

Decision Summary LA23046

This document summarizes my reasons for issuing Authorization LA23046 under the *Agricultural Operation Practices Act* (AOPA). Additional reasons are in Technical Document LA23046. All decision documents and the full application are available on the Natural Resources Conservation Board (NRCB) website at www.nrcb.ca under Confined Feeding Operations (CFO)/CFO Search. My decision is based on the Act and its regulations, the policies of the NRCB, the information contained in the application, and all other materials in the application file.

Under AOPA this type of application requires an authorization. For additional information on NRCB permits please refer to www.nrcb.ca.

1. Background

On December 4, 2023, Hutterian Brethren Church of Keho Lake (Keho Lake Colony) submitted a Part 1 application to the NRCB to modify an existing lagoon, permitted under Approval LA15009, at an existing multi species CFO.

On November 1, 2023, the NRCB's compliance division inspected the existing liquid manure storage liner and noticed that there was no synthetic liner visible. As a result, the NRCB's compliance division issued Enforcement Order (EO 23-03) on November 28, 2023, directing Keho Lake Colony to submit a detailed plan to the NRCB, by December 13, 2023, on how the liquid manure storage's liner will be replaced.

The Part 2 application was submitted on December 11, 2023. On February 27, 2024, I deemed the application complete.

The proposed construction involves:

- Replace the synthetic liner of an existing liquid manure storage with compacted clay and increase the dimensions to 140 m x 46 m x 6 m deep.

a. Location

The modified liquid manure storage is located at NE 12-12-23 W4M in Lethbridge County, roughly 4.8 km east of the Village of Barons, Alberta. The topography of the site is level to undulating, with the closest water body being an unnamed marsh 98 m east of the existing liquid manure storage.

b. Existing permits

The CFO is permitted under NRCB Approval LA15009.

2. Notices to affected parties

Under section 21 of AOPA, the NRCB notifies all parties that are "affected" by an authorization application. Section 5 of AOPA's Part 2 Matters Regulation defines "affected parties" as:

- the municipality where the CFO is located or is to be located

- in the case where part of a CFO is located, or is to be located, within 100 m of a bank of a river, stream or canal, a municipality entitled to divert water from that body within 10 miles downstream
- any other municipality whose boundary is within a notification distance. In this case, the notification distance is 05 miles (804 m) from the CFO

None of the CFO facilities are located within 100 m of a bank of a river, stream or canal and no other municipality is within the notification distance.

A copy of the application was sent to Lethbridge County, which is the municipality where the CFO is located.

3. Notice to other persons or organizations

Under NRCB policy, the NRCB may also notify persons and organizations the approval officer considers appropriate. This includes sending applications to referral agencies which have a potential regulatory interest under their respective legislation.

Referral letters and a copy of the complete application were emailed to Alberta Environment and Protected Areas (EPA), Alberta Transportation and Economic Corridors (TEC), and the Lethbridge Northern Irrigation District (LNID).

I also sent a copy of the application to the Little Bow Gas Coop Ltd which have utility right of way on that land.

I received responses from Mr. Jeff Gutsell, a hydrogeologist with EPA, Ms. Leah Olsen, a development/planning technologist with TEC, and Ms. Katrina Holoboff, an administrative assistant with the LNID.

- Mr. Gutsell had no concerns with this application
- Ms. Olsen stated that a permit from her department is not required and that there no objections.
- Ms. Holoboff stated that the LNID has no objections to this development.

No other comments were received.

4. Municipal Development Plan (MDP) consistency

I have determined that the proposed modification of an existing liquid manure storage is consistent with the land use provisions of Lethbridge County's municipal development plan. (See Appendix A for a more detailed discussion of the county's planning requirements.)

5. AOPA requirements

With respect to the technical requirements set out in the regulations, the proposed modification:

- Meets the required AOPA setbacks from all nearby residences (AOPA setbacks are known as the "minimum distance separation" requirements, or MDS)
- Meets the required AOPA setbacks from water wells, springs, and common bodies of water
- Meets AOPA groundwater protection requirements for the design of floors and liners of manure storage facilities and manure collection areas

6. Responses from municipality

Directly affected parties are entitled to a reasonable opportunity to provide evidence and written submissions relevant to the application and are entitled to request an NRCB Board review of the approval officer's decision.

Municipalities that are affected parties are identified by the Act as "directly affected." Lethbridge County is an affected party (and directly affected) because the proposed facility is located within its boundaries.

Ms. Hilary Janzen, a supervisor of planning and development with Lethbridge County, provided a written response on behalf of Lethbridge County. Ms. Janzen stated that the application is consistent with Lethbridge County's municipal development plan and the application is not within any intermunicipal development plan or area structure plan areas. The application's consistency with Lethbridge County's municipal development plan is addressed in Appendix A, attached.

Ms. Janzen also requested that all applicable setbacks as required by Lethbridge County's land use bylaw (LUB) are met.

7. Environmental risk of facilities

New manure storage facilities which clearly meet or exceed AOPA requirements may be assumed to pose a low risk to surface and groundwater. However, there may be circumstances where an approval officer may require construction supervision for the facility. The reasons for these conditions are detailed in Appendix B.

The risk to the environment posed by the CFO's existing manure storage facilities and manure collection areas that appear to be the CFO's highest risk facilities; (the dairy liquid manure storage which is the deepest facility without an AOPA approved liner, and the feedlot which does not have runoff control); were assessed in 2022 using the NRCB's environmental risk screening tool (ERST) (see NRCB Operational Policy 2016-7: *Approvals*, part 9.17). The tool provides for a numeric scoring of risks, which can fall within a low, moderate, or high risk range. (A complete description of this tool is available under CFO/Groundwater and Surface Water Protection on the NRCB website at www.nrcb.ca.) The assessment found that both facilities pose a low potential risk to groundwater and surface water. Because these are the CFO's highest risk facilities, I presume that the CFO's other existing facilities also pose a low potential risk to both groundwater and surface water. From a review of other information gathered in the course of this application, I am satisfied that the screening provided by the ERST is adequate and that the presumption is not rebutted. A further assessment of the risks posed by these other facilities, using the ERST, is not necessary.

8. Terms and conditions

Authorization LA23046 permits the modification of the existing liquid manure storage (final dimensions: 140 m x 46 m x 6 m deep).

Authorization LA23046 contains terms that the NRCB generally includes in all AOPA authorizations, including terms stating that the applicant must follow AOPA requirements and must adhere to the project descriptions in their application and accompanying materials.

In addition to the terms described above, Authorization LA23046 includes conditions that generally address a construction deadline, construction procedures, document submission and construction inspection. For an explanation of the reasons for these conditions, see Appendix B.

9. Conclusion

Authorization LA23046 is issued for the reasons provided above, in the attached appendices, and in Technical Document LA23046.

Authorization LA23046 must be read in conjunction with Keho Lake Colony's Approval LA15009 which remains in effect.

April 9, 2024

(Original signed)
Carina Weisbach
Approval Officer

Appendices:

- A. Consistency with the municipal development plan
- B. Explanation of conditions in Authorization LA23046

APPENDIX A: Consistency with the municipal development plan

Under section 22 of AOPA, an approval officer may only approve an application for an authorization or amendment of an authorization if the approval officer holds the opinion that the application is consistent with the “land use provisions” of the applicable municipal development plan (MDP).

This does not mean consistency with the entire MDP. In general, “land use provisions” cover MDP policies that provide generic directions about the acceptability of various land uses in specific areas.

“Land use provisions” do not call for discretionary judgements relating to the acceptability of a given confined feeding operation (CFO) development. Similarly, section 22(2.1) of the Act precludes approval officers from considering MDP provisions “respecting tests or conditions related to the construction of or the site” of a CFO or manure storage facility, or regarding the land application of manure. (These types of MDP provisions are commonly referred to as MDP “tests or conditions.”) “Land use provisions” also do not impose procedural requirements on the NRCB. (See NRCB Operational Policy 2016-7: *Approvals*, part 9.2.7.)

Keho Lake Colony’s CFO is located in Lethbridge County and is therefore subject to that county’s MDP. Lethbridge County adopted the latest revision to this plan in March 2022, under Bylaw #22-001.

The relevant section in the MDP that governs CFOs is section 3 Intensive Livestock/Confined Feeding Operations. The policies relevant to this application are set out below:

3.0 states that the county is supportive of the livestock industry establishing and expanding into areas where there is less potential for conflicts and where municipal infrastructure can adequately serve and support such developments.

As stated in section 22(2.1) under consideration on authorizations, an approval officer shall not consider any provisions respecting tests or conditions related to the site for a CFO. I interpret section 3.0 of the MDP as a condition related to the site of a CFO. Therefore, I cannot consider this section in my consistency determination.

3.1 and 3.2 stipulate that establishment/development of new CFOs within the MDP CFO exclusion areas (Map 2 of the MDP), exclusion zones identified in an IDP, or identified residential growth center are not permitted.

This CFO is not within any of the identified areas and no IDPs apply to this area.

3.4 elaborates on municipal plan consistencies of neighbouring municipalities.

Because I do not consider this section as a land use provision, I will not include this section in my consistency determination. Having said that, there are no intermunicipal development plans that apply to this area.

3.5 states that “CFOs shall not be supported to establish or expand within environmentally sensitive areas as shown in the Cotton Wood Report: County of Lethbridge: Environmentally Sensitive Areas in the Oldman River Region (1988).

This CFO is not within any of the identified areas.

3.6 states that all setbacks should be adhered to (e.g. property lines, road setbacks)

The proposed construction meets all applicable setbacks.

3.7 states that CFOs are only permitted in ‘Rural Agriculture’ land use districts and cannot be established on properties smaller than 80 acres.

This new CFO is located within the ‘Rural Agriculture’ land use district and the property is larger than 80 acres. This section is therefore met.

Sections 3.8-3.11 are not considered land use provisions because they either deal with conditions under which CFOs are allowed to continue to operate (section 3.8), manure application (section 3.9, which is a test or condition), reciprocal MDS (section 3.10), or county NRCB interactions (section 3.11, which is procedural).

For these reasons, I conclude that the application is consistent with the land use provisions of Lethbridge County’s MDP. This conclusion is supported by the county’s response.

APPENDIX B: Explanation of conditions in Authorization LA23046

a. Groundwater protection requirements

Keho Lake Colony proposes to construct the new earthen liquid manure storage (EMS) with a compacted soil liner. Section 9 of AOPA's Standards and Administration Regulation specifies a thickness and maximum hydraulic conductivity for this type of liner in order to minimize leakage.

To demonstrate compliance with this standard, Keho Lake Colony provided lab measurements of the hydraulic conductivity of the materials that will be used to construct the compacted soil liner.

Lab measurements of hydraulic conductivity are made in a precisely controlled setting and are typically based on a small soil sample. Therefore, the NRCB generally multiplies lab-measured hydraulic conductivity values by a factor of 10 to reflect the potential variability in actual liner materials and conditions that can reasonably be expected to be achieved in the field.

The regulations provide that the actual hydraulic conductivity of a one metre thick compacted soil liner must not be more than 1×10^{-7} cm/sec.

In this case, the lab measurement was 4.08×10^{-8} cm/sec. With the required ten-fold modification, the expected field value is 4.08×10^{-7} cm/sec. This expected value is above (worse than) the maximum value in the regulations and would, realistically, not meet the regulations by increasing the thickness of the compacted clay liner. However, Technical Guideline Agdex 096-64, November 2022, page 6 allows the consideration of additional construction procedures that account for scenarios where the laboratory hydraulic conductivity value is not increased by an order of magnitude.

These considerations include increasing the compacted soil's design moisture content to be $\geq 2\%$ more than the optimum moisture content in addition to determining moisture content and density test results for each lift of the compacted soil liner. Therefore, a condition will be included that requires the construction to be supervised by a professional engineer to ensure moisture content and density testing has been conducted appropriately for each lift and that the final thickness of the compacted soil liner has a minimum of 1 m.

In order to ensure protection of the liner, no trees or other deep rooting vegetation are allowed to establish around the two cell EMS.

b. Construction Deadline

Keho Lake Colony proposes to complete construction of the proposed modification of the liquid manure storage by June 30, 2024. This time-frame seems a little short for the proposed scope of work. I will therefore extend this timeframe by 3 months. The deadline of September 30, 2024, is included as a condition in Authorization LA23046

c. Post-construction inspection and review

The NRCB's general practice is to include conditions in new or amended permits to ensure that the new or expanded facilities are constructed according to the required design specifications. Accordingly, Authorization LA23046 includes conditions requiring:

Keho Lake Colony to provide a completion report, stamped by a professional engineer, certifying that the liquid manure storage meets all setbacks, the final dimensions including inside and outside slopes, that the liner was constructed with the same liner material as used for hydraulic conductivity testing, that the thickness of the liner is a minimum of 1.5 m and that all construction procedures as outlined above (Appendix B, section a.) have been followed and AOPA's liner requirements have been met.

The NRCB routinely inspects newly constructed facilities to assess whether the facilities were constructed according to their required design specifications. To be effective, these inspections must occur before manure is placed in the newly constructed facilities. Authorization LA23046 includes a condition stating that Keho Lake Colony shall not place manure into the new liquid manure storage until NRCB personnel have inspected the liquid manure storage and confirmed in writing that it meets the authorization requirements.