

## Decision Summary BA19024

This document summarizes my reasons for issuing Authorization BA19024 under the *Agricultural Operation Practices Act* (AOPA). Additional reasons are in Technical Document BA19024. All decision documents and the full application are available on the Natural Resources Conservation Board (NRCB) website at [www.nrcb.ca](http://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.

### 1. Background

On December 10, 2019, Clover Prairie Farms Ltd. submitted a Part 1 application to the NRCB to construct a new dry cow barn (21 m x 35 m) at an existing dairy CFO. The Part 2 application was submitted on March 17, 2020. On April 1, 2020, I deemed the application complete.

There is no proposed increase in livestock.

Under AOPA, this type of application requires an authorization. (This is one of several types of “permits” issued under AOPA. For an explanation of the different types and when each one applies, see [www.nrcb.ca](http://www.nrcb.ca).)

#### a. Location

The existing CFO is located at SE 13-49-27 W4M in Leduc County, roughly 3 km south of Calmar, Alberta. The terrain is relatively flat sloping slightly to the south west with the nearest common body of water being Conjuring Creek approximately 300 metres to the west.

#### b. Existing permitted facilities

The CFO was originally permitted by Leduc County on December 18, 2000 under development permit D00-275. This permit allowed the construction and operation of a 150 cow dairy CFO. Since AOPA came into effect on January 1, 2002, the CFO has received Registration BA03005 and Authorization BA18006. Collectively, the NRCB registration, authorization, and the deemed registration allow Clover Prairie to construct and operate a 180 milking cow (plus associated dries and replacements) CFO. The CFO’s grandfathered status is explained in Decision Summary BA03005.

### 2. Notices to affected parties

Under section 21 of AOPA, notice of an authorization application must be provided to municipalities that are “affected” by the application. Section 5 of AOPA’s Part 2 Matters Regulation lists the categories of municipalities that are affected parties. These categories include the municipality where the existing CFO is located. Under section 21(2) of the act, all affected municipalities are automatically also “directly affected” parties. The NRCB interprets section 21(3) as allowing affected municipalities to provide written submissions regarding whether the application meets the requirements of the regulations under the act. (See NRCB Operational Policy 2016-7: *Approvals*, part 7.11.2.)

Leduc County is both an affected and directly affected party because the proposed facility is located within its boundaries.

On April 1, 2020, the NRCB emailed referral letters and a copy of the application to Leduc County, Alberta Health Services (AHS), Alberta Environment and Parks (AEP), Alberta Agriculture and Forestry (AF), and Alberta Transportation.

### **3. Responses from the municipality and referral agencies**

I received responses from Leduc County, AHS, AEP, and AF. No response was received from Alberta Transportation.

Mr. Greg McGovern, a planner, provided a written response on behalf of Leduc County. As noted in section 2, Leduc County is a directly affected party.

Mr. McGovern stated that the application is consistent with Leduc County's municipal development plan. The application's consistency with the county's municipal development plan, is addressed in appendix A, attached.

Ms. Anderson, an environmental health officer at AHS, sent a response to the application enquiring if there is any water well testing or potential risk to groundwater. In previous applications and as a part of this application a risk assessment has been completed. As explained in the environmental risk screening discussed below, a risk screening of the existing manure storage facilities at the site has been completed and all of the CFO's existing and proposed facilities score low risk to both groundwater and surface water.

Dennis Urban, an inspector, replied on behalf of AF. Mr. Urban stated AF has no concerns with the application.

An automated email response to the application was received from AEP, noting several legislations. Applicants must ensure they are meeting all applicable legislation and submit applications to Alberta Environment and Parks accordingly.

### **4. Environmental risk screening of existing and proposed facilities**

When reviewing a new authorization application for an existing CFO, NRCB approval officers normally assess the CFO's existing buildings, structures, and other facilities, using the NRCB's environmental risk screening tool to determine the level of risk they pose to surface water and groundwater. This tool 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](http://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 done with a previous version of the risk screening tool and requires updating. See NRCB Operational Policy 2016-7: *Approvals*, part 8.13.

In this case, the risks posed by Clover Prairie's existing CFO facilities were assessed in 2018. According to that assessment, the facilities posed a low 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 assessed the proposed new dry cow barn, using the NRCB's risk screening tool, and determined that it poses a low risk to groundwater and surface water.

## 5. Other factors considered

The application meets all relevant AOPA requirements, with the terms and conditions summarized in part 6.<sup>1</sup>

In addition, the proposed construction is consistent with the land use provisions of Leduc County's municipal development plan. (See Appendix A for a more detailed discussion of the county's planning requirements.)

With respect to the act's technical requirements, 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 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

I also determined that the proposed dry cow barn is located within the required AOPA setback from an existing water well. However, as explained in Appendix B, this facility warrants an exemption from the 100 metre water well setback due to the well's construction and location.

## 6. Terms and conditions

Authorization BA19024 permits the construction of the dry cow barn.

Authorization BA19024 also 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 BA19024 includes conditions that:

- Set a deadline of December 1, 2022 for the approved construction to be completed
- Require the concrete used to construct the liner of the manure collection and storage portion of the dry cow barn to meet the specification for category D (solid manure – dry) in Technical Guideline Agdex 096-93 "Non-Engineered Concrete Liners for Manure Collection and Storage Areas"
- Require written confirmation from a qualified third party that the concrete used for the manure collection and storage areas meets the required specifications.
- Prohibit Clover Prairie Farms from placing manure or livestock in the dry cow barn until it has been inspected by the NRCB following its construction

For an explanation of the reasons for these conditions, see Appendix C.

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1. For a summary of these requirements, please see the [2008 AOPA Reference Guide](#), available on the NRCB website at [www.nrcb.ca/about/documents](http://www.nrcb.ca/about/documents).

## **7. Conclusion**

Authorization BA19024 is issued for the reasons provided above, in the attached appendices, and in Technical Document BA19024.

Authorization BA19024 should be read in conjunction with previously issued development permit D00-275, Registration BA03005, and Authorization BA18006, which remain in effect.

May 28, 2020

(Original signed)

Nathan Shirley  
Approval Officer

### **Appendices:**

- A. Consistency with the municipal development plan
- B. Exemptions from water well setbacks and monitoring requirements
- C. Explanation of conditions in Authorization BA19024

## APPENDIX A: Consistency with the municipal development plan

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

The NRCB interprets the term “land use provisions” as covering MDP policies that provide generic directions about the acceptability of various land uses in specific areas and that do not call for discretionary judgements relating to the acceptability of a given confined feeding operation (CFO) development. (See NRCB Operational Policy 2016-7: *Approvals*, part 8.2.5.) Under this interpretation, the term “land use provisions” also excludes MDP policies that impose procedural requirements. In addition, 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.”)

Clover Prairie’s CFO is located in Leduc County and is therefore subject to that county’s MDP. Leduc County adopted the latest revision to this plan on June 23, 2019, under Bylaw #08-19.

Section 4.3.0.2 of the MDP lists planning objectives and policies for the county’s four agricultural areas. (The locations of these areas are shown on Map 4 of the MDP.) The existing CFO is in Area South Central/East. The MDP provisions applicable to Clover Prairie Farms’ CFO are discussed below.

Section 4.3.0.2(c) states that the purpose of Agricultural Area South Central/East is to “to provide for a broad range of agriculture including confined feeding operations. This area currently has a number of dairy operations that will be adversely impacted by significant increases in population and/or development.” This is likely a general guiding principle and is not considered a valid land use provision, therefore it’s not relevant to my decision.

Section 4.3.2 states that the county supports the development and expansion of CFOs provided the operation is compatible with the surrounding land uses. More specifically, section 4.3.2.1 states support for new or expanded CFOs provide the operation:

- a. does not create adverse impacts on environmentally significant lands;*
- b. has a satisfactory access;*
- c. is located within Agricultural Areas A, B or C,*
- d. is carried out in accordance with generally accepted farming practices regarding the storage, disposal and spreading of manure and the disposal of animal carcasses; and*
- e. meets the minimum setback distances to urban communities and residential development as regulated by the Agricultural Operation Practices Act.*

As this application is not for a new or expanding CFO these policies are not relevant to my decision. At any rate, the proposed application does meet all of these requirements.

For these reasons, I conclude that the proposed CFO expansion is consistent with the relevant land use provisions of the county’s MDP. The county’s response supports this conclusion.

## APPENDIX B: Exemptions from water well setbacks and monitoring requirements

According to the application, one water well is located within 100 metres of the proposed dry cow barn. I have confirmed this information is correct by site visit and through review of satellite imagery.

Because of this proximity, the applicant's proposed facilities conflict with a regulation under AOPA, which prohibits the construction of manure storage facilities (MSFs) within 100 metres of water wells.<sup>2</sup> However, the regulation allows approval officers to grant an exemption from this prohibition. I must therefore consider whether an exemption is appropriate in this instance.

Under the regulation, the test for granting an exemption is whether the "aquifer into which the well is drilled is not likely to be contaminated" by the proposed MSF. (According to the regulation, when granting an exemption, an approval officer may require the applicant to implement a "groundwater monitoring program.")

The regulation also makes it clear that the applicant has the burden of proving that an exemption is warranted.

In considering whether an applicant has met that burden, approval officers presume that the risks of direct aquifer contamination from the MSF are low if the applicant's proposed MSF meets AOPA's technical requirements to control runoff and leakage. However, when determining whether a MSF that meets AOPA's technical requirements should be exempted from the 100 metre water well setback requirement, approval officers also assess whether water wells that are less than 100 metres from the MSF could act as conduits for aquifer contamination.

Approval officers assess the following factors to determine the risk of aquifer contamination via the water well:

- How the well was constructed
- Whether the well is being properly maintained
- The distance between the well and the proposed MSF
- The estimated water well pumping rate
- Whether the well is up- or down-gradient from the MSF and whether this gradient is a reasonable indication of the direction of surface and groundwater flow between the two structures

These presumptions and considerations are based on NRCB Operational Policy 2016-7: *Approvals*, part 8.7.1.

The well in question is upslope from the proposed.

- Water well ID 153979 was drilled in 1990 and is sealed with a shale trap at 20.42 m and is perforated from 21.34 m to 42.67 m. The lithology is glacial till to a depth of 10.06 m followed by alternating shale, coal, and sandstone. The pumping rate was estimated at 54.55 l/min from a depth of 30.46 m.

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<sup>2</sup> Standards and Administration Regulation, Alta. Reg. 267/2001, section 7(1)(b).

An exemption from the 100 metre setback to this well is warranted, for the following reasons:

- The MSFs meet all other AOPA technical requirements, as noted in the attached decision summary and documented in Technical Document BA19024. Therefore, the risk of manure-contaminated water leaking or running off from the MSFs is low.
- In the unlikely event that any manure did leave the MSFs, it is unlikely to migrate directly into the aquifer into which the well is drilled because of the clay protective layer overlying the aquifer.
- Any manure that leaves the MSF is unlikely to reach the water well because of the wells location upslope from the facility.
- In the unlikely event that any manure reaches the well, the manure is unlikely to actually enter the well and flow down the well into the aquifer. This risk pathway is very unlikely because of the wells construction and its completion above grade.

The NRCB has developed a “water well exemption screening tool,” based on the factors listed above, to help approval officers assess the groundwater risks associated with a nearby water well and to decide whether an exemption from the 100 metre setback to a well is warranted. This tool consists of a two-stage risk screening process; each stage provides a numeric risk “score” based on the information inputted into the tool. The first stage focuses on the well’s construction. If the well scores less than 10 at this stage, the tool recommends granting the exemption for the subject facility. If the well scores above 28, the tool recommends denying the exemption. Scores between 10 and 28 require applying the second stage of the screening process, which focuses on the gradient and other factors bearing on the risk of manure runoff or leachate reaching the water well. If the risk score at this stage is more than 20, the tool suggests denying the setback exemption to the subject well.

In this case water well ID 153979, scored 11 in the first stage and the dry cow barn scored 8, in the second stage of the risk screening process described above.

For the above reasons, a groundwater monitoring program is not required.

## **APPENDIX C: Explanation of conditions in Authorization BA19024**

### **a. Construction Deadline**

Clover Prairie proposes to complete construction of the proposed dry cow barn by October 1, 2022. This time-frame is considered to be reasonable for the proposed scope of work. The deadline of December 1, 2022 is included as a condition in Authorization BA19024.

### **b. 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 BA19024 includes conditions requiring:

- the concrete used to construct the liner of the manure collection and storage portion of the dry cow barn to meet the specification for category D (solid manure – wet) in Technical Guideline Agdex 096-93 “Non-Engineered Concrete Liners for Manure Collection and Storage Areas.”
- Clover Prairie to provide documentation to confirm the specifications of the concrete used to construct the manure storage and collection portions of the dry cow barn.

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 livestock or manure are placed in the newly constructed facilities.

Authorization BA19024 includes a condition stating that Clover Prairie shall not place livestock or manure in the manure storage portions of the dry cow barn until NRCB personnel have inspected the facility and confirmed in writing that it meets the authorization requirements.