

Decision Summary RA20016

This document summarizes my reasons for issuing Authorization RA20016 under the *Agricultural Operation Practices Act* (AOPA). Additional reasons are in Technical Document RA20016. 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.

1. Background

On March 9, 2020, Cornelis (Kees) & Jacqueline Bottenberg, and Bottenberg Holsteins Ltd. (Bottenberg Holsteins) submitted a Part 1 application to the NRCB to construct an expansion to the calf barn, and a manure collection pit at an existing dairy CFO. The Part 2 application was submitted on June 1, 2020. On June 8, 2020, I deemed the application complete.

The proposed construction involves:

- Expanding the existing calf barn 18.9 m x 6.7 m (for a total final dimensions of 21.9 m x 18.9 m)
- Constructing a manure collection pit (6.7 m x 3.1 m x 2.4 m deep)

The application also includes construction of a utility room in front of the calf barn (9.7 m x 5.5 m). This facility is an “ancillary structure,” under section 1(1)(a.1) of the *Agricultural Operations, Part 2 Matters Regulation*, because it will not be used to store or collect manure or to confine livestock. Therefore, under section 4.1 of that regulation, this structure does not need to be permitted under the act.

The purpose of the proposed expansion to the calf barn, and the construction of the manure collection pit is to provide more comfort for the young dairy herd, and to better manage the manure generated from the calf barn, which is changing from solid to liquid manure.

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.)

a. Location

The existing CFO is located at SW 26-34-3 W5M in Red Deer County, roughly 20 km west of Bowden, Alberta. The terrain is flat to undulating with a general slope to the east and northeast.

b. Existing permitted facilities

The CFO was originally permitted by Authorization RA11013, which the NRCB issued on May 13, 2011. The CFO also has NRCB Authorization RA11052, Registration RA13001 (which amalgamated the previous authorizations), and Authorization RA17011 (further amended into RA17017A). Collectively, these NRCB permits allow Bottenberg Holsteins to construct and

operate a dairy CFO with 145 milking cows (associated replacements and dries also allowed on site). The CFO's existing permitted facilities are listed in Registration RA13001 and Authorization RA17011A.

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 Operational Policy 2016-7: *Approvals*, part 7.11.2.)

Red Deer County is both an affected and directly affected party because the proposed facilities are located within its boundaries.

On June 8, 2020, the NRCB emailed referral letters and a copy of the application to Red Deer 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 the county, AHS, AEP, AF and AT.

Ms. Rebecca Schapansky, a planner with Red Deer County, provided a written response on behalf of the County. As noted in section 2, Red Deer County is a directly affected party.

Ms. Schapansky stated that the application is consistent with Red Deer County's municipal development plan (MDP), and the county has no objections to this application. She went on to state that the CFO is not located in an area covered by a structure plan or intermunicipal development plan. The application's consistency with Red Deer County's MDP is addressed in Appendix A.

Ms. Schapansky's response also discussed the land use zoning of the area surrounding the CFO, the required setbacks under the Land Use Bylaw (LUB), and that CFOs are a permitted land use under the LUB. She stated that the proposed facility will meet the required setbacks.

The NRCB also received a response from Ms. Pamela Kutuadu, an AHS environmental health officer/executive officer indicating that AHS has no concerns with this application. Ms Kutuadu included in her response, that under the *Public Health Act*, it is recommended to test water wells that are used for human consumption twice a year for bacteria.

Ms. Laura Partridge, a senior water administration officer with AEP, sent an email, to the applicant and the NRCB, with information related to water licencing under the *Water Act*. The applicant is reminded that they need to change the ownership names on their water licenses in accordance with the *Water Act*.

Mr. Tom Pack, an inspector with Agriculture and Forestry, stated that he has no concerns with this application.

Sandy Choi, a development and planning technologist with Alberta Transportation, responded to the NRCB and copy to the applicant with a development permit.

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.) 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 Bottenberg Holsteins' existing CFO facilities were assessed in 2011 and 2017. According to those assessments, the facilities posed a low risk to surface water and groundwater.

The circumstances have not changed since those assessments were 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 expansion to the calf barn, and the manure collection pit, using the NRCB's risk screening tool, and determined that they pose 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.

In addition, the proposed construction is consistent with the land use provisions of Red Deer County's municipal development plan and with its land use bylaw. (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 expansion to the calf barn, and the manure collection pit are located within the required AOPA setback from an existing water well. However, as explained in Appendix B, these facilities warrant an exemption from the 100 metre water well setback due to the well's construction and location from the calf barn and the manure collection pit.

6. Terms and conditions

Authorization RA20016 permits the construction of the expansion to the calf barn, and the manure collection pit.

Authorization RA20016 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 RA20016 includes conditions that:

- Set a deadline of November 30, 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 expansion to the calf barn, and the manure collection pit to meet the specification for category C (solid manure – wet), and category B (liquid manure shallow pits); respectively, 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 Bottenberg Holsteins from placing manure or livestock in the expanded portions of the calf barn, or placing manure in the manure collection pit, until the facilities have been inspected by the NRCB following their construction

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

7. Conclusion

Authorization RA20016 is issued for the reasons provided above, in the attached appendices, and in Technical Document RA20016.

Authorization RA20016 should be read in conjunction with previously issued Registration RA13001 and Authorization RA17017A, which remain in effect.

July 9, 2020

(Original Signed)
Francisco Echegaray, P.Ag.
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 RA20016

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.”)

Bottenberg Holsteins’ CFO is located in Red Deer County and is therefore subject to that county’s MDP. Red Deer County adopted the latest revision to this plan on August 21, 2018, under Bylaw #2012/26. As applicable here:

Section 3.3 of the MDP relates to CFOs; its relevant subsections are discussed below.

Subsection 3.3.1 states that the county “encourages the development of CFOs at appropriate locations, as a means of supporting the local economy and creating employment.” This policy likely isn’t a relevant “land use provision” but it provides a general context for interpreting and applying the other policies in section 3.3.

Subsection 3.3.2 lists six “criteria used [by the county] in responding to applications for new CFOs or expansions to existing CFOs...” This subsection is titled “Criteria for *Input*” (emphasis added). This subsection is intended to be used only by the county to prepare its responses to AOPA applications. Therefore, the criteria are procedural in nature and not a land use provision, therefore they are not directly relevant to my MDP consistency determination.

In addition, the criteria require site-and CFO-specific discretionary considerations rather than providing generic direction for appropriate land uses. As such, the six criteria are not considered by the NRCB to be “land use provisions.” (See Operational Policy 2016-7: *Approvals*, part 8.2.5.) Therefore, they are not relevant to this MDP consistency determination.

Subsection 3.3.3 contains three parts under the heading “Conditions for County Support of CFOs”:

- Part 3.3.3(a) states that the county will provide input to the NRCB regarding CFO applications. As with subsection 3.3.2, discussed above, this subsection focuses on the county’s response and therefore is not a land use provision and is not relevant to my MDP consistency determination.
- 3.3.3(b) is for new CFOs. Therefore, this part is not applicable to this application as this is an existing CFO.
- 3.3.3(c) is for expanding CFOs and states that “applications made to the NRCB... may

be supported if they:

- i. are located within an intermunicipal development plan (IDP) and are in accordance with the policies contained within the IDP... and
- ii. are compatible with adjacent land uses.”

Bottenberg Holsteins' CFO is not located within an IDP so it does not conflict with this requirement of the MDP. During a visit of the CFO, I observed that most of the land immediately surrounding the CFO appeared to be in uses that agreed with the county's LUB Agricultural District. On this basis, the CFO is “compatible” with adjacent agriculturally zoned land uses.

For these reasons, I conclude that the application is consistent with the land use provisions of Red Deer County's MDP. As noted above, Red Deer County's council, and the county's planner, did not raise any objections with this application. Therefore, the county's response is consistent with my conclusion.

In my view, the text of Red Deer County's MDP also provides a clear intent to adopt provisions from the LUB, in sections 1, 2, 3, 5 and 10. Following the NRCB Operational Policy 2016-7: *Approvals*, part 8.2.3, I also considered the county's Land Use Bylaw 2006/6. Under that bylaw, the subject land is currently zoned Agriculture District (AG). Confined feeding operations are listed as a permitted land use if they are sited on 32 hectare or larger parcels of land.

Under the NRCB's *Approvals* policy (See Operational Policy 2016-7, part 8.3) a proposed development is considered to be consistent with the bylaw if it is listed as either a permitted or discretionary use. The CFO is located on a parcel that has an area larger than 32 hectares, so I am of the opinion that the proposed calf barn and manure collection pit, and the CFO as a whole are consistent with the county's LUB.

APPENDIX B: Exemption from water well setbacks

According to the application, one water well is located within 100 metre of the proposed expansion to the calf barn and the manure collection pit. I have confirmed this information by a site visit.

Because of this proximity, the applicant's proposed calf barn expansion and the manure collection pit conflict with a regulation under AOPA, which prohibits the construction of manure storage facilities (MSFs) within 100 metres of water wells.¹ 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 an 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.

In addition, 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.² This tool consists of a two-stage risk screening process; each stage provides a

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

² A complete description of this tool is available under CFO/Groundwater and Surface Water Protection on the NRCB website at www.nrcb.ca.

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 suggests granting a setback 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 over 20, the tool suggests denying the setback exemption to the subject well.

In this case, water well ID# 428885 is located 10 from the calf barn and 30 metres north from the manure collection pit. The total depth of the well is 22.3 metres. The water well drilling report indicates that the well was drilled in 1979, has a driven seal from a depth of 7.3 metres to 8.8 metres, and the depth to open interval starts at 18.6 metres. Information on the subsurface lithology of the well shows that there is a 5.2 metres thick layer of clay covering 7.6 metres layer of shale.

I identified the uppermost groundwater resource to be at a depth of 12.8 metres.

The water well scored 15, and 17 in the first and second stages, respectively, of the risk screening process describe above. Based on these risk scores, an exemption from the 100 metre setback to the well is warranted.

APPENDIX C: Explanation of conditions in Authorization RA20016

Authorization RA20016 includes several conditions, discussed below:

a. Construction Deadline

Bottenberg Holsteins proposes to complete construction of the proposed expansion to the barn and the manure collection pit by January 1, 2022. In my opinion, a construction schedule that allows at least three construction seasons is more practical and realistic for the proposed development. Therefore, Authorization RA20016 includes a condition stating a deadline of November 30, 2022.

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 RA20016 includes conditions requiring:

- the concrete used to construct the liner of the manure collection and storage portion of the expanded calf barn to meet the specification for category C (solid manure – wet) in Technical Guideline Agdex 096-93 “Non-Engineered Concrete Liners for Manure Collection and Storage Areas.”
- the concrete used to construct the liner of the manure collection and storage portion of the manure collection pit shall meet the specification for category B (liquid manure shallow pits) in the same technical guideline stated above.
- Bottenberg Holsteins shall provide written confirmation, signed by a qualified third party, that the concrete used for the manure collection and storage areas meets the required specifications.

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 RA20016 includes conditions stating that Bottenberg Holsteins shall not place livestock or manure in the manure storage portions of the expanded parts of the calf barn, and shall not place manure in the manure collection pit, until NRCB personnel have inspected them and confirmed in writing that they meet the authorization requirements.