

Decision Summary LA19022

This document summarizes my reasons for issuing Approval LA19022 under the *Agricultural Operation Practices Act* (AOPA). Additional reasons are in Technical Document LA19022. 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 May 29, 2019, Martin Van Huigenbos of 5 Star Cattle Ltd. (5 Star Cattle) submitted a Part 1 application to the NRCB to construct a new 2,000 beef feeder calf CFO. The Part 2 application was submitted on November 21, 2019. On December 4, 2019, I deemed the application complete.

The proposed CFO involves constructing the following facilities:

- Covered building #1 – 13.7 m x 45 m
- Covered building #2 – 13.7 m x 45 m
- Covered building #3 – 45 m x 179 m
- Calf hutch pad – 208 m x 83 m

Under AOPA, this type of application requires an approval.

a. Location

The proposed CFO is located at SW 27-8-26 W4M in the Municipal District (MD) of Willow Creek, roughly 4.5 km southwest of the Town of Fort McLeod, Alberta. The terrain is slightly sloping to the north-northeast in the immediate area of the CFO, but is generally undulating. The closest common body of water is an ephemeral drain approximately 56 m to the north.

2. Notices to affected parties

Under section 19 of AOPA, the NRCB is required to notify (or direct the applicant to notify) all parties that are “affected” by an approval application. Section 5 of AOPA’s Part 2 Matters Regulation defines “affected parties” as:

- the municipality where the CFO is or is to be located
- any other municipality whose boundary is within a specified distance from the CFO, depending on the size of the CFO
- all persons who own or reside on land within a specified distance from the CFO, depending on the size of the CFO

For this application, the distance is one mile. (The NRCB refers to this distance as the “affected party radius.”)

Municipalities that are affected parties are defined by the act to be “directly affected” and are entitled to provide evidence and written submissions. The MD of Willow Creek is an affected party (and therefore also a directly affected party) because the proposed facility is located within its boundaries.

All other parties who receive notice of the application may request to be considered “directly affected.” Under NRCB policy, all individuals who own or reside on land within the affected party radius are presumed to be “directly affected” if they submit a written response to the notice within the prescribed timeline. See NRCB Operational Policy 2016-7: *Approvals*, part 6.2.

Under section 20 of the act, all directly affected parties are entitled to a reasonable opportunity to provide evidence and written submissions regarding the application.

All directly affected parties are also entitled to request an NRCB board review of the approval officer’s decision on the approval application.

The NRCB published notice of the application in the Fort Macleod Gazette on December 4, 2019 and posted the full application on the NRCB website for public viewing. The NRCB also emailed referral letters and a copy of the complete application to the Municipal District of Willow Creek, Alberta Health Services (AHS), Alberta Environment and Parks (AEP), and Alberta Transportation. Eighteen courtesy letters were sent to people identified by the MD of Willow Creek as owning or residing on land within the affected party radius.

3. Responses from the municipality and referral agencies

I received responses from the MD of Willow Creek, AHS, AEP, and Alberta Transportation.

Ms. Cindy Chisholm, manager of planning and development with the MD of Willow Creek, provided a written response on behalf of the MD of Willow Creek. As noted in section 2, the MD of Willow Creek is a directly affected party.

Ms. Chisholm stated that the application is consistent with the MD of Willow Creek’s municipal development plan. Ms. Chisholm also stated that the MD was concerned about the outdated well report submitted in this application. In addition, the MD commented about the fact that Alberta Transportation found that this development required a permit although it doesn’t seem to be within the control lines. Those concerns, and the application’s consistency with the MD of Willow Creek’s municipal development plan, are addressed in Appendices A and B, attached.

Ms. Chisholm also listed the setbacks required by the MD of Willow Creek’s land use bylaw (LUB) but did not comment if the application meets these setbacks.

The NRCB also received responses from Leah Olson, development/planning technologist with Alberta Transportation; Jeff Gutsell, hydrogeologist with AEP; and Robert Rippin, public health inspector with AHS.

Ms. Olson stated that a permit from her department is required for this development because the property is within the noted control lines. A copy of the letter was forwarded to the applicant for his information and action. The applicant has since contacted the department to resolve the issue.

Mr. Gutsell stated that there haven't been any licences issued for the two water wells that seem to be located within this quarter section according to the AEP database. He recommended that the operator contacts AEP as soon as possible to obtain a licence to support this development. The operator has since contacted AEP and is in the process of applying for a water licence. Mr. Gutsell was also concerned about a possible contamination of the water well that is located within 100 m of a manure collection area. He stated that there is a great likelihood that the well is not sufficiently well sealed. This concern is discussed in Appendix B, attached.

Mr. Rippin voiced concerns in respect to soil permeability, manure stockpiling, a dropping of the water table in the area, and increasing nitrate level in the neighbouring wells. These concerns are discussed in Appendix B, attached.

4. Responses from other directly affected parties

The NRCB received responses from three individuals to the application notice (see Appendix B).

All of the three people who submitted responses own or reside on land within the one mile radius for affected persons. Because of their location within this radius, they are presumed to be directly affected by the application.

The directly affected parties raised concerns regarding:

- runoff leaving the property,
- groundwater quality and quantity,
- accuracy of water well testing, cost of water well testing,
- manure management,
- road conditions,
- flies and dust,
- permits for ancillary buildings, and
- dead disposal

(see Appendix B for further details),

5. Environmental risk screening of proposed facilities

As part of my review of this application, I assessed the risk to surface water and groundwater posed by the CFO's proposed manure storage facilities. I used the NRCB's environmental risk screening tool for this purpose (see NRCB Operational Policy 2016-7: *Approvals*, part 8.13). The 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.)

All of the CFO's proposed facilities pose a low potential risk to groundwater and surface water.

6. Other factors considered

The application meets all relevant AOPA requirements, with the terms and conditions summarized in part 7.

In addition, the proposed CFO is consistent with the land use provisions of the MD of Willow Creek's municipal development plan and with the MD of Willow Creek's 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 CFO:

- 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's nutrient management requirements regarding the land application of manure
- Meets AOPA groundwater protection requirements for the design of floors and liners of manure storage facilities

I also determined that the proposed covered buildings and the calf hutch pad are located within the required AOPA setback from an existing water well. However, as explained in Appendix C, the facilities warrant an exemption from the 100 meter water well setback due to the well's construction and location upslope from all the facilities.

As required by section 4(1) of the South Saskatchewan Regional Plan (SSRP), I considered that document's Strategic Plan and Implementation Plan and determined that the application is consistent with those plans. In addition, there are no notices or orders under the Regulatory Details portion of the SSRP that apply to this application.

In addition, I assessed the effects of the proposed CFO on the environment. Consistent with NRCB policy, I presumed that these effects are acceptable because the application meets all of AOPA's technical requirements. I also presumed that the application's effects on the economy and community are acceptable, and that the proposed CFO is an appropriate use of land. Under NRCB policy, these presumptions are based on the application's consistency with the municipal development plan and land use bylaw. (See NRCB Operational Policy 2016-7: *Approvals*, part 8.7.3.). I have carefully considered the information in the application along with information from referral agencies and directly affected parties. In my view, these presumptions are not rebutted.

7. Terms and conditions

Approval LA19022 specifies the new permitted livestock capacity as 2,000 beef feeder calves and permits the construction of the covered buildings #1-3 and a calf hutch pad.

Approval LA19022 also contains terms that the NRCB generally includes in all AOPA approvals, 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, Approval LA19022 includes conditions that:

- Set a deadline of December 31, 2022 for the approved construction to be completed
- Require water well monitoring and reporting
- Prohibit 5 Star Cattle from placing manure or livestock in the covered buildings #1-3 and a calf hutch pad until the facilities have been inspected by the NRCB following their construction

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

8. Conclusion

Approval LA19022 is issued for the reasons provided above, in the attached appendices, and in Technical Document LA19022.

May 20, 2020

(Original signed)
Carina Weisbach
Approval Officer

Appendices:

- A. Consistency with the municipal development plan
- B. Determining directly affected party status and concerns raised by referral agencies and directly affected parties
- C. Exemptions from water well setbacks and monitoring requirements
- D. Explanation of conditions in Approval LA19022

APPENDIX A: Consistency with the municipal development plan

Under section 20 of AOPA, an approval officer may approve an application for an approval 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 20(1.1) 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.”)

5 Star Cattle’s CFO is located in the MD of Willow Creek and is therefore subject to that district’s MDP. The MD of Willow Creek adopted the latest revision to this plan on August 2019, under Bylaw #1841.

Section 2 – Agriculture of the MDP points out that agriculture is a predominant land use in the MD while it is important to balance other interests. It continues to state that one of the main objectives of the MDP is to mitigate the siting of a CFOs to minimize conflicts with adjacent land uses. Policy 2.3 then continues to state that the MD shall establish guideline with regards to the NRCB for the regulation an approval of CCFOs within the MD. These guidelines are found in section 9

Section 9.2 of the MDP directs the NRCB to consider six provisions. These are quoted below (in italics); each one is followed by my discussion of how the provision related to this application. The requested considerations are:

(a) The cumulative effect of a new approval on any area near other existing CFO’s/ILO’s

This policy is likely not a “land use provision,” as it calls for project-specific, discretionary judgements about the types of cumulative effects that should be considered and the acceptable maximum levels of each of those effects. For this reason, I do not consider the MDP provision to be relevant to my MDP consistency determination. In any case, the application meets the AOPA requirements for minimum distance separation which is intended to mitigate nuisance impacts of CFO’s such as odours. Additionally, all CFO operators are required to meet AOPA nutrient loading limits for manure spreading which further mitigates the potential cumulative effects of a CFO.

(b) Environmentally significant areas contained in the Municipal District of Willow Creek: Environmentally Significant Areas in the Oldman River Region report

5 Star Cattle’s proposed CFO is not within any areas designated “environmentally significant” in the referenced report.

(c) Providing notice to adjacent landowners including applications for registration or authorization

This is likely not a “land use provision” because of its procedural focus and thus I do not consider it to be relevant to my MDP consistency determination. At any rate, as explained above, the NRCB sent out courtesy letters to people identified by the MD of Willow Creek as owning or residing on land within the affected party radius of 1 mile, gave public notice and therefore met the notification requirements of AOPA. (See also Operational Policy 2016-8: *Approvals*, part 6).

(d) Applying minimum distance separation calculations to all country residential development

I interpret “minimum distance separation” as referring to the minimum distance separation (MDS) requirements in section 3 and Schedule 1 of the Standards and Administration Regulation under AOPA. There is no country residential development located within the MDS for 5 Star Cattle’s CFO and the application meets the AOPA MDS requirements.

(e) Restricting development in the flood plain, floodway, the flood way fringe and flood prone, or hazard lands within or adjacent to any watercourse within the MD; and

(f) Restricting development in any wetland or riparian area

As discussed in Technical Document LA19022, 5 Star Cattle’s new CFO meets the AOPA setbacks to common bodies of water and is not located in a known flood plain. The proposed CFO facilities are not also not located in a wetland or riparian area. This provision is therefore met by the application.

For these reasons, I conclude that the application is consistent with the land use provisions of the MD of Willow Creek’s MDP. The district’s response supports my conclusion.

In my view, the Land Use Bylaw is clearly incorporated in the MDP in several sections throughout the MDP including section 15.5 which states:

The Development Authority shall require the NRCB to take into consideration the policies adopted in this plan and the Land Use Bylaw, when issuing an approval.

Therefore I also considered the application’s consistency with this document. Under the MD of Willow Creek’s Land Use Bylaw (#1826 consolidated to Bylaw No. 1849), the subject land is currently zoned as Rural General. CFOs are not listed as prohibited, permitted, or discretionary land use under this zoning. Ordinarily, a land use bylaw intends to preclude land uses that are not listed as permitted or discretionary (and that do not meet any other relevant criteria). However, the land use bylaw lists “intensive livestock operations” (ILOs), defined essentially as CFOs below AOPA’s permit thresholds, as a discretionary use within areas zoned Rural General. Therefore, I interpret the omission of CFOs from the lists of permitted and discretionary land uses as simply the municipality’s recognition that, since AOPA came into effect in 2002, the NRCB is responsible for permitting CFOs above AOPA thresholds.

As for the lot size restriction, section 2(4) of the Rural General part of the bylaw states that the “parcel size shall remain the same size for which the development approval was originally issued.” Since CFOs are not listed in the LUB, it is my interpretation that the lot restrictions are intended to apply to ILOs that are permitted by the municipality, and are not intended to apply to CFOs above AOPA’s permit thresholds. Apart from that, this application is for a new CFO.

Section 3 of the Rural General part of the bylaw lists several setbacks. The proposed calf hutch pad was proposed to be 20 ft away from the road and would therefore not meet the 75 ft road setback required under that section. The applicant applied to the MD to waive the 75 ft road setback. A waiver was issued (Development Permit No. 031-20). For these reasons, I conclude that the application is consistent with the land use bylaw.

APPENDIX B: Determining directly affected party status and concerns raised by referral agencies, and directly affected parties

The following individuals own or reside on land within the “affected party radius,” as specified in section 5(c) of the Agricultural Operation, Part 2 Matters Regulation:

Stuart and Denese Cox
(resides on NW 27-8-26 W4)

Les Sinnott
(resides on NE 27-8-26 W4)

Therefore, because they submitted timely responses, under NRCB policy, these individuals are presumed to be “directly affected” by the application. See NRCB Operational Policy 2016:7 – *Approvals*, part 6.2.

1. Concerns raised by referral agencies

a. Alberta Health Services (AHS)

In a letter dated December 27, 2019, an AHS public health inspector stated that AHS had conducted a site visit, and that the AHS was concerned that:

1. Soil permeability and water table are inconsistent in this area (per AHS records)
2. The CFO is already operating and complaints have been received
3. Manure stockpiling throughout the property including areas that have not been tested for hydraulic conductivity
4. Water quality seems to decrease (increase in nitrate levels) and water table is dropping
5. Location of water wells not indicated on site plan. Location should be verified and proper setbacks applied
6. Water well monitoring recommended
7. Proof of sufficient and proper water licencing recommended

1. Soil permeability and water table are inconsistent in this area

In-situ hydraulic conductivity testing, conducted at the proposed site, show that the predominantly lacustrine material, consisting of silty clay, firm with medium to low-medium plasticity, has a hydraulic conductivity of $2.6 - 5.2 \times 10^{-8}$ cm/s (centimeters per second). As stated in the engineering report attached with the application, this amounts to an excess of 28 of soil material with a hydraulic conductivity of 1×10^{-6} cm/s of what is required to be present under AOPA's regulations.

The drilling report (Technical Document, page 24) indicates that all boreholes were dry to moist to a depth of a minimum of three meters and did not report the presence of a water table at the time of drilling. The yellow to brown color of the soil material shows oxidization, indicating the presence of a fluctuating water table.

I agree with Mr. Rippin that both, the water table and the hydraulic conductivity is inconsistent in this area, however, the number of boreholes drilled together with the hydraulic conductivity testing shows that the ground water protection requirements as described in AOPA and its regulations have been met.

2. The CFO is already operating and complaints have been received

At the time of the first NRCB site visit, the applicant had been operating a small, below threshold operation (threshold level for feeder calves is 360 head). Below threshold operations are not regulated under AOPA but by the county or municipal district. As indicated in the application, the applicant is proposing to expand to an above threshold number of livestock. Hence, a permit application has been made.

According to current NRCB policy, the approval or denial of a permit application is not linked to past compliance but solely on meeting AOPA requirements. However, concerns that have been brought forward have been addressed by the NRCB compliance department. No new concerns have been received since the application has been deemed complete by the NRCB.

3. Manure stockpiling throughout the property including areas that have not been tested for hydraulic conductivity

Temporary stockpiling of manure is permissible without a permit if setbacks to neighboring residences, wells and water bodies, and the requirements for short term manure storage, are observed. If the areas, where manure is stockpiled, are being used as short term manure storage sites (no longer than an accumulated total of seven months over a period of three years) these areas are not considered permanent manure storage facilities and do not require a permit (see section 5 of Standards and Administration Regulation).

4. Water quality seems to decrease (increase in nitrate levels) and water table is dropping

This observation is based on chemical sampling of neighbouring wells. As noted in the decision summary above, and further documented in Technical Document LA19022, the proposed CFO meets all AOPA technical requirements. Several of these requirements are designed to prevent or minimize manure leakage from CFO facilities and thus to prevent manure constituents from reaching and contaminating groundwater. Because the proposed CFO meets these requirements, it is not considered to pose a material risk to groundwater.

Mr. Rippin's concern of a dropping water table, I assume that Mr. Rippin is referring to the potential for the water level in the existing aquifer to drop. It is not part of NRCB's mandate to address water usage. As discussed below, water licencing is solely regulated by Alberta Environment and Parks (AEP). A copy of this application was referred to AEP for their input.

5. Location of water wells not indicated on site plan. Location should be verified and proper setbacks applied

The location of one of the water wells has been verified during a site visit and the well has been inspected. This well is located two meters east of the residence within the fenced back yard area. Although water well 103526 is located within 100 m of a manure storage facility (MSF)(see Technical Document page 3), an exemption has been applied due to the location of the well in respect to the MSF and the condition of the well. A detailed explanation can be found in Appendix C below. The other well that is reported to be at this land location according to AEP's database has been decommissioned by the previous owner. The location could not be identified and the previous owner cannot remember where the well was nor what year it was decommissioned.

6. Water well monitoring recommended

Under section 7(2)(b) of the Standards and Administration Regulation, an approval officer may require an owner of a manure storage facility or manure collection area to monitor groundwater from a water well as a condition for granting an exemption from the 100 m setback requirement. When granting water well setback exemptions, approval officers consider relevant risks to determine whether water well monitoring is required. These risks include factors such as the well's construction, the proximity to the manure storage facility, the site characteristics, and measures taken to protect the well from contamination. The NRCB's water well exemption screening tool is also used to determine whether an exemption should be granted. As explained in Appendix C, an exemption is warranted for the water well that is located within 100 m of the proposed facilities, however as a precaution, a condition will be added that requires annual water well testing and reporting as specified by the NRCB (see attached monitoring statement).

7. Proof of sufficient and proper water licencing recommended

Water licencing is not part of the NRCB's mandate and is regulated by AEP. Approval officers will not consider water supply concerns when reviewing AOPA permit applications, other than ensuring that applicants sign one of the water licencing declarations and are aware that they need to acquire all necessary licences (see Technical Document page 4). All applications, including Application LA19022, are forwarded to AEP for their information and input. AEP's concerns with this application are discussed below.

b. Alberta Environment and Parks (AEP)

In an email dated January 9, 2020, an AEP hydrogeologist stated that AEP was concerned about:

1. That the applicant signed the declaration for 'existing CFOs' although the application is for a new CFO
2. That no licence has been issued for wells 103526 or 103527 and no water is being accessed from an irrigation district. Without an existing licence, 5 Star Cattle is not allowed to divert water from these wells.
3. Source of water for CFO
4. Is 5 Star Cattle authorized to withdraw water for the current animal numbers?
5. Proper sealing of existing wells that are located within 100 m of a manure collection or storage facility

1-4. Because AEP regulates the withdrawal and diversion of groundwater and surface water for CFOs, I will not further discuss AEP's concern in respect to water well licencing. The water declaration attached to the application is designed to raise the applicant's awareness about the need to license any water they plan to use and to highlight the fact that the South Saskatchewan River basin is closed for further surface water allocations. It further identifies that an increase of animals with the subsequent increase in water needs does not guarantee that a water license will be issued. Therefore any construction without having the relevant licenses will be at the applicants own risk. A copy of AEP's letter was forwarded to the applicant for his information and action. The applicant has since started to work on an application for a water license with AEP.

5. At the time of the site visit, I found the water well protected with a concrete cover. The applicant indicated that the well has a concrete casing to a depth of approximately 10 feet (3.4 m). In addition, the well is located upslope of the MSF, close the southeast side of the residence and within the fenced back yard of the residence and not within the CFO area. Hence, manure is unlikely to enter this well.

c. Alberta Transportation

In a letter dated December 5, 2019, a Transportation development/planning technologist stated that the proposed development is within the control lines of a highway and hence, requires a permit under the act.

A copy was forwarded to the applicant for his information and action. The applicant has since contacted Alberta Transportation to obtain a permit.

2. Concerns from directly affected parties

The directly affected parties raised the following concerns:

1. Increase in nuisance impacts (Flies, odor, dust, noise)
2. Possible water well contamination, cost and quality of testing
3. Depletion of water wells and compensation
4. Increase in road use
5. Deteriorating air quality and blowing manure particles
6. Dead animal disposal
7. Presence of a fire protection plan
8. Quality of soil testing
9. Environmental assessment

1. Increase in nuisance impacts (Flies, odor, dust, noise)

AOPA's minimum distance separation (MDS) is a means for mitigating odour and other nuisance impacts from CFOs. Mr. and Ms. Cox's and Mr. Sinnott's residences are located outside of the required 316 m MDS. The NRCB generally considers the MDS as the distance beyond which the odours and other nuisance effects of a CFO are considered to be acceptable under AOPA. That said, people residing beyond the MDS may still experience odours and other nuisance impacts (e.g. noise, dust, etc.) from time to time and, in some instances, those impacts may be more than trivial. Some of the parties also may experience some odours or other nuisance impacts when manure spreading takes place. However, the frequency of these exposures will likely be limited and of short duration.

In order to limit the nuisance impact of manure application on direct seeded or tame forage land, section 24 of the Standards and Administration Regulation precludes manure spreading without incorporation within 150 m of residences. Manure that is spread on conventionally tilled land must be incorporated within 48 hours. Setbacks and incorporation can help to minimize normal odours from manure spreading. Incidences of non-compliance or inappropriate disturbance can be reported to the NRCB's 24 hour a day reporting line (1-866-383-6722 or 310-0000 toll free line).

2. Possible water well contamination and cost and quality of testing

As part of the decision making process, approval officers use the NRCB's environmental risk screening tool (ERST) to help determine if there is any risk from the proposed facilities to both groundwater and surface water. In addition to the ERST, the water well exemption screening tool is used to evaluate whether exemptions should be granted for wells within 100 m of proposed facilities. In case of 5 star Cattle's application, the ESRT identified a low potential risk. The water well exemption tool identified that and exemption can be given. Also, the proposed facilities meet AOPA's technical requirements that are designed to prevent or minimize manure leakage from CFO facilities from reaching and contaminating groundwater. That said, in order to further protect groundwater resources near 5 Star Cattle' proposed facilities, a condition will be added to Approval LA19022 requiring 5 Star Cattle to test the water well that is located within 100 m of the proposed facilities.

The Coxes also asked about the cost for testing wells, dugouts and springs. 5 Star Cattle is only responsible to test its own water well. AHS currently provides free testing of water that comes from a water well and is used as drinking water. More information can be found under MyHealth.Alberta.ca.

3. Depletion of water wells and compensation

As discussed above, Alberta Environment and Parks (AEP) is responsible for licencing the use of surface water and groundwater in the province. Therefore, for efficiency and to avoid inconsistent regulation, NRCB approval officers generally do not consider water supply concerns when reviewing AOPA permit applications, other than ensuring that applicants sign one of the water licencing declarations listed in the Part 2 application form. (This declaration is on page 4 of Technical Document LA19022. See also NRCB Operational Policy 2016-7: *Approvals*, part 8.10.) 5 star Cattle's application includes a signed declaration indicating that they are uncertain if a *Water Act* licence is needed. At any rate, public notification and input is included as part of the permitting process for water licences through AEP.

4. Deteriorating air quality and blowing manure particles due to manure storage and spreading

AOPA does not expressly require approval officers to consider nuisance or health effects when deciding whether to issue an approval for a proposed CFO. However, these issues are relevant to considerations of effects on the community. That said, it is difficult to consider the effects that may stem from air emissions, for several reasons. There are widely varying scientific opinions on the effects of air emissions from CFOs, and on levels of emissions that could be a concern from a health standpoint.

The application was forwarded to AHS for its comments. AHS did not comment on air quality.

Manure spreading most often occurs in spring and fall in line with the cropping season. Manure spreading in winter on frozen and snow covered ground is prohibited unless the operator receives explicit permission by the NRCB. If impacts from manure are experienced, a complaint can be made to the NRCB by calling the 24-hour reporting line at 1-866-383-6722 and an inspector will follow up.

5. Increase in road use

The NRCB does not have direct responsibility for regulating road use. Section 18 of the *Municipal Government Act* gives counties “direction, control and management” of all roads within their borders. It is impractical and inefficient for the NRCB to attempt to manage road use through AOPA permits. (See Operational Policy 2016-7: *Approvals*, part 8.9.). The MD did not voice any concerns in respect to road use. The application was also forwarded to Alberta Transportation which responded that a permit is required from its department. The applicant is in contact with Alberta Transportation and is in the process of said permit. No other concerns were raised by Alberta Transportation.

6. Dead animal disposal

NRCB-issued permits generally do not include conditions relating to dead animal disposal because this activity is regulated directly by AFs regulatory services branch under the *Animal Health Act*. Given AF’s regulatory role, concurrent oversight of dead animal disposal by the NRCB would be inefficient and might lead to inconsistencies with AF’s requirements.

7. Presence of a fire protection plan

AOPA and its regulations do not require a fire protection plan for CFOs. The operator is reminded that the MD of Willow Creek has Bylaw 1776 – Fire Bylaw in place that provides guidance in respect to fire related requirements.

8. Quality of soil testing

The drilling of boreholes to conduct the required soil testing was undertaken by a qualified driller under the supervision of a professional engineer. They are required to follow acceptable procedures when reclaiming boreholes. The hydraulic conductivity testing was conducted by a qualified professional and signed off by a professional engineer. In signing the submitted report, the engineer takes responsibility for the submitted information.

9. Environmental assessment

AOPA has requirements which provide environmental protection and that need to be met in order for a permit to be issued. A separate environmental assessment is not a requirement under AOPA.

APPENDIX C: Exemption from water well setbacks and monitoring requirements

According to the application, one water well (Water Well ID 103526) is located within 20 metres of the proposed covered shelters and 57 metres from the calf hutch pad. I have confirmed this information by site visits and measurements from aerial photos using Google Earth.

Because of this proximity, the applicant's proposed covered shelters and calf hutch pad conflict with a regulation under AOPA, which prohibits the construction of manure storage facilities (MSFs) or manure collection areas (MCAs) within 100 metres of water wells.¹ However, the regulation allows approval officers to grant an exemption from this prohibition. I therefore considered 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 or MCA. (According to the regulation, if 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 demonstrating 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 MSFs or MCAs are low if the applicant's proposed MSF meets AOPA's technical requirements to control runoff and leakage. However, when determining whether an MSF or MCA 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 or MCA 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 or MCA
- Whether the well is up- or down-gradient from the MSF or MCA 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.

The well in question is upslope from the proposed MSF or MCA and the direction of groundwater flow from the MSF or MCA is presumed to be away from the well. This assumption is based on the fact that well drilling report 103526 describes the aquifer at a depth of 3.66 m. Drilling within 30 m of the well does not show any groundwater within the 3 m drilling depth. Deeper drilling conducted further east did not encounter any groundwater to a depth of 7.4 m. However, a gravel layer was encountered at a depth of 4.7 m. This layer was described to be moist but not with free water. I therefore presume that the gravel layer into which the well seems to be drilled into is dipping towards the east, away from the well. The well has a concrete casing and is covered with a concrete slab that is surrounded by grass and fenced off. No livestock, manure, or manure contaminated runoff can reach or come into close proximity to the well. The well is currently used for domestic purposes and seemed to be well maintained.

The well scored 16 (out of 28) and 5 (out of 20) in the first and second stages, respectively, of the risk screening process describe above.

Based on this risk score, together with the location and physical protection of the well, an exemption from the 100 metre setback to this well is warranted.

While an exemption from the 100 metre water well setback is warranted, to provide further protection for users of the water well, an exemption is granted on the condition that the applicant must test the well for water quality.

APPENDIX D: Explanation of conditions in Approval LA19022

a. Construction deadline

5 Star Cattle proposes to complete construction of the proposed three new covered buildings and a calf hutch pad by December 31, 2022. This time-frame is considered to be reasonable for the proposed scope of work. The deadline of December 31, 2022 is included as a condition in Approval LA19022.

b. Water Well monitoring

Although an exemption from the 100 m setback to a water well is granted, as a precaution a groundwater monitoring condition will be added requiring the permit holder to sample and test raw groundwater, according to water well monitoring requirements prescribed by the NRCB in writing. The NRCB may, based on the monitoring results and at its discretion, revise those requirements from time to time, in writing.

c. Post-construction inspection and review

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. Approval LA19022 includes conditions stating that 5 Star Cattle shall not place livestock or manure in the manure storage portions of the new covered buildings #1-3 or on the calf hutch pad until NRCB personnel have inspected the covered buildings #1-3 and the calf hutch pad and confirmed in writing that they meet the approval requirements.