

# Technical Document RA24017

## Part 2 – Technical Requirements



Application under the Agricultural Operation Practices Act for a confined feeding operation, manure collection area, and/or manure storage facility(ies)

### NRCB USE ONLY

☐ Approval ☐ Registration ☒ Authorization  
☐ Amendment

Application number  
RA24017

Legal land description  
SW 26-34-3 W5M

### APPLICATION DISCLOSURE

This information is collected under the authority of the *Agricultural Operation Practices Act (AOPA)*, and is subject to the provisions of the *Freedom of Information and Protection of Privacy Act*. This information is public unless the NRCB grants a written request that certain sections remain private.

**Any construction prior to obtaining an NRCB permit is an offence and is subject to enforcement action, including prosecution.**

I, the applicant, or applicant's agent, have read and understand the statements above, and I acknowledge that the information provided in this application is true to the best of my knowledge.

04/04/2024  
Date of signing

Bottenberg Holsteins LTD  
Corporate name (if applicable)

Signature

Kees Bottenberg  
Print name

### GENERAL INFORMATION REQUIREMENTS

**Proposed facilities:** list all proposed confined feeding operation facilities and their dimensions. Indicate whether any of the proposed facilities are additions to existing facilities. (attach additional pages if needed)

Proposed facilities	Dimensions (m) (length, width, and depth)
Dairy barn - replace old 65' x 154'	
with new 96' x <del>160'</del>	29.3 m x 51.8 m
170	
AO note: applicant indicated a slight change in barn dimensions following submission of Part 2	

**Existing facilities:** list ALL existing confined feeding operation facilities and their dimensions

Existing facilities	Dimensions (m) (length, width, and depth)	NRCB USE ONLY
Dairy barn	65' x 154' and 112' x 96'	
Dry cow/heifer barn / maternity barn	90' x 105' and 50' x 50'	
Call barn	70' x 85'	

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## Existing facilities confirmed



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**If a new facility is replacing an old facility, please explain what will happen to the old facility and when.** ☐ N/A

Construction completion date for proposed facilities Dec 1 2025

[illegible]

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### **DECLARATION AND ACKNOWLEDGMENT OF APPLICANT CONCERNING WATER ACT LICENCE**

issued by Alberta Environment and Protected Areas (EPA) for a confined feeding operation (CFO)

*Date and sign one of the following four options*

#### **OPTION 1: Applying through the NRCB for both the AOPA permit and the Water Act licence**

I **DO** want my water licence application coupled to my AOPA permit application.

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_  
*Signature of Applicant or Agent*

#### **OPTION 2: Processing the AOPA permit and Water Act licence separately**

1. I (we) acknowledge that the CFO will need a new water licence from EPA under the *Water Act* for the development or activity proposed in this AOPA application.
2. I (we) request that the NRCB process the AOPA application **independently of** EPA's processing of the CFO's application for a water licence.
3. In making this request, I (we) recognize that, if this AOPA application is granted by the NRCB, the NRCB's decision will not be considered by EPA as improving or enhancing the CFO's eligibility for a water licence under the *Water Act*.
4. I (we) acknowledge that any construction or actions to populate the CFO with livestock pursuant to an AOPA permit in the absence of a *Water Act* licence will **not** be relevant to EPA's consideration of whether to grant the *Water Act* licence application.
5. I (we) acknowledge that any such construction or livestock populating will be at the CFO's sole risk if the *Water Act* licence application is denied or if the operation of the CFO is otherwise deemed to be in violation of the *Water Act*. This risk includes being required to depopulate the CFO and/or to cease further construction, or to remove "works" or "undertakings" (as defined in the *Water Act*).
6. **AS RELEVANT:** I (we) acknowledge that the CFO is located in the South Saskatchewan River Basin and that, pursuant to the *Bow, Oldman and South Saskatchewan River Basin Water Allocation Order* [Alta. Reg. 171/2007], this basin is currently closed to new surface water allocations.
7. **Provide:** Water licence application number(s) \_\_\_\_\_

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_  
*Signature of Applicant or Agent*

#### **OPTION 3: Additional water licence not required**

1. I (we) declare that the CFO will not need a new licence from EPA under the *Water Act* for the development or activity proposed in this AOPA application.
2. **Provide:** Water license number(s) or water conveyance agreement details \_\_\_\_\_

Licence NO 18684

Signed this 4 day of April, 2024.

\_\_\_\_\_  
*Signature of Applicant or Agent*



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### GENERAL ENVIRONMENTAL INFORMATION

(complete this section for the worst case of the existing facility which is the closest to water bodies or water wells and for each of the proposed facilities)  
Facility description / name (as indicated on site plan)

Existing: existing Dairy Barn

Proposed 1: Dairy barn replacement

Proposed 2: \_\_\_\_\_

Proposed 3: \_\_\_\_\_

Facility and environmental risk information		Facilities				NRCB USE ONLY	
		Existing	Proposed 1	Proposed 2	Proposed 3	Meets requirements	Comments
Flood plain information	What is the elevation of the floor of the lowest manure storage or collection facility above the 1:25 year flood plain or the highest known flood level?	<input checked="" type="checkbox"/> > 1 m <input type="checkbox"/> ≤ 1 m	<input checked="" type="checkbox"/> > 1 m <input type="checkbox"/> ≤ 1 m	<input type="checkbox"/> > 1 m <input type="checkbox"/> ≤ 1 m	<input type="checkbox"/> > 1 m <input type="checkbox"/> ≤ 1 m	<input checked="" type="checkbox"/> YES <input type="checkbox"/> YES with exemption <input type="checkbox"/> NO	>1 m confirmed
	How many springs are within 100 m of the manure storage facility or manure collection area?	None	none			<input checked="" type="checkbox"/> YES <input type="checkbox"/> YES with exemption <input type="checkbox"/> NO	None, confirmed on site
Surface water information	How many water wells are within 100 m of the manure storage facility or manure collection area?	2	2			<input checked="" type="checkbox"/> YES <input type="checkbox"/> YES with exemption <input type="checkbox"/> NO	*See note below
	What is the shortest distance from the manure collection or storage facility to a surface water body? (e.g., lake, creek, slough, seasonal)	1500 m	1500m			<input checked="" type="checkbox"/> YES <input type="checkbox"/> YES with exemption <input type="checkbox"/> NO	Slough ~400 m north of existing barn
Groundwater information	What is the depth to the water table?		17 ft			<input checked="" type="checkbox"/> YES <input type="checkbox"/> YES with exemption <input type="checkbox"/> NO	>5 m confirmed
	What is the depth to the groundwater resource/aquifer you draw water from?	43 ft	43 ft			<input checked="" type="checkbox"/> YES <input type="checkbox"/> YES with exemption <input type="checkbox"/> NO	13.1 m WWID 361476

Additional information (attach supporting information, e.g. borehole logs, records, etc. you consider relevant to your application)

\*AO note: One water well is located within the footprint of the proposed barn. The applicant has indicated this well will be decommissioned. The other well (house well) is ~105 m NW of the proposed new barn.



Image © 2024 Airbus

Hwy 557

Google Earth

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**WATER WELL AND SURFACE WATER INFORMATION**

Well IDs: 361476 428885 (to be decommissioned)

\_\_\_\_\_

Surface water related concerns from directly affected parties or referral agencies: ☐ YES ☒ NO

Groundwater related concerns from directly affected parties or referral agencies: ☐ YES ☒ NO

**Water wells** ☐ N/A

If applicable, exemption for 100 m distance requirements applied: ☐ YES ☒ NO Condition required: ☒ YES ☐ NO

**Surface water** ☒ N/A

If applicable, exemption for 30 m distance requirements applied: ☐ YES ☐ NO Condition required: ☐ YES ☐ NO

**Water Well Exemption Screening Tool** ☒ N/A

Water Well ID	Preliminary Screening Score	Secondary Screening Score	Facility

**Groundwater or surface water related comments:**

A condition will be included requiring WW 428885 to be decommissioned according to EPA guidelines



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## LAND BASE FOR MANURE AND COMPOST APPLICATION (complete only if an increase in livestock or manure production will occur)

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- \* If you are **not** the registered landowner, you must attach copies of land use agreements signed by all landowners.

\*\*\* Available manure spreading area (excluding setback areas from residences, common bodies of water, water wells, etc. as identified in Agdex 096-5 Manure Spreading Regulations)

\*\*\* Brown, dark brown, black, grey wooded, or irrigated

**Additional information (attach any additional information as required)**

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**MINIMUM DISTANCE SEPARATION**

Methods used to determine distance (if applicable): Aerial photography

Margin of error (if applicable): +/- 5 m

Requirements (m): Category 1: 310 Category 2: 414 Category 3: 517 Category 4: 827

Technology factor: ☐ YES ☒ NO

Expansion factor: ☐ YES ☒ NO

MDS related concerns from directly affected parties or referral agencies: ☐ YES ☒ NO

**LAND BASE FOR MANURE AND COMPOST APPLICATION**

Land base required: \_\_\_\_\_

Land base listed: \_\_\_\_\_ N/A for authorization applications

Area not suitable: \_\_\_\_\_

Available area: \_\_\_\_\_

Requirement met: ☐ YES ☐ NO

Land spreading agreements required: ☐ YES ☐ NO

Manure management plan: ☐ YES ☐ NO

If yes, plan is attached: ☐

**PLANS**

Submitted and attached construction plans: ☐ YES ☒ NO

Submitted aerial photos: ☒ YES ☐ NO

Submitted photos: ☐ YES ☒ NO

**GRANDFATHERING**

Already completed: ☒ YES ☐ NO ☐ N/A

If already completed, see RA11013

**NRCB USE ONLY**
**ENVIRONMENTAL RISK SCREENING INFORMATION**
**ERST for proposed facilities**

Facility	Groundwater score	Surface water score	File number
New dairy barn	low	low	RA24017

**ERST for existing facilities**

Facility	Groundwater score	Surface water score	File number
EMS	Low	Low	RA17011
Calf barn expansion	Low	Low	RA20016
Manure collection pit	Low	Low	RA20016

**ERST related comments:**

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### LIQUID MANURE COLLECTION AND/OR STORAGE: In-barn - Concrete liner

(complete a copy of this section for **EACH** proposed in-barn liquid manure storage facility with a concrete liner)

Facility description / name (as indicated on site plan)

1. New Dairy barn
2. \_\_\_\_\_
3. \_\_\_\_\_

Manure storage capacity (use one row in the table for **EACH** in-barn storage. Attach additional pages if you require more rows)

	Length (m)	Width (m)	Total depth (m)	Depth below ground level (m)	<b>NRCB USE ONLY</b> Calculated storage capacity (m <sup>3</sup> )
1.	<del>160'</del>	<del>96'</del>	0	0	
2.	51.8 m	29.3 m			
3.					
TOTAL CAPACITY					N/A

#### Concrete liner details

Scrape alleys or unslatted portions of barn floors (if applicable)	Concrete thickness <u>6"</u>		Method of sulphate protection <u>Type 50</u>	
	Concrete strength <u>30 mpa</u>		Concrete reinforcement size and spacing <u>10 mm 12" spacing</u>	
In-barn manure pit floors	Concrete thickness		Method of sulphate protection	
	Concrete strength		Concrete reinforcement size and spacing	
In-barn manure pit walls	Concrete thickness		Method of sulphate protection	
	Concrete strength	Horizontal reinforcement size and spacing	Vertical reinforcement size and spacing	

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### LIQUID MANURE COLLECTION AND/OR STORAGE: In-barn - Concrete liner (cont.)

Describe how the joints at the junction of the pit walls, pit floors and any other joints will be sealed

caulking

Describe sealing practices for piping, etc. that penetrates the liner

Caulking/waterstop

Concrete requirements can be found in Technical Guideline Agdex 096-93

Guideline minimums:

Solid manure: 25MPa (D)

Solid manure (wet): 30MPa (C)

Liquid manure: 32MPa (B)

Category A is required to be engineered

Method of sulphate protection:

Type 50 or Type 10 with fly ash or equivalent

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Requirements met: ☒ YES ☐ NO

Condition required: ☒ YES ☐ NO

#### Additional information

#### NRCB USE ONLY

Liquid manure storage volume calculator attached: ☐ YES ☒ NO

Depth to water table: >5 m

Requirements met: ☒ YES ☐ NO

Depth to uppermost groundwater resource: 13.1 m

Requirements met: ☒ YES ☐ NO

ERST completed: ☒ see ERST page for details

#### Concrete liner requirements

Leakage detection system required: ☐ YES ☒ NO If yes, please explain why

A condition will be included requiring the concrete liner to meet the specifications for category C (solid manure - wet) in Technical Guideline Agdex 096-93 "Non-Engineered Concrete Liners for Manure Collection and Storage Areas."

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**ALL SIGNATURES IN FILE**
☒ YES ☐ NO

**DATES OF APPROVAL OFFICER SITE VISITS**

4/9/24	

**CORRESPONDENCE WITH MUNICIPALITIES AND REFERRAL AGENCIES**

Date deeming letters sent: 5/8/24

Municipality: Red Deer County
☒ letter sent ☒ response received ☒ written/email ☐ verbal ☐ no comments received

**Alberta Health Services:** ☒ N/A

☐ letter sent ☐ response received ☐ written/email ☐ verbal ☐ no comments received

**Alberta Environment and Parks:** ☐ N/A

☒ letter sent ☐ response received ☐ written/email ☐ verbal ☒ no comments received

**Alberta Transportation:** ☐ N/A

☒ letter sent ☒ response received ☒ written/email ☐ verbal ☐ no comments received

**Alberta Regulatory Services:** ☐ N/A

☒ letter sent ☒ response received ☒ written/email ☐ verbal ☐ no comments received

**Other:** Foothills Natural Gas Co-op Ltd., Fortis Alberta Inc., ☐ N/A

☒ letter sent ☐ response received ☐ written/email ☐ verbal ☒ no comments received

**Other:** Omers Energy Inc., Kosowan Hydrocarbons Ltd. ☐ N/A

☒ letter sent ☐ response received ☐ written/email ☐ verbal ☒ no comments received