

Decision Summary LA21044

This document summarizes my reasons for issuing Authorization LA21044 under the *Agricultural Operation Practices Act* (AOPA). Additional reasons are in Technical Document LA21044. 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 August 24, 2021, P&H Wessels Farms (Wessels) submitted a Part 1 application to the NRCB to permit three existing pens, which were historically used for seasonal feeding and bedding purposes, and construct a synthetic lined catch basin to control runoff from those three pens at an existing beef CFO.

These three existing pens, because they are adjacent to the beef CFO permitted by Approval LA20001, are no longer allowed to be used as a seasonal feeding and bedding site, hence the reason the applicant is proposing to obtain an AOPA permit for them .

The Part 2 application was submitted on August 24, 2021. It was deemed complete following the provision of additional information to support the application on September 7, 2021.

The application involves:

- Permitting pens 1-3
- Constructing a synthetic lined catch basin for pens 1-3

There is also a processing barn located between pen 1 and pen 2. Under AOPA this is an ancillary structure which does not require a permit.

There is no proposed increase in livestock numbers or annual manure production. Under AOPA this requires an authorization.

a. Location

The existing CFO, the proposed pens and catch basin are located at SW 4-8-26 W4M in the Municipal District (M.D.) of Willow Creek, roughly 13 km southwest of Fort Macleod. The terrain is undulating with a general slope to the north towards an ephemeral drainage 43 m away from pen 1.

b. Existing permits

The CFO permitted under Approval LA20001 has a permitted capacity of 2,000 beef finishers. A second beef feedlot CFO, permitted under Approval LA19004, is located on the quarter section adjacent to and immediately to the south of this CFO. Because it is operated and under the control of the same operator, the combined capacity of both feedlots was used when determining the MDS requirement. (SAR 3(11))

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 1.5 miles (2,400 m) from the CFO

A copy of the application was sent to the M.D. of Willow Creek, which is the municipality in which the CFO is located. There are no other municipalities within 1.5 miles of the CFO. The ephemeral drainage is not considered to be a river, stream or canal and is not directly connected to any rivers.

3. Notice to other persons or organizations

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

A referral letter and copy of the complete application was emailed to Alberta Environment and Parks (AEP) for information as they are currently working on a water licence for the CFO which was initiated when the CFO was originally proposed. In his response, Mr. Gutsell, a hydrologist with AEP, identified concerns related to the proximity of the catch basin to the two existing water wells and the ephemeral drainage located just north of the proposed catch basin and pen 1. These comments are summarized and addressed in Appendix B, attached.

4. Municipal Development Plan (MDP) consistency

I have determined that the proposed CFO pens and catch basin are consistent with the land use provisions of the M.D. of Willow Creek’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 pens and catch basin:

- Meet the required AOPA setbacks from all nearby residences (AOPA setbacks are known as the “minimum distance separation” requirements, or MDS)
- Meet the required AOPA setbacks from springs and common bodies of water
- Meet the required AOPA setbacks from water wells, with an exemption (see Appendix C)

- Have sufficient means to control surface runoff of manure
- Meet AOPA groundwater protection requirements for the design liners and protective layers of manure storage facilities and manure collection areas

With the exception of the water well setback exemption discussed in part 8 and appendix C, and with the terms and conditions summarized in part 9, the application meets all relevant AOPA requirements.

6. Response from the municipality

Directly affected parties are entitled to a reasonable opportunity to provide evidence and written submissions relevant to the application, and are entitled to request an NRCB Board review of the approval officer's decision. Not all affected parties are "directly affected" under AOPA.

Municipalities that are affected parties are identified by the act as "directly affected." The M.D. of Willow Creek is an affected party (and directly affected) because the proposed CFO facilities are located within its boundaries.

Ms. Cindy Chisholm, the manager of planning and development with the M.D. of Willow Creek, provided a written response on behalf of the M.D. of Willow Creek. Ms. Chisholm stated that the M.D. of Willow Creek has no comments on the proposed application and that it is consistent with the M.D. of Willow Creek's municipal development plan land use provisions. The application's consistency with the M.D. of Willow Creek's municipal development plan is addressed in Appendix A, attached.

Ms. Chisholm also identified that the application meets the setbacks required by the M.D. of Willow Creek.

7. Environmental risk of facilities

New CFO facilities which clearly meet or exceed AOPA requirements are automatically assumed to pose a low risk to surface and groundwater. However, there may be circumstances where, because of the proximity of a shallow aquifer, or porous subsurface materials, an approval officer may require construction supervision and monitoring for the facility. In this case construction supervision for the catch basin, by a professional engineer, will be required to ensure that the construction of the catch basin and installation of the synthetic liner is carried out in accordance with the liner manufacturer's requirements. Additionally a condition will be added requiring the installation of a leachate collection system for the catch basin in case of a leak in the synthetic liner.

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, 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 8.13.

In this case, the risks posed by the existing CFO facilities were assessed in 2020. The assessment indicated that the potential risks to surface water and groundwater posed by the then proposed facilities were low.

Since the 2020 risk assessment, new water wells have been installed near previously existing water wells as part of the CFO's water licensing process. For this reason, I reassessed the risks posed by the CFO's existing catch basin since this facility would pose the highest risk at the existing feedlot. My reassessment found that the existing catch basin continues to pose a low potential risk to surface and groundwater. Because this was determined to pose a low potential risk, I did not reevaluate the risk posed by the existing feedlot pens.

8. Exemption

I determined that the proposed catch basin and existing pens 1-3 are located within the required AOPA setback from two water wells. As explained in Appendix C, an exemption to the 100 metre water well setback is warranted. See appendix C for details.

9. Terms and conditions

Authorization LA21044 permits the use of pens 1-3 as manure collection and storage facilities and the construction of the synthetic lined catch basin.

Authorization LA21044 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 LA21044 includes conditions that generally address the construction deadline, monitoring, document submission and construction inspection. It also requires the installation of a leachate collection system under the catch basin, monitoring of the existing water wells and fencing of the catch basin which was proposed by the applicant. For an explanation of the reasons for these conditions, see Appendix D.

10. Conclusion

Authorization LA21044 is issued for the reasons provided above, in the attached appendices, and in Technical Document LA21044.

Authorization LA21044 must be read in conjunction with Wessels's approval LA20001, which remains in effect.

October 1, 2021

(Original signed)
Andy Cumming
Approval Officer

Appendices:

- A. Consistency with the municipal development plan
- B. Response from AEP
- C. Exemptions from natural water and well(s) setbacks
- D. Explanation of conditions in Authorization LA21044

APPENDIX A: Consistency with the municipal development plan

Under section 22 of AOPA, an approval officer may only approve an application for 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.

Conversely, “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 8.2.5.)

P & H Wessel Farms Ltd. (Wessels) is located in the Municipal District of Willow Creek and is therefore subject to that district’s MDP. The Municipal District of Willow Creek adopted the latest revision to this plan on June 14, 2017, under Bylaw #1765.

As relevant here, 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. It is also specific to approval applications, which this is not. For these reasons, I do not consider the MDP provision to be relevant to my MDP consistency determination. In any case, this application is for an authorization with no increase in livestock numbers nor any increase in annual manure production. The application also 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

P & H Wessel Farms Ltd.’s proposed pens 1-3 and catch basin are 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 met the notification requirements of AOPA. The only directly affected party for this authorization application is the M.D. of Willow Creek. The NRCB emailed referral letters and

a copy of the complete application to the Municipal District of Willow Creek, and Alberta Environment and Parks (AEP) because the applicant is currently in the process of obtaining a water license. (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 P & H Wessels Farms Ltd.’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 LA21044, P & H Wessels Farms Ltd.’s proposed pens 1-3 and catch basin meet the AOPA setbacks to common bodies of water and is not located in a known flood plain. The proposed pens 1-3 and catch basin are 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 Municipal District of Willow Creek’s MDP. The municipal district’s response supports my conclusion.

In my view, the Municipal District of Willow Creek’s Land Use Bylaw (#1743), is clearly incorporated in the MDP in section 15.5:

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.

Because this application is for an authorization and not an approval, this section is not applicable to my determination.

Property line and road setbacks in the land use bylaw required for all developments are met by this application. For these reasons, I conclude that the application is not inconsistent with the land use bylaw.

APPENDIX B: Responses from referral agencies and right of way holders

This application was referred to Alberta Environment and Parks (AEP) as a courtesy and for their information as AEP is currently processing a water licence application for this CFO. Under AOPA referral agencies are not considered affected parties or directly affect parties for authorization applications.

In his response Mr. Gutsell, an AEP Hydrologist, identified that there is the potential for surface and groundwater contamination from a leak in the catch basin liner, or the overtopping of the catch basin. He commented that this has the potential to impact the adjacent water wells which are used for domestic purposes and licenced surface water supplies. Based on the proximity of the catch basin to the water wells and surface water drainage he recommended that that it be relocated, or alternatively recommended groundwater monitoring to confirm the integrity of the catch basin liner.

As noted in the decision summary above, and further documented in Technical Document LA21044, the proposed catch basin and pens 1-3 can meet AOPA technical requirements. Several of these requirements are designed to prevent or minimize manure leakage from CFO facilities and thus to prevent CFO manure from reaching and contaminating groundwater and surface water.

The catch basin is sized so that it has sufficient capacity to capture a one day rainfall which has a one in 30 year probability of occurring, plus an additional half a metre of freeboard. With proper management the likelihood of this overtopping is very low.

Additionally, I am requiring a leachate collection system for the catch basin to detect any damage to the synthetic liner and annual monitoring for water wells 1250901 and 2028608, which are the same water wells AEP is concerned about. The leachate collection system will likely provide a faster indication of any damage to, or integrity issues with, the synthetic liner than groundwater monitoring.

Because of this I am of the opinion that the concerns raised by AEP have been addressed.

APPENDIX B: Exemption from water well setbacks

Water Well Considerations

The proposed catch basin and existing pens 1-3 (previously used for seasonal feeding and bedding) are to be located less than 100 m from two water wells. I have confirmed that water wells ID #1250901 and 2028608 are located approximately 43 m and 48 m from the proposed catch basin during a site visit and by reviewing aerial photographs. This is in conflict with the section 7(1)(b) of the *Standards and Administration Regulation (SAR)*. Section 7(2) allows for exemptions if, before construction, the applicant can demonstrate that the aquifer into which the water well is drilled is not likely to be contaminated by the manure storage facility (MSF)/manure collection area (MCA), or if required by an approval officer a groundwater monitoring program is implemented.

Section 7(2) of the SAR states that the 100 m setback to a water well does not apply if the CFO facilities are not likely to contaminate the aquifer into which the water well is drilled and if required by an approval officer, a groundwater monitoring program is implemented.

The potential risks of direct aquifer contamination from the catch basin and feedlot pens are presumed to be low if they meet AOPA's technical requirements to control runoff and leakage. Approval officers also assess whether the water well itself could act as a conduit for aquifer contamination.

In this case, I felt the following factors were relevant to determine the risk of aquifer contamination via the water well:

- a. How the well was constructed
- b. Whether the well is being properly maintained
- c. The distance between the well and the proposed facilities
- d. Whether the well is up- or down-gradient from the proposed facilities 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 water wells:

Based on information provided by the applicant and from the Alberta Environment and Parks (AEP) water well database, the water wells located approximately 43 m N and 48 m NE of the catch basin are likely AEP water well ID #'s 2028608 and 1250901 respectively. These wells are reported to have been installed in 2011 and 2020 respectively, and have a perforated or screened zone from 17.98 m to 19.71 m and 13.72 m to 21.34 m below ground level across stratigraphy, respectively. Both have above ground casings and are used for both livestock and domestic purposes, as confirmed by the applicant. The well logs identify protective layers from ground surface to 2.44 m and from ground surface to 2.13 m below ground level. The first well has a driven seal and bentonite seal from ground surface to 11.58 m and the second well has a bentonite seal from ground surface to 5.18 m below ground level. The wells appeared to be in good condition at the time of my site inspection. The wells are located at a lower elevation to the CFO facilities and are therefore presumed to be down gradient of the CFO and proposed facilities.

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.¹

In this case, the results of the water well exemption screening tool suggest that an exemption is more likely as seen in Technical Document LA21044. Because of this, I am granting an exemption to the water well setback requirement in the Standards and Administration Regulation section 7(1)(b). Despite granting this exemption, I am requiring monitoring of these water wells as an added precaution.

¹ A complete description of this tool is available under CFO/Groundwater and Surface Water Protection on the NRCB website at www.nrcb.ca.

APPENDIX C: Explanation of conditions in Authorization LA21044

Authorization LA21044 includes several conditions, discussed below:

a. Leachate collection system

As noted in Decision Summary LA21044 and Technical Document LA21044, because of the location of the proposed catch basin and that it will have a synthetic liner, a condition requiring a leachate collection system be installed under the synthetic liner of the catch basin to detect if the synthetic liner for the catch basin is damaged will be included.

The leachate collection system must be designed by a professional engineer and approved by the NRCB prior to it being installed. The leachate collection system must be checked on a semi-annual basis and if leachate is detected, this must be reported to the NRCB.

b. Construction above the water table

Section 9(2) 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 the soils information provided and water well logs, the proposed catch basin likely meets the one metre requirement of section 9(2). However, because the height of the water table can vary over time, a condition is included requiring Wessels to cease construction and notify the NRCB immediately if the water table is observed within one metre of the base of the liner of the catch basin during its construction.

c. Groundwater protection requirements

Wessels proposes to install a 60 mil HDPE synthetic liner in the new catch basin to provide groundwater protection. The application includes details regarding the installation of the synthetic liner. A condition will be included requiring a report prepared by a professional engineer to be submitted to confirm that the catch basin is constructed in the proposed location and that the liner manufacturer’s installation requirements have been met.

A completion report, stamped by a professional engineer, certifying that the catch basin’s synthetic liner has been installed in accordance with the proposed design and manufacturers requirements. At a minimum the report must confirm that the facility is:

- a. constructed in the approved location,
- b. the size of the completed catch basin,
- c. that the preparation of the base for the synthetic liner has been completed in accordance with the liner manufacturers specifications,
- d. that the synthetic liner has been installed and sealed in accordance with the liner manufacturers specifications,
- e. That the approved leakage collection system has been installed as approved.

d. Construction Deadline

Wessels proposes to complete construction of the proposed new catch basin by September 1, 2022. This time-frame is considered to be reasonable for the proposed scope of work, however, providing a complete construction season is considered to be more appropriate. The deadline of November 30, 2022 is therefore included as a condition in Authorization LA21044.

e. 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 LA21044 includes conditions requiring:

The NRCB routinely inspects newly constructed facilities to assess whether the facilities were constructed according to their required design specifications. To be effective, and to reduce risk to the operator, these inspections must occur before livestock or manure are placed in the newly constructed facilities. Authorization LA21044 includes a condition stating that manure contaminated runoff must not be allowed to enter the new catch basin until NRCB personnel have inspected it and confirmed in writing that it meets the authorization requirements.

f. Water well monitoring

Water wells 1250901 and 2028608 are located within 100 m of pens 1-3 and the proposed catch basin. In accordance with the Standards and Administration Regulation section 7(2)(b), and because these wells are used for domestic purposes, I am including a condition requiring annual monitoring of the of water from these two water wells.