

Decision Summary LA24041

This document summarizes my reasons for issuing Authorization LA24041 under the *Agricultural Operation Practices Act* (AOPA). Additional reasons are in Technical Document LA24041. 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 September 26, 2024, Hutterian Brethren Church of West Raley (West Raley Colony) submitted a Part 1 application to the NRCB to construct an earthen liquid manure storage (EMS) at an existing multi species CFO.

The Part 2 application was submitted on March 13, 2025, and I deemed the application complete the same day.

In a phone conversation on March 13, 2025, with Dave Hofer, a representative of West Raley Colony, Mr. Hofer explained that the EMS had already been constructed. Subsequently, an NRCB inspector conducted a site visit to confirm the information. During this visit, the inspector noted that the EMS had been excavated but no liner was constructed. As a result of the unauthorized construction, Enforcement Order EO 25-02 was issued, directing West Raley Colony to not use the EMS until a permit has been received.

The proposed construction involves (already excavated to the dimensions originally proposed):

- Constructing an earthen liquid manure storage – 81 m x 81 m x 7 m deep

The reason for the construction of additional liquid manure storage space is that on several occasions, particularly during strong wind events, liquid manure spilled from the existing liquid manure storage tank (slurry tank) when emptying the tank.

a. Location

The proposed MSF is located at SE 13-4-25 W4M in Cardston County, at the south end of the St. Mary Reservoir, approximately 2.5 km west of the Hamlet of Raley. The topography of this area is slightly undulating with several coulees cutting through, sloping towards the St. Mary Reservoir. There is a sharp drop along the banks of the reservoir with the highest water level significantly below the top of the banks.

b. Existing permits

The CFO is currently permitted under Approval LA19028 and Authorization LA24033.

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 0.5 miles (804 m) from the CFO

Some of the CFO facilities are located within 100 m of a bank of a river, stream or canal. Cardston County, the Blood Tribe, and Alberta Environment and Protected Areas (EPA) were notified of this application.

A copy of the application was sent to Cardston County, which is the municipality where the CFO is located, and to the Blood Tribe, which has a boundary within the notification distance for the CFO.

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 that 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).

I also sent a copy of the application to Alta Link Management, which is a right-of-way holder on this land.

The NRCB received a response from Ms. Adriane Gomes-Preissler, a water administration technologist with EPA. In her response, Ms. Gomes-Preissler pointed out that there seems to be no increase in water requirements. However, she stated that the EMS seems to intercept a ground water resource and recommended the implementation of precautionary measures to prevent contamination. This concern is addressed in Appendix B – section a.

No other responses were received.

LA24041 does not relieve the permit holder from complying with other applicable laws, such as safety codes, other municipal bylaws, provincial legislation (e.g. Historical Resources Act), and federal legislation (e.g. Migratory Birds Convention Act).

4. Municipal Development Plan (MDP) consistency

I have determined that the proposed construction is consistent with the land use provisions of Cardston 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 construction:

- 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
- Has sufficient means to control surface runoff of manure
- Meets AOPA groundwater protection requirements for the design of floors and liners of manure storage facilities and manure collection areas

6. Responses from municipalities

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.” Cardston County is an affected party (and directly affected) because the proposed facility is located within its boundaries.

Mr. Joe Thomas, a development officer with Cardston County, provided a written response on behalf of Cardston County. Mr. Thomas stated that the county has no concerns with this application.

The application’s consistency with Cardston County’s municipal development plan is addressed in Appendix A, attached.

7. Environmental risk of facilities

When reviewing a new authorization application for an existing CFO, NRCB approval officers assess the CFO’s existing buildings, structures, and other facilities. In doing so, the approval officer considers information related to the site and the facilities, as well as results from the NRCB’s environmental risk screening tool (ERST). The assessment of environmental risk focuses on surface water and groundwater. The ERST provides for a numeric scoring of risks, which can fall within either 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.) However, if those risks have previously been assessed, the approval officer will not conduct a new assessment unless site changes are identified that require a new assessment, or the assessment was supported with a previous version of the risk screening tool and requires updating. See NRCB Operational Policy 2016-7: *Approvals*, part 9.17.

In this case, the risks posed by West Raley Colony’s existing CFO facilities were assessed in 2016 using the ERST. According to that assessment, the facilities posed a low potential risk to surface water and groundwater.

The circumstances have not changed since that assessment was done. As a result, a new assessment of the risks posed by the CFO’s existing facilities is not required.

I also conducted a risk screening for the new EMS. The assessment found that there is a low risk to groundwater and surface water.

8. Terms and conditions

Authorization LA24041 permits the construction of the earthen liquid manure storage.

Authorization LA24041 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 LA24041 includes conditions that generally address construction deadlines, document submission and construction inspection. For an explanation of the reasons for these conditions, see Appendix B.

9. Conclusion

Authorization LA24041 is issued for the reasons provided above, in the attached appendices, and in Technical Document LA24041.

Authorization LA24033 must be read in conjunction with West Raley Colony's Approval LA19028 and Authorization LA24033 which remain in effect.

May 12, 2025

(Original signed)
Carina Weisbach
Approval Officer

Appendices:

- A. Consistency with the municipal development plan
- B. Explanation of conditions in Authorization LA24041

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.)

West Raley Colony’s CFO is located in Cardston County and is therefore subject to that county’s MDP. Cardston County adopted the latest revision to this plan in December 1999 under Bylaw No. 448/99.

Section 4 of the MDP – titled “Municipal Development Plan Policies” – establishes the land use policies that serve as guidance for development within the county’s boundaries. The introductory statement of section 4.1 states that agriculture is the predominant land use in the county and that it is imperative to protect agricultural endeavours. Section 4.1 then discusses planning issues unrelated to CFOs. The MDP’s only direct references to CFOs (called “intensive livestock operations”) are in terms of CFO (parcel) subdivisions and limiting development near existing CFOs rather than vice versa (section 4.6.20).

Although section 4.8 (environmental considerations) does not specifically refer to CFOs, it provides policies for all developments in environmentally significant areas identified in the report: “Environmentally Significant Areas in the Oldman River Region: MD of Cardston”. West Raley Colony’s CFO is within an environmentally sensitive or significant area identified in that report (Regionally significant site (Map 1) and Significant archaeological sites: Map 3 and Table 3). However, West Raley Colony is an existing CFO, established prior to January 1, 2002.

Section 4.10 (Fringe areas) provides guidance for any developments within urban “fringe areas”. West Raley Colony’s existing and proposed CFO facilities are not located in an urban fringe area identified in the MDP and is therefore consistent with this policy.

For these reasons, I conclude that the application is consistent with the land use provisions of Cardston County’s MDP.

APPENDIX B: Explanation of conditions in Authorization LA24041

a. Construction above the water table

EPA was concerned that the EMS intercepts groundwater and recommends implementing all precautions to prevent contamination of the underlying aquifer.

As stated in the attached engineering report (report), the engineer investigated if the encountered groundwater consists of a possible groundwater resource as defined under AOPA. Results showed that it does not qualify as a groundwater resource based on low flow rates and anticipated yields (chapter 6.2, pages 4-5).

Section 9(3) of the Standards and Administration Regulation under the *Agricultural Operation Practices Act* (AOPA) requires the bottom of the liner of a manure storage facility or manure collection area to be not less than one metre above the water table of the site “at the time of construction.”

Based on this information, the proposed liquid manure storage does not meet the one metre requirement of section 9(3). In the attached report, it was stated that groundwater is anticipated to be encountered during construction and that pumping might be required to meet section 9(3) (section 5, page 3 of the report). It also noted that the height of the water table can vary over time, the lack of adequate depth to water table indicated in West Raley Colony's report does not mean that there will be an inadequate depth at the time of construction.

To address this variability and ensure that the depth requirement is met at the time of construction of the compacted clay liner, a condition is included requiring West Raley Colony to work with a professional engineer and to follow the suggested construction procedures, including over excavation of possible softer, unstable areas along the banks of the EMS. A condition will be included to that effect, as well as the duty to report to the NRCB should seepage occur during construction.

b. Groundwater protection requirements

West Raley Colony proposes to construct the new earthen liquid manure storage (EMS) with a hybrid liner consisting of a 0.75 metre thick compacted soil liner combined with a naturally occurring protective layer underneath.

Because the EMS has already been excavated to a minimum of 7 m below ground level which differs from the assumption in the engineering report (Page 6 of the attached report: “*depth of the majority of the excavations is assumed to be less than 3.0 m*”) as well as it is unsure if attention was given to separating the soils deriving from the different soil layers as described in the attached report, I determined that a change to a one meter (1 m) thick compacted soil liner combined with additional construction procedures (see below) is more suitable to meet AOPA's requirements than a combination of compacted liner and natural occurring protective layer as described above. Because the excavated area has no constructed liner to date, no additional conditions are required to mitigate potential liner deficiencies.

To demonstrate compliance with this standard, West Raley 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 2.8×10^{-8} cm/sec. With the required ten-fold modification, the expected field value is 2.8×10^{-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 liner. However, Technical Guideline Agdex 096-64 (page 3) allows for a deviation from the 10-fold modification, provided that additional construction procedures are considered that account for scenarios where the laboratory hydraulic conductivity value is not increased by an order of magnitude.

These considerations include increasing the compacted soils' 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, thickness of each lift is as suggested in the attached report, 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 EMS.

c. Construction deadline

West Raley Colony proposes to complete construction of the proposed new earthen liquid manure storage by December 31, 2026. This time-frame is considered to be reasonable for the proposed scope of work. The deadline of December 31, 2026 is included as a condition in Authorization LA24041.

d. 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 LA24041 includes conditions requiring:

- a. West Raley Colony to provide an engineer's completion report certifying that the EMS was constructed with the same liner material as that used for hydraulic conductivity testing, that the EMS was constructed according to the proposed procedures and design specifications and that AOPA's liner requirements have been met.

The NRCB routinely inspects newly constructed facilities to assess whether the facilities were constructed in accordance with the permit requirements. To be effective, these inspections must occur before manure is placed in the newly constructed facilities. Authorization LA24041 includes a condition stating that West Raley Colony shall not allow manure into the new earthen liquid manure storage until NRCB personnel have inspected the earthen liquid manure storage and confirmed in writing that it meets the authorization requirements.