in satisfying the crop requirement.

RESPONSE 44

NMPs are developed in accordance with NRCS Practice Standard Code 590. NMPs evaluate nutrients in the soil as part of the Phosphorus Risk Index. The allowable application rate, as determined by the NMP, takes both risk factors and soil phosphorus levels into account.

COMMENT 45

The City comments that the draft permit allows land application on land exceeding 200 ppm of phosphorus. The North Bosque River TMDL Implementation Plan ("TMDL I-Plan"), dated December 2002 (p.16), provides that formal enforcement action will result if CAFOs "apply waste or wastewater to a WAF that has been documented to have exceeded 200 parts per million phosphorus in Zone 1 of the soil horizon." Section VII.A.8(c) (2) of the draft permit appears to be inconsistent with the TMDL I-Plan.

RESPONSE 45

The draft permit requirements are consistent with TCEQ rules relative to phosphorus reduction in waste application fields. The use of phosphorus based assessments requires additional action on fields exceeding 200 ppm. All waste application is limited under the draft permit provisions to avoid significantly increasing phosphorus runoff into the North Bosque River. An LMU that reaches 200 ppm of phosphorus triggers the nutrient utilization plan (NUP) requirement. *See* 30 TAC § 321.40(k)(3) and § VII.A.8(c) of the draft permit. A NUP must be approved by the ED prior to land application of any additional manure, sludge, or wastewater to the LMU. For third party fields, there is no NUP requirement, but land application of all wastewater must cease when a field reaches a phosphorus level of 200 ppm or higher.

The table below illustrates numbers from the Applicant's NMP to compare the maximum application rate versus the proposed application rate. The plan is based on a goal of maintaining soil test phosphorus levels below 200 ppm, which results in a planned application amount that is less than the maximum allowed under the East Texas Phosphorus Index (application on all LMUs, collectively). NMPs are routinely updated and the values shown below are subject to change.

LMU #	Soil Test P (ppm)	Maximum Annual P_2O_5 (lbs/ac)	Pounds Applied P_2O_5 (lbs/ac)	% of Maximum Allowable
1	147	103	26	25
2	43	51	26	50
2a	55	103	26	25
3	107	51	26	50
4a	134	103	26	25
4be	57	103	26	71
4bw	56	103	73	70
4c	208	85	720	0
5	86	51	39	75

Page 16 of the TMDL I-Plan for the North Bosque does read as indicated by the City. However, immediately following this statement the document states that more information is available in the section entitled "Enforcement Program." In that section of the TMDL I-Plan, it states that owners of facilities would be subject to enforcement if they performed land application on fields where soil phosphorus exceeded 200 ppm, unless land application was done according to an approved NUP.[1] This is consistent with TCEQ rules that require an approved NUP prior to any additional land application on LMUs that exceed 200 ppm of phosphorus and prohibit land application on third party fields that exceed that amount.

COMMENT 46

The City comments that the Applicant plans to apply supplemental inorganic phosphorus to LMU No. 2a, 4bW, and 4bE. The City comments that the Applicant should be required to follow the NRCS Code 590 requirements for commercial fertilizer that preclude the use of commercial phosphorus fertilizers on LMUs like these that exceed the crop requirement for phosphorus.

RESPONSE 46

Appropriate utilization of the nutrients is tied to the BMPs used and is not based on nutrient source. These BMPs include, but are not limited to, land application at agronomic rates and hydrologic needs of the crop in accordance with an NMP, adherence to buffers between land application areas and water in the state; and the prohibition of discharges from land application areas. Whether the nutrients required by the crop are supplied from organic or inorganic sources is irrelevant so long as the Applicant adheres to the required BMPs.

The right half of Table 7 of the NMP is entitled "Supplemental Nutrients Needed at Planned

1 See "An Implementation Plan for Soluble Reactive Phosphorus in the North Bosque Watershed," December, 2002, page 39:

Rates". That the nutrients are "needed" does not equate to "will be applied." The values in this table are calculated by the worksheet and do not represent entries by the NMP preparer. The scores for inorganic P_2O_5 application rate in the PI Index by the field table for the NMP dated 8/7/08 suggest that supplemental P_2O_5 may be added. The Executive Summary for the NMP dated 8/7/08, states that supplemental nitrogen may be added, but does not mention supplemental P_2O_5.

COMMENT 47

The City comments that the draft permit should be revised to prohibit waste application onto uncultivated fields or at least on uncultivated fields within 500 feet of a stream since no buffers are required for third-party fields. Additionally, the City requests that a specific draft permit provision be added to require adherence to NRCS Code 590 on third party fields if it is more restrictive. The City further comments that according to the draft permit no NMP is required for third-party fields and in order to determine the appropriate application rates the draft permit should be revised to require an NMP for third-party fields, even if the criteria for the NMP are different that in those in NRCS Code 590.

RESPONSE 47

The ED declines to make the requested change because the CAFO rules do not require that land application on third party fields be consistent with the NRCS Practice Code 590. However, the limitations placed in the draft permit assure that application on third party fields will take into account the potential for phosphorus build-up to occur. Land application on third party fields may not exceed a maximum soil test phosphorus level of 200 ppm. When a third party field tests 200 ppm or higher for phosphorus, all land application on that field must cease.

The application limitations on third party fields are based on soil test phosphorus levels instead of the Phosphorus Risk Index. The restrictions are more conservative than the rules require. Similar to an NMP, as soil phosphorus levels increase on third party fields, the Applicant will have to reduce waste application rates in order to continue land applying on those fields and to prevent those fields from exceeding 200 ppm of phosphorus.

Section VII.A.8(e)(5) of the draft permit provides the requirements for third-party fields. These provisions apply to cultivated and non-cultivated fields, with the exception of § (5)(i)(B), which is specific to cultivated fields. Cultivated fields are fields used for row cropping that require the ground to be tilled, disced, or plowed to prepare for seed planting, such as corn, wheat, and oats. Non-cultivated fields are used to grow plants that do not require the ground to be tilled, disced, or plowed, such as Bermuda grass or native grasses. If the requirement in § (5)(i)(B) to incorporate manure and sludge was applied to non-cultivated fields, the vegetation would be significantly damaged, thus reducing the yield goal and nutrient

uptake. The ED finds that the draft permit has adequate provisions related to land application on both cultivated and non-cultivated third-party fields.

Section VII.A.8(e)(5)(i)(A) of the permit requires that land application to third-party fields be conducted in accordance with the applicable requirements in 30 TAC §§ 321.36 and 321.40. 30 TAC § 321.40(h) requires that "vegetative buffer strips shall be no less than 100 feet of vegetation to be maintained between manure, litter, or wastewater application areas and water in the state." The CAFO operator shall maintain the buffer strips in accordance with NRCS guidelines.

COMMENT 48

The City comments that the draft permit should prohibit application of wastewater on third-party fields, unless the owner of the third-party field transports the wastewater from the CAFO by truck.

RESPONSE 48

TCEQ rules do not require ED review or approval of the mode of conveyance an Applicant will use to transport wastewater to a third-party field. The draft permit allows the Applicant to provide wastewater to operators of third party fields, but does not specify the delivery method. This gives the Applicant flexibility on the mode of transportation to be used at the time of transfer to third party field. Therefore, the ED declines to make this change as requested by the City.

COMMENT 49

The City comments that the draft permit should require the Applicant to report information to TCEQ on third party fields regarding soil testing, areas of application, and application rates. The City also comments that the information should also be included in the annual report along with copies of contracts with applicable third party field operators, statements of compliance with permit requirements for the previous year, and a summary of discharges from third party fields or a statement that there has not been any discharge from any third party field. For example, the City suggests adding the following phrase at the end of § VII.8.(e)(5)(iv):

> ...a copy of any initial or annual soil analyses, land application locations, dates and times, and nutrient concentration of applied materials, rates, acreage of application rates, and crops and crop yields for the preceding quarter.

RESPONSE 49

30 TAC § 321.42(j) and § VII.A.8(e)(5)(iv) of the draft permit contain the requirements for

land application on third party fields in the North Bosque River watershed. It requires that records be maintained that contain the name, locations, and amounts of manure, litter, or wastewater transferred to operators of third party fields and requires that information be submitted to the appropriate TCEQ region office on a quarterly basis. *See* 30 TAC § 321.42(j)(4). Soil sample testing on third party fields must be included in the annual report due February 15th and submitted to TCEQ. *See* § VIII.B.7(i).

30 TAC § 321.42(j)(1) requires a written contract between the CAFO dairy operator and the operator of a third party field; and any such contracts should be maintained in their PPP. 30 TAC § 321.46(d) specifies the requirements for recordkeeping at the CAFO. Records must be kept on site for a minimum of five years from the date the record was created and must submit them to TCEQ within five days of a request by the ED.

COMMENT 50

The City comments that the draft permit should be revised as to not allow sludge to be applied to third party fields, the City comments that 30 TAC § 321.42(j) only allows manure, litter, and wastewater to be applied to third party fields.

RESPONSE 50

30 TAC § 321.32(49) defines sludge as solid, semi-solid, or slurry waste generated during the treatment of or storage of any wastewater. The term includes materials resulting from treatment, coagulation, or sedimentation of waste in a RCS. 30 TAC § 321.32(56) defines waste as manure (feces and urine), litter, bedding, or feedwaste from animal feeding operations. Therefore, sludge is a product of the treatment, coagulation, or sedimentation of its parent materials, waste, and wastewater. More simply, it is modified manure and wastewater. Therefore, 30 TAC § 321.42(j), which allows dairy operators to transfer manure, litter, and wastewater to operators of third party fields is inclusive of sludge. The draft permit incorporates this rational by explicitly including the term sludge when appropriate.

Appropriate utilization of the nutrients is tied to the BMPs used and is not based on nutrient source. These BMPs include, but are not limited to, land application at agronomic rates and hydrologic needs of the crop, adherence to buffers between land application areas and water in the state, and the prohibition of discharges from land application areas. Land application on third party fields is not only limited to agronomic rates, but is further limited by soil test phosphorus ranges. For example, land application rates may not exceed the crop nitrogen requirement when soil phosphorus concentration in Zone 1 is less than or equal to 50 ppm phosphorus. Ultimately, land application on third party fields is prohibited once the soil test phosphorus level is equal to or greater than 200 ppm.

COMMENT 51

The City comments that the draft permit fails to require a demonstration of sustainability for the term of the permit.

RESPONSE 51

30 TAC § 321.36(d)(2) requires the operator to create and maintain a site-specific NMP along with documentation regarding implementation of the plan. 30 TAC §§ 321.36(e) and (g) and §§ VII.A.8(c)(1) through (5) of the draft permit requires annual sampling and the NMP must be updated to modify application amounts based on soil testing and wastewater testing. A five-year NMP would be impracticable because the NMP is likely to change yearly due to changing climatic and operational conditions; and soil sampling results. It is important that NMPs remain flexible. When the NMP is updated, the new version should be kept with their PPP documentation and available to TCEQ personnel during field investigations.

Long-term sustainability of a field may be a planning consideration, but there are no rule requirements that LMUs be sustainable for the permit term.

COMMENT 52

The City comments that the historical waste application fields should be identified in the application for the permit and the draft permit itself.

RESPONSE 52

Section VII.A.9(b)(2) of the draft permit requires the Applicant to have soil samples collected annually for each current and historical LMU. This provision tracks the requirement in 30 TAC § 321.42(k) that historical waste application fields must be sampled every year, regardless of whether the Applicant eliminates them from the permit.

Special Provision X.O. in the draft permit requires the Applicant to maintain a map in the PPP that identifies the location of all historical LMUs and reads as follows: "A LMU map showing historical LMUs shall be maintained in the PPP." Fields no longer associated with the dairy facility (historical LMUs) may be used as third party fields so long as all third party requirements in TCEQ rules are met.

COMMENT 53

The City comments that the Applicant should be required to address runoff containment from silage commodity and hay storage areas not only in the PPP, but the application as well so that the application can be properly reviewed to determine if the containment provisions and design

are adequate. The City also comments that the maps included in the draft permit should also identify the runoff containment areas and not just the commodity area.

RESPONSE 53

Section X.I. of the draft permit requires that all runoff from silage, commodity, and hay storage outside the RCS drainage area will be contained and that appropriate provisions for that containment be stated in the PPP upon issuance of the permit. The draft permit does not authorize any discharge from the silage, commodity, or hay storage areas located outside the drainage area of the RCS. These permit provisions should be sufficient to reduce or prevent impacts to water quality from these areas.

COMMENT 54

The City comments that the draft permit fails to provide a meaningful definition of vegetative buffers. The City recommends adding the following sentence to § X.D.:

> A vegetative buffer shall meet the criteria of Riparian Forest Buffers defined by NRCS Practice Code 391 or the criteria of Vegetative Filter Strips as defined by NRCS Practice Code 393.

RESPONSE 54

30 TAC § 321.40(h) requires that "vegetative buffer strips shall be no less than 100 feet of vegetation to be maintained between manure, litter, or wastewater application areas and water in the state." Although not defined by TCEQ rules, vegetative buffers are commonly understood to mean vegetation that reduces shock due to contact. NRCS Practice Code 393 refers to Practice Code 391, *Riparian Forest Buffer*. Riparian forest buffers are areas predominantly in trees or shrubs located adjacent to and up-gradient from watercourses or water bodies. One of the purposes of a riparian forest buffer is to reduce excess amounts of sediments, organic material, nutrients, and pesticides in surface runoff. This purpose is the same as that performed by vegetative filter strips according to NRCS Practice Code 393. Citing the practice code is adequate for permit requirements. The practice standard has an adequate definition and the ED made no change in response to the comment.

COMMENT 55

The City is concerned about how the bacterial problems in the North Bosque Watershed are being addressed and recommends adding provisions to the draft permit that address the control of pathogens from the land application and irrigation operations.

RESPONSE 55

40 CFR Part 122.44(k)(3) allows states to use BMPs to control or abate discharges "when numeric effluent limitations are infeasible." This also applies to bacteria. In the case of North Bosque dairies, they are only authorized to discharge in the event of a chronic or catastrophic rainfall event that exceeds the 25-year, 10-day storm event. The BMPs in place to limit the amount on nutrients applied to the LMUs also limit the amount of bacteria that can be applied. Therefore, bacteria applied to LMUs are limited by the BMPs that limit nutrient application.

The requirements in the draft permit satisfy this requirement because the North Bosque River TMDLs are intended to achieve significant reductions in the annual average concentrations and total annual loading of soluble phosphorus in the river. The TMDLs are designed to do this by focusing on controlling soluble phosphorus loading and in-stream concentrations to protect designated uses. The management measures for controlling phosphorus loading will also have some corollary effect on reducing pathogen and bacteria loading, since non-point source nutrient and pathogen loads largely originate from the same sites and materials; and are transported via the same processes and pathways. Other provisions in the rules and draft permit directed at reducing and minimizing all pollutants, including pathogens and bacteria, that are potential constituents of animal wastes include:

1. Requiring a larger RCS with capacity to contain a designed 25-year, 10-day rainfall event (approximately 60% larger than required to contain the 25-year, 24-hour rainfall event);
2. Establishing an RCS management plan;
3. Controlling runoff from manure piles by covering, berming, or requiring that they drain into an RCS;
4. Setting additional minimum buffer distances between land application units and surface water in the state;
5. Prohibiting nighttime land application between 12 a.m. and 4 a.m.; and
6. Requiring a NMP that uses phosphorus transport considerations to determine allowable applications of nutrients. The phosphorus index approach reduces allowable application of nutrients to levels that are appropriate for reducing and minimizing all pollutants that are constituents of animal wastes.

COMMENT 56

The City comments that the Applicant might be struggling with compliance issues, such as an unauthorized RCS (RCS No.3), failure to maintain proper sludge volume, and failure to maintain proper crops on LMUs (i.e. irrigating beyond the LMU limits). Therefore, as the City suggests, the TCEQ should consider the current ability of the Applicant to comply with applicable rules before issuing the draft permit.

RESPONSE 56

During the technical review, a compliance history review of the Applicant and the site was conducted based on the criteria in TAC, Chapter 60. The compliance history for the Applicant and site was reviewed for the five-year period prior to the date the permit application was received by the ED. The compliance history includes multimedia compliance-related components about the site under review. These components include the following: enforcement orders, consent decrees, court judgments, criminal convictions, chronic excessive emissions events, investigations, notices of violations, audits and violations disclosed under the Audit Act, environmental management systems, voluntary on-site compliance assessments, voluntary pollution reduction programs and early compliance. The Applicant has a site compliance history classification of "average" as of October 1, 2008. Review of the compliance history resulted in no additional permit terms.

COMMENT 57

The City comments that the draft permit does require that runoff from roofs, within the drainage area, be diverted from entering the RCSs and, as a result the RCS will be dramatically undersized. The City requests that the provision: "there will be no runoff from roofs entering RCS No.1 & 2 at anytime" be included in the draft permit.

RESPONSE 57

The engineering calculations submitted with the permit application do not account for runoff from roofs entering the RCSs. In response to the comment, a special provision was added to the draft permit:

T. The freestall barns shall be guttered so that all roof runoff is diverted outside the RCS drainage area.

COMMENT 58

The City comments that the draft permit should clearly state that drainage or discharges of wastewater or manure from third party fields is prohibited. The City further comments that the Applicant should be prohibited from any further use of third party fields if it is determined that the Applicant disposed of waste on a third party field when the most current soil test reflects phosphorus concentrations of over 200 ppm or the application rate established by the draft permit for third party fields is ever exceeded.

RESPONSE 58

The ED declines to make the suggested changes. Rainfall runoff from third party fields where waste is applied at agronomic rates is allowed under the Clean Water Act. Runoff from third party fields where waste is not applied at agronomic rates or applied using proper operational controls is already prohibited. In those instances, runoff would be an unauthorized discharge and subject to TCEQ enforcement action.

There is no basis in the CAFO rules for including a blanket prohibition against delivery of all waste to all third party fields based on a single violation on a single third party field. However, such land application when soil phosphorus is in excess of 200 ppm or land application in excess of the agronomic rate or established application rate would be a violation of the CAFO rules and subject the operator to enforcement action by TCEQ.

CHANGES MADE TO THE DRAFT PERMIT IN RESPONSE TO COMMENT

- Permit Provision VII.A.3(g)(5) has been corrected to VII.A.3(g)(4).
- Section VII.A.3(f)(4) was changed to D6938.
- Special Provision R was added to the draft permit:

  "Freestall barns must be flushed with recycled process water."

- Special Provision X.T was added to the draft permit:

  "The freestall barns shall be guttered so that all roof runoff is diverted outside the RCS drainage area."

- Special Provision X.G. was revised per Response #17:

  Slurry removed from freestall barns must be stored within the drainage area of an RCS, and the storage area must be large enough to prevent overflow into settling basins and/or RCSs. Storage of slurry in settling basins is prohibited. Any overflow of these storage areas shall be recorded in the PPP and notification shall be provided to the regional office within thirty (30) days. Based on review of the information this permit may be formally amended to require additional controls or other requirements.

- NMP date added to Section V of the Fact Sheet.

Respectfully submitted,

Texas Commission on Environmental Quality

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CERTIFICATE OF SERVICE

I certify that on August 31, 2009, the "Executive Director's Response to Public Comment" for Permit No. WQ0003682000 was filed with the Texas Commission on Environmental Quality's Office of the Chief Clerk.

Michael T. Parr, Staff Attorney
Environmental Law Division
State Bar No. 24062936