

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

Application number

Legal land description

- ☒ Approval ☐ Registration ☐ Authorization
☐ Amendment

BA25011

NW 27-60-3 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.

April 1 2025
Date of signing


Signature

Linguenda Dairy
Corporate name (if applicable)

San Otten
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) |
|--------------------------------------|--|
| New Barn | 152m 60m |
| Manure Storage sand recovery unit | 76m 24m |
| Lagoon | 91m x 76m x 5m |
| utility/tank/calf room | 20' x 78' |
| Lean too youngstock attached to barn | 40' x 125' |

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

| Existing facilities | Dimensions (m) (length, width, and depth) | NRCB USE ONLY |
|---------------------|--|---------------|
| Existing Barn | | |
| Existing Lagoon | | |
| Shelter | | |

NRCB USE ONLY

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Last updated September 11, 2023

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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

convert old Barn to Heifer Barn

Construction completion date for proposed facilities Dec 2028

Additional information

Livestock numbers: Complete only if livestock numbers are different from what was identified in the Part 1 application. Note: if livestock numbers increase in your Part 2 application, a new Part 1 application must be submitted which may result in a loss of priority for minimum distance separation (MDS).

| Livestock category and type (Available in the Schedule 2 of the Part 2 Matters Regulation) | Permitted number | Proposed increase or decrease in number (if applicable) | Total |
|--|------------------|---|-------|
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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)

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 _____

Signed this ____ day of _____, 20____.

Signature of Applicant or Agent

Part 2 — Technical Requirements

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OPTION 4: Uncertain if *Water Act* licence is needed; acknowledgement of risk (for existing CFOs only)

1. At this time, I (we) do not know whether a new water licence is needed from EPA under the *Water Act* for the development or activity proposed in this AOPA application.
2. If a new *Water Act* licence is needed, 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 additional 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 my *Water Act* licence application, if a new water licence is needed.
5. I (we) acknowledge that any such construction or livestock increase 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 license number(s) or water conveyance agreement details _____

Signed this 1 day of April, 2025.

Signature of Applicant or Agent

769

Lagoon
Barn
Storage



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)

DISTANCE OF ANY MANURE STORAGE FACILITY (EXISTING OR PROPOSED) TO NEIGHBOURING RESIDENCES

| Neighbour name(s) | Legal land description | Distance (m) | NRCB USE ONLY | | | | |
|-------------------|------------------------|--------------|-----------------------|--------------------|--------------|-------------------------------|-------------------|
| | | | Zoning (LUB) category | MDS category (1-4) | Distance (m) | Waiver attached (if required) | Meets regulations |
| ① Bitter | NE 28-60-3 W5 | | | | | | |
| ② Bentz | SE 28-60-3 W5 | | | | | | |
| ③ Van Leeuwen | NE 21-60-3 W5 | | | | | | |
| ④ Grailach | NE 27-60-3 W5 | | | | | | |
| | | | | | | | |

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

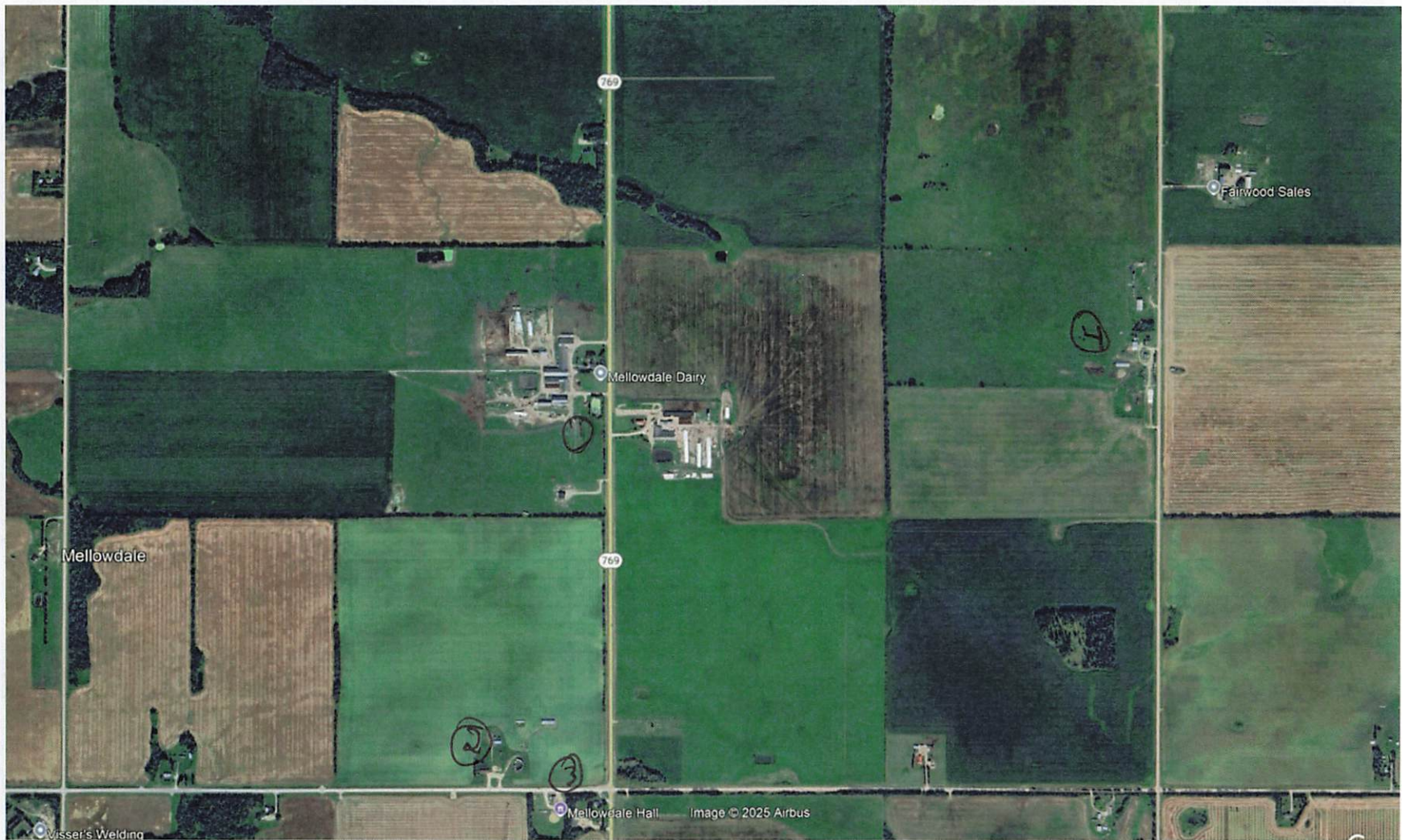
| Name of land owner(s)* | Legal land description | Usable area** (ha) | Soil zone *** | NRCB USE ONLY | |
|------------------------|------------------------|--------------------|---------------|------------------|----------------------------------|
| | | | | Usable area (ha) | Agreement attached (if required) |
| NW 207 owned | | | | | |
| SW 27 owned | | | | | |
| SE 27 owned | | | | | |
| | | | | | |
| see attached | | | | | |
| Total | | | | | |

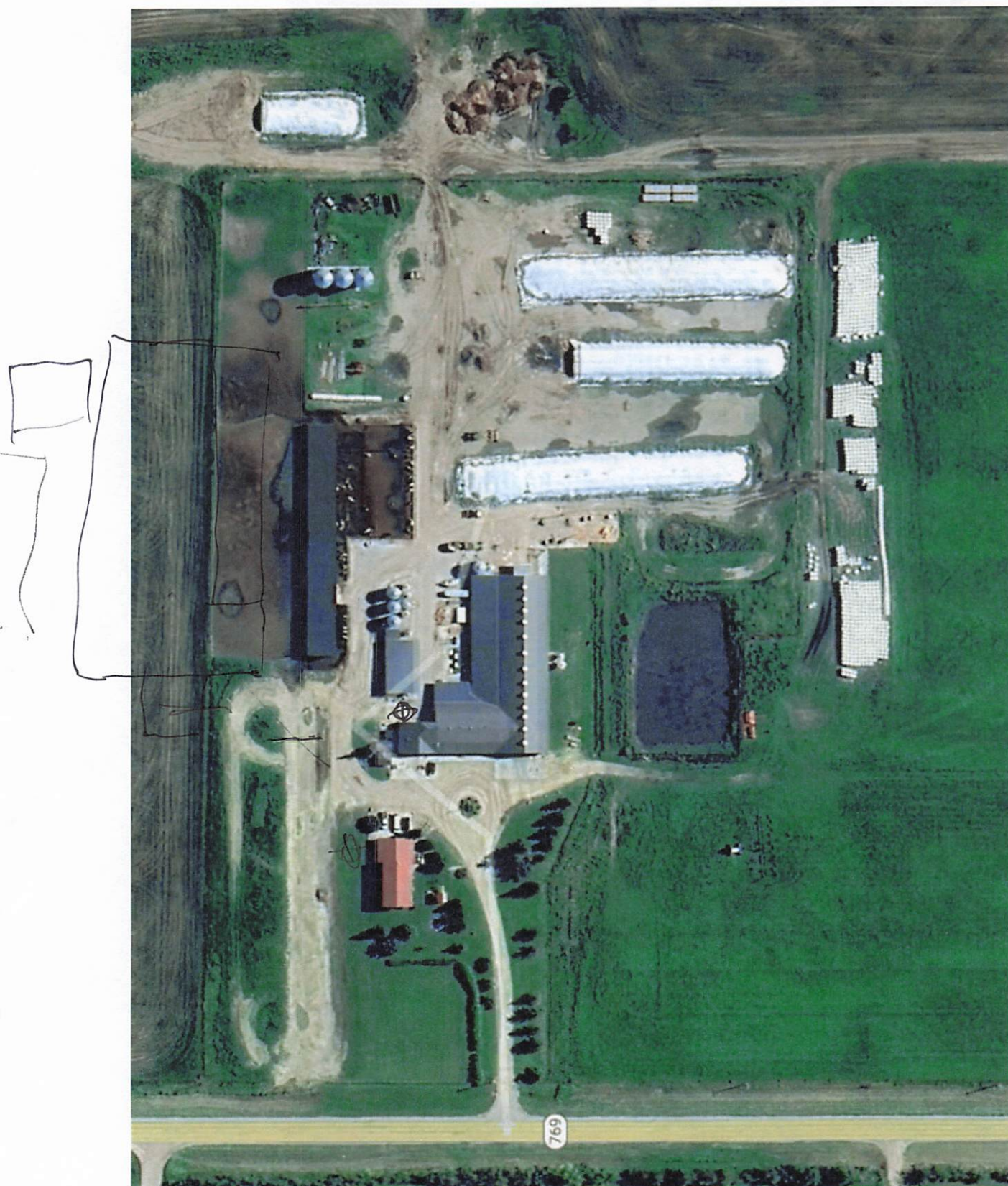
* If you are **not** the registered landowner, you must attach copies of land use agreements signed by all landowners.

** 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)





Minimum Distance Separation (MDS) Waiver (declaration)

Applicant information

NRCB application number: _____

Operator/operation name: Jan Otten Looquenda dairy

Address: _____ Postal Code: _____

Legal land location of confined feeding operation: NW 27 TWP 60 Range 3 W 5

I have requested the residence owner(s) named below to waive the required minimum distance separation (MDS) to their residence for the *Agricultural Operation Practices Act* (AOPA) permit application identified above. In making this request, I have provided the owner(s) with an opportunity to review my permit application and a copy of the Natural Resources Conservation Board (NRCB) Fact Sheet "Minimum Distance Separation (MDS) Waivers" available on the NRCB website at www.nrcb.ca. I have also explained:

- The MDS requirement set out in section 3 of the Standards and Administration Regulation of AOPA. I have advised the owner(s) that section 3(6)(a) of the Standards and Administration Regulation allows this requirement to be waived by the owners of residences, if they agree in writing to grant a waiver;
- That my proposed development does not meet the required MDS to the owner's residence; and,
- That this waiver applies only to this application as described. An increase in livestock capacity, annual manure production, level of odour production, change to the site plan or change to a facility that would increase the MDS would require a new waiver.

Following is a summary of the proposed development:

- The current scope of my confined feeding operation (CFO), including the type, number, and category of livestock, if any, is:

150 Dairy Cows milking + youngstock

- My application for a new AOPA permit proposes the following changes to the existing livestock category, type and/or capacity at my CFO:

Barn, Storage Shed, Lagoon

270 milking + young Stock Lagoon

- The proposed new CFO facility(ies), or changes to the existing CFO facilities, including manure storage, manure storage volume and any other pertinent details, if any, are (attach a site layout plan if available):

I the applicant understand that the waiver is not valid unless ALL registered owners of the residence sign this document.

Permit Applicant: _____ Date: March 17 2025

Signature

Residence owner(s) to initial: _____

Minimum Distance Separation (MDS) Waiver (declaration)

Residence owner(s) information

ALL Names on land title: Gerrit Bikker Anita Bikker

Legal land location of residence(s): 28 NE Twp 60 Range 3 W5

Telephone number(s)¹: [REDACTED] Email address(es)¹: [REDACTED]

Address(es)¹ and Postal code(s)¹: [REDACTED]

¹ Please note that personal contact information is for NRCB use ONLY and not publicly released

I am/we are the legal landowner(s) of a residence(s) located at the above noted legal land location/address:

- I/we have read the NRCB Fact Sheet "Minimum Distance Separation (MDS) Waivers";
- I/we have discussed this application with the applicant and understand its potential impacts to our residence(s);
- I/we understand that the application **does not** meet the MDS requirement to my/our residence(s), under the *Agricultural Operation Practices Act (AOPA)*;
- I/we understand that this waiver is not valid unless signed by ALL parties identified on the land title as owners;
- I/we are not obligated to waive the MDS requirement to our residence(s);
- I/we understand that if I/we choose to waive the MDS requirement, I/we can revoke the waiver, by providing written notice to the NRCB approval officer, as set out in the "Minimum Distance Separation (MDS) Waivers" Fact Sheet; and
- I/we understand that this waiver is a public document.

Having considered my/our rights, I/we hereby waive the MDS requirement to my/our residence, with respect to

Application number [REDACTED]

Signatures of all residence owner(s) on title

Gerrit Bikker and Anita Bikker, Meadowdale Dairy

Printed names of all residence owner(s) on title

Date: March 20 2025

Manure Spreading Agreement

This agreement is between Linguenda Dairy, manure producer, and
Linda Lindquist manure receiver.

Length of agreement: This agreement is valid for a time period of 5
(minimum of one year)

| Legal land location | Soil type ¹ | Acres suitable for manure spreading ² |
|----------------------|------------------------|--|
| <u>SW-26-60-3-W5</u> | | <u>140</u> |
| <u>NW-23-60-3-W5</u> | | <u>140</u> |
| | | |
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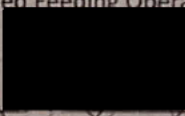
¹ Soil type choices: Dark brown and brown, Grey wooded, Black, Irrigated.

² Land within required setbacks from water bodies, water wells, residences, etc. is not to be included.

Other comments:

Manure producer (Confined Feeding Operation) Legal Land Location NW-27-60-3-W5

April 4 2025
Date of signing

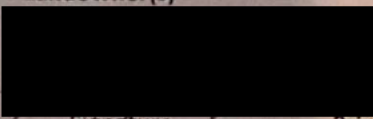

Signature

Jan Otten
Print name

Linguenda Dairy
Corporate name(if appl)

Manure Receiver – Landowner(s)³

April 4/25
Date of signing


Signature

LINDA LINDQUIST
Print name

Corporate name(if appl)

Date of signing

Signature

Print name

Corporate name(if appl)

³ All registered owners of land, or authorized signing authorities must sign.

Manure Spreading Agreement

This agreement is between Linguenda Dairy, manure producer, and
Aaldert + Saakje Otten manure receiver.

Length of agreement: This agreement is valid for a time period of 5
(minimum of one year)

| Legal land location | Soil type ¹ | Acres suitable for manure spreading ² |
|----------------------|------------------------|--|
| <u>SE-27-60-3-W5</u> | | <u>140</u> |
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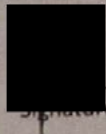
¹ Soil type choices: Dark brown and brown, Grey wooded, Black, Irrigated.

² Land within required setbacks from water bodies, water wells, residences, etc. is not to be included.

Other comments:

Manure producer (Confined Feeding Operation) Legal Land Location NW-27-60-3-W5

April 4 2025
Date of signing

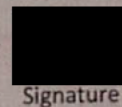

Signature

Jan Otten
Print name

Linguenda Dairy
Corporate name(if appl)

Manure Receiver – Landowner(s)³

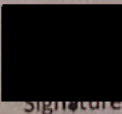
April 4 2025
Date of signing


Signature

Aaldert Otten
Print name

Corporate name(if appl)

April 4 2025
Date of signing


Signature

Saakje Otten
Print name

Corporate name(if appl)

³ All registered owners of land, or authorized signing authorities must sign.

Manure Spreading Agreement

This agreement is between Linguenda Dairy, manure producer, and
Daryl + Veronica Lindquist manure receiver.

Length of agreement: This agreement is valid for a time period of 5
(minimum of one year)

| Legal land location | Soil type ¹ | Acres suitable for manure spreading ² |
|----------------------|------------------------|--|
| <u>NE-22-60-3-W5</u> | | <u>140</u> |
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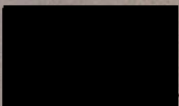
¹ Soil type choices: Dark brown and brown, Grey wooded, Black, Irrigated.

² Land within required setbacks from water bodies, water wells, residences, etc. is not to be included.

Other comments:

Manure producer (Confined Feeding Operation) Legal Land Location NW-27-60-3-W5

April 4 2025
Date of signing

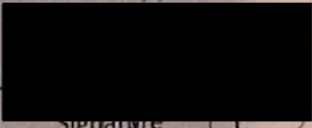

Signature

Jan Otten
Print name

Linguenda Dairy
Corporate name(if appl)

Manure Receiver – Landowner(s)³

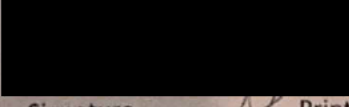
April 4/25
Date of signing


Signature

Daryl Lindquist
Print name

Corporate name(if appl)

April 4/25
Date of signing


Signature

Veronica Lindquist
Print name

Corporate name(if appl)

³ All registered owners of land, or authorized signing authorities must sign.

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)

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 barn
2. Manure Storage
3. 1

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) | NRCB USE ONLY Calculated storage capacity (m ³) |
|----------------|------------|-----------|-----------------|------------------------------|---|
| 1. | 152 | 60 | 3 | 3 | |
| 2. | 76 | 24 | 4 | 4 | |
| 3. | | | | | |
| TOTAL CAPACITY | | | | | |

Concrete liner details

| | | | | |
|---|---------------------------------|---|---|--|
| Scrape alleys or unslatted portions of barn floors (if applicable) | Concrete thickness 6" | | Method of sulphate protection T 50 | |
| | Concrete strength 32 mpa | | Concrete reinforcement size and spacing 16" on center | |
| In-barn manure pit floors | Concrete thickness 8" | | Method of sulphate protection T50 | |
| | Concrete strength 32 mpa | | Concrete reinforcement size and spacing 16" on center | |
| In-barn manure pit walls | Concrete thickness 8" | | Method of sulphate protection T 50 | |
| | Concrete strength 32 mpa | Horizontal reinforcement size and spacing 16" on center | Vertical reinforcement size and spacing 16" on center | |

Part 2 — Technical Requirements

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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

Sika flex or similar

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

Colar

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

NRCB USE ONLY

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: _____

Requirements met: ☐ YES ☐ NO

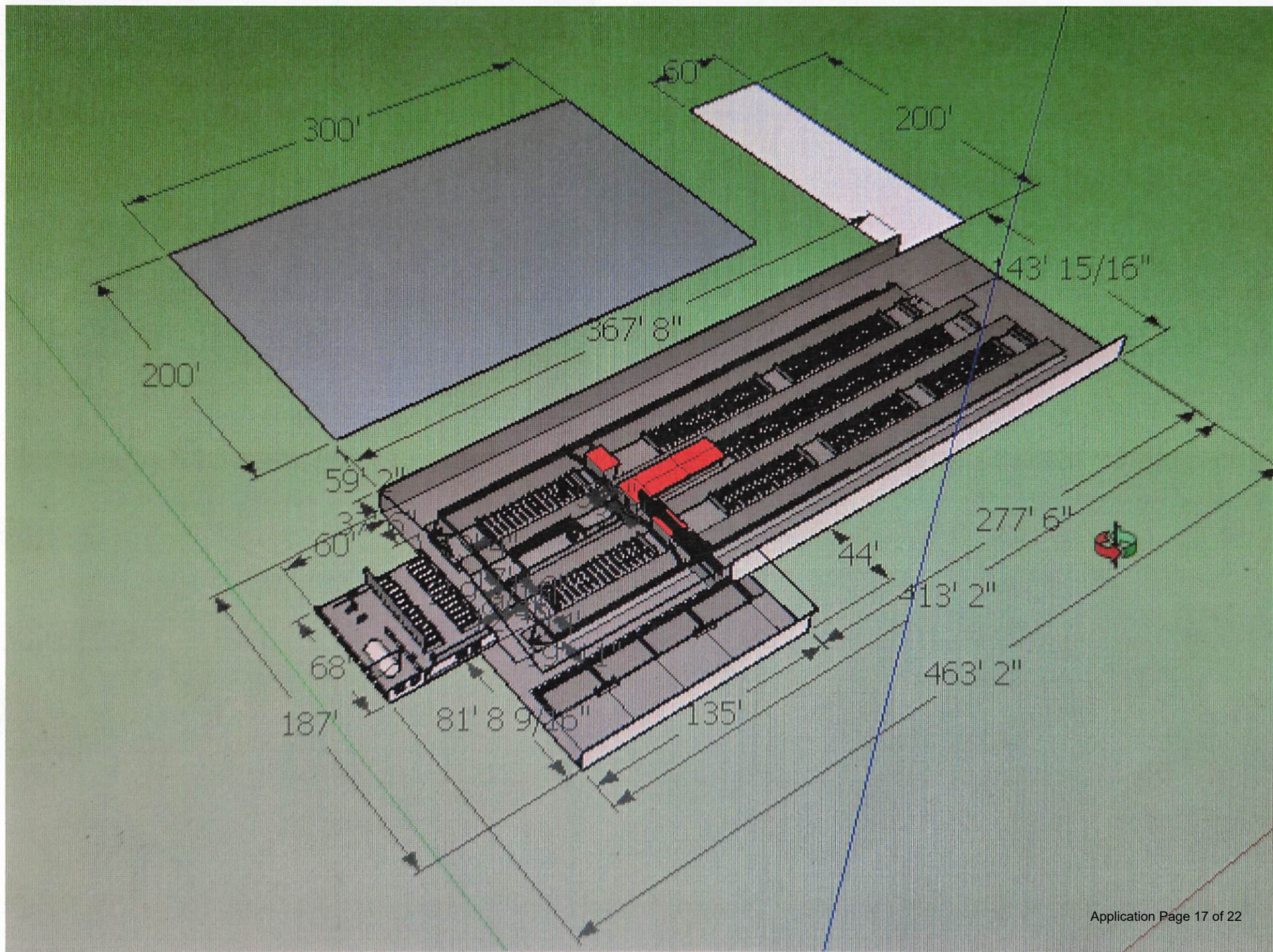
Depth to uppermost groundwater resource: _____

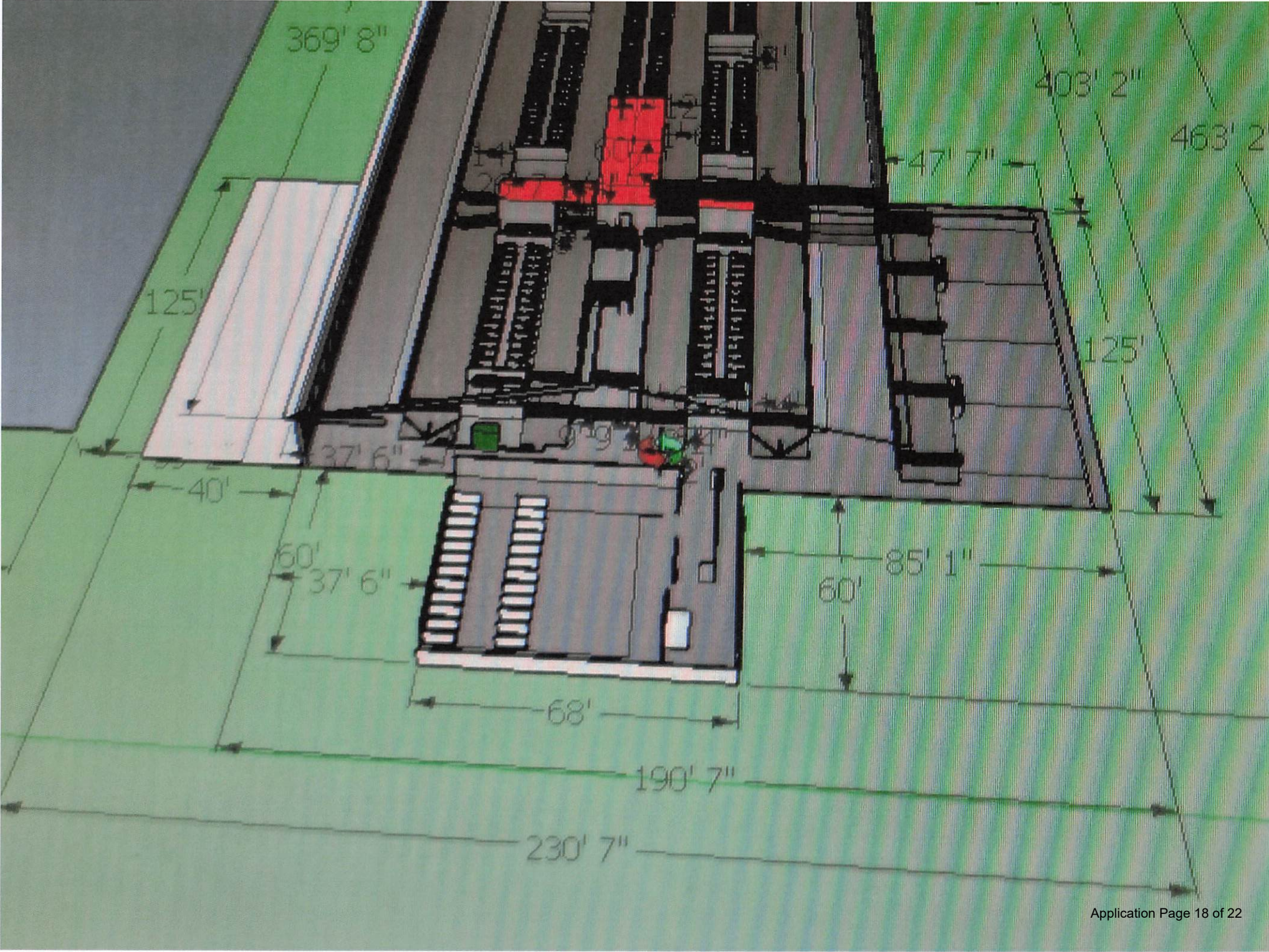
Requirements met: ☐ YES ☐ NO

ERST completed: ☐ see ERST page for details

Concrete liner requirements

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





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LIQUID MANURE STORAGE: Synthetic liner

(complete a copy of this section for **EACH** proposed liquid manure storage facility with a synthetic liner)

Facility description / name (as indicated on site plan)

1. synthetic lagoon

2. _____

Manure storage capacity (use one row in the table for **EACH** cell of the synthetic lined storage, attach additional pages if you require more rows)

| | Length (m) | Width (m) | Total depth (m) | Depth below ground level (m) | Slope run:rise | | | NRCB USE ONLY | |
|----------------|---------------|--------------|-----------------------|---------------------------------|------------------------|-------------------------|------------------|--|------------------------------|
| | | | | | Inside end walls | Inside side walls | Outside walls | Calculated storage capacity (excl. 0.5 m freeboard) (m ³) | Filled in lower ¼? Y/N |
| 1. | 91 | 76 | 65 | 4.5 | 3 | 3 | 4 | | |
| 2. | | | | | | | | | |
| TOTAL CAPACITY | | | | | | | | | |

Surface water control systems

Describe the run-on and runoff control system

Berms around lagoon water flows away.

Sealing

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

Bentonite collar

NRCB USE ONLY

Requirements met: ☐ YES ☐ NO

Liner protection

Describe how the inside walls, bottom and outside walls are protected from erosion

agitation pad

Describe how the physical integrity of the liner will be maintained from other damage

NRCB USE ONLY

Requirements met: ☐ YES ☐ NO

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)

LIQUID MANURE STORAGE: Synthetic liner (cont.)

Synthetic liner details

Provide synthetic liner material details

30mm see attached

Additional information (attach copies of design/engineering reports)

NRCB USE ONLY

Requirements met: ☐ YES ☐ NO

Condition required: ☐ YES ☐ NO

Report attached: ☐ YES ☐ NO

NRCB USE ONLY

Liquid manure storage volume calculator attached: ☐ YES ☐ NO

Depth to water table: _____

Depth to uppermost groundwater resource: _____

Requirements met: ☐ YES ☐ NO

Requirements met: ☐ YES ☐ NO

ERST completed: ☐ see ERST page for details

Surface water control systems

Requirements met: ☐ YES ☐ NO

Details/comments:

Synthetic liner requirements

Leakage detection system required:

☐ YES ☐ NO

If yes, please explain why.

Construction plans approved by professional engineer:

☐ YES ☐ NO

Will liner be installed by manufacturer approved contractor and qualified third party?:

☐ YES ☐ NO

Preparation of liner bed (comments):

Condition required: ☐ YES ☐ NO

SECTION 1

PRODUCT OVERVIEW

"Enviro Liner® 6000 is a specialized fortified polyolefin alloy that is designed for extended life in most geomembrane applications. Fortified geomembranes are manufactured with special prime grade resins that are stabilized with advanced UV stabilizers and antioxidant additives. This provides the geomembrane with superior physical, mechanical, and endurance properties."

Enviro Liner® 6000 is fortified with the latest in Ultra Violet/Anti Oxidant (UV/AO) stabilization packages that provides exceptional UV resistance. It is designed for long term exposed applications and very good chemical resistance. It is an excellent product choice for applications such as landfill caps, secondary containment of hydrocarbons, frac produced water, tailings dams, and waste water containment. Enviro Liner® 6000 series is manufactured by Layfield in North America and is available in thicknesses of 20, 30, 40, 50, 60 and 80 mils (0.5, 0.75, 1.0, 1.25, 1.5, 2.0 mm).

Every step in the production of an Enviro Liner® 6000 geomembrane is completed to our ISO 9000 quality management system. The Enviro Liner® 6000 series has been tested for various key performance properties and the results of these tests have been documented in this booklet. Both standard and extended warranties are available on approved applications for our Enviro Liner® 6000 series in thicknesses of 30, 40, 50, 60 and 80 mil (0.75, 1.0, 1.25, 1.5, 2.0 mm).



Figure 1. Layfield's headquarters and manufacturing facility in Vancouver, Canada.

Key performance advantages of Enviro Liner® 6000 include superior UV resistance, multiaxial properties, flexibility and chemical resistance. Enviro Liner® 6000 is NSF 61 certified allowing it to be used in drinking water applications. It also complies with the Australia water standard AS/NZS 4020 and is fish grade approved.



Figure 2. Layfield's Line 9, a wide width geomembrane manufacturing line.

Enviro Liner® 6000 is an excellent choice as a high performance geomembrane barrier in a variety of markets and applications. These include water & wastewater treatment, mining, oil & gas, waste management, agriculture, aquaculture and commercial vapor management. Enviro Liner® 6000 can be used in both primary and secondary geomembrane containment applications and for floating covers.

SECTION 2

PRODUCT SPECIFICATIONS

Table 1. Enviro Liner 6000 Specifications

| | Performance Properties | ASTM | EL 6030 | EL 6040 | EL 6050 | EL 6060 | EL 6080 |
|-------------|---|------------------------|--|----------------------|----------------------|----------------------|--------------------|
| Index | Thickness | D 5199 | 30 mils 0.75 mm | 40 mils 1.0 mm | 50 mils 1.25 mm | 60 mils 1.5 mm | 80 mils 2.0 mm |
| | Strength at Break (min. avg) | D 66693 | 141 ppi 25 N/mm | 180 ppi 31.5 N/mm | 220 ppi 38.5 N/mm | 255 ppi 44.5 N/mm | 304 ppi 53 N/mm |
| | Elongation at Break (min. avg) Gauge Length - 2"(50mm) | D 6693 | 800% | 800% | 800% | 800% | 800% |
| | Trapezoidal Tear Resistance (typical) | D 751 | 63 lbs 280 N | 90 lbs 400 N | 108 lbs 480 N | 132 lbs 590 N | 176 lbs 780 N |
| | Puncture Resistance (min. avg) | D 4833 | 53 lbs 236 N | 67 lbs 298 N | 75 lbs 333 N | 90 lbs 400 N | 112 lbs 500 N |
| Performance | Hydrostatic Burst Strength | D 751 | 828 kPa 120 psi | 1148 kPa 166 psi | 1482 kPa 215 psi | 1863 kPa 270 psi | |
| | Axi-Symmetric Break Strain ¹ | D 5617 | 50% | 50% | 80% | 80% | 50% |
| | Critical Cone Height ¹ (Large Scale Puncture Test) | D 5514 | 2.0 inches 50 mm | 2.0 inches 50 mm | 2.0 inches 50 mm | 2.0 inches 50 mm | |
| | Dynamic Puncture Test | | | 306 psi 2117 kPa | | 560 psi 3881 kPa | |
| | Ozone Resistance 100 pphm @ 40°C, 168 hrs. | D 1149 | No Cracks Observed | | | | |
| | Flexibility Cycles Without Cracking ⁵ | D 6182 | 8000 | | | | |
| | Stress Crack Under Constant Load | D 5397 | > 1000 hrs | | | | |
| | Solvent Vapour Permeability ^{1,3} | D 814 | Fuel C (Toluene/Octane) < 4 grams/m ² .hr Diesel Fuel < 0.4 grams/m ² .hr | | | | |
| | Methane Permeability ^{1,4} | D 1434 | 2.40 x 10 ⁻⁵ m ³ /m ² .day, atm | | | | |
| | Water Vapor Transmission ^{1,2} | F 1249 | 3 x 10 ⁻¹³ cm/sec | | | | |
| Endurance | Oxidative Induction Time (OIT) | D 3895 | > 200 mins | | | | |
| | High Pressure Oxidative Induction Time (HPOIT) | D 5885 | > 2000 mins | | | | |
| | Oven Aging at 85°C ¹ % OIT retained after 90 days % HPOIT retained after 90 days | D 5721 D 3895/D5885 | >70% >90% | | | | |
| | Brine Resistance @ 90°C ¹ % HPOIT retained | D 1693 1000 hrs | >90% | | | | |
| | UV Resistance ¹ % HPOIT retained after 1600 Hours | GRI GM13/17 | >80% | | | | |
| | UV Resistance Strength Retained (Black) ^{1,2} | D 4329 40,000 hrs | >90% | | | | |
| | Coefficient of Liner Thermal Expansion ^{1,3} | D 696 | 1.4 x 10 ⁻⁴ m/m/ °C 7.8 x 10 ⁻⁵ ft/ft/ °F | | | | |

Notes: ¹ Performance Properties once per formulation (as tested values) | ² Tested on 30 mil | ³ Tested on 40 mil | ⁴ Tested on 60 mil. | ⁵ Measured on 30 mil thickness.