Technical Document LA25005

Part 2 — Technical Requirements

NRCB Natural Resources Conservation Board

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	LA25005	SW 28-9-19 W4M

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 21, 2025 — Date of signing

[redacted] — Signature

Slingerland Feeders Ltd — Corporate name (if applicable)

Byron Slingerland — 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)
Pens E1 -E7	238 x 57
Pens 27- 29 unauthorized construction	Pens 28 & 29 29 x 120 & Pen 27 56 x 29
Pen 8b unauthorized construction	29 x 29
North Catch Basin	15 x 40 x 2.5 deep
South Catch Basin	24 x 56 x 3.5 deep

Continuation of proposed facilties on following page

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

Existing facilities	Dimensions (m) (length, width, and depth)	NRCB USE ONLY
west alley	243m x 60m	
center alley	230m x 122m	
east alley	50m x 200m	

NRCB USE ONLY

Confirmed existing facilities

Last updated September 11, 2023

Part 2 — Technical Requirements

NRCB Natural Resources Conservation Board

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Existing facilities continued	Dimensions (m) (length, width, and depth)	NRCB USE ONLY
*** Continued Proposed Facilities ***		
Catch Basin 1 unauthorized construction	24 x 56 x 3.5 deep	
Catch Basin 2 expansion: 8 m x 18 m x 4 m deep	total dimensions: 53.5 x 32.5 x 4 m deep	Existing. To be expanded
Catch Basin 3 unauthorized construction	31 x 28 x 3.35 m deep	

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

Construction completion date for proposed facilities 3 years

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**
No change from part 1. MD permits for 5,000 finishers (see Appendix C of Decision Summary LA25005)			
Beef finishers	5,000	1,000	6,000

Last updated September 11, 2023

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

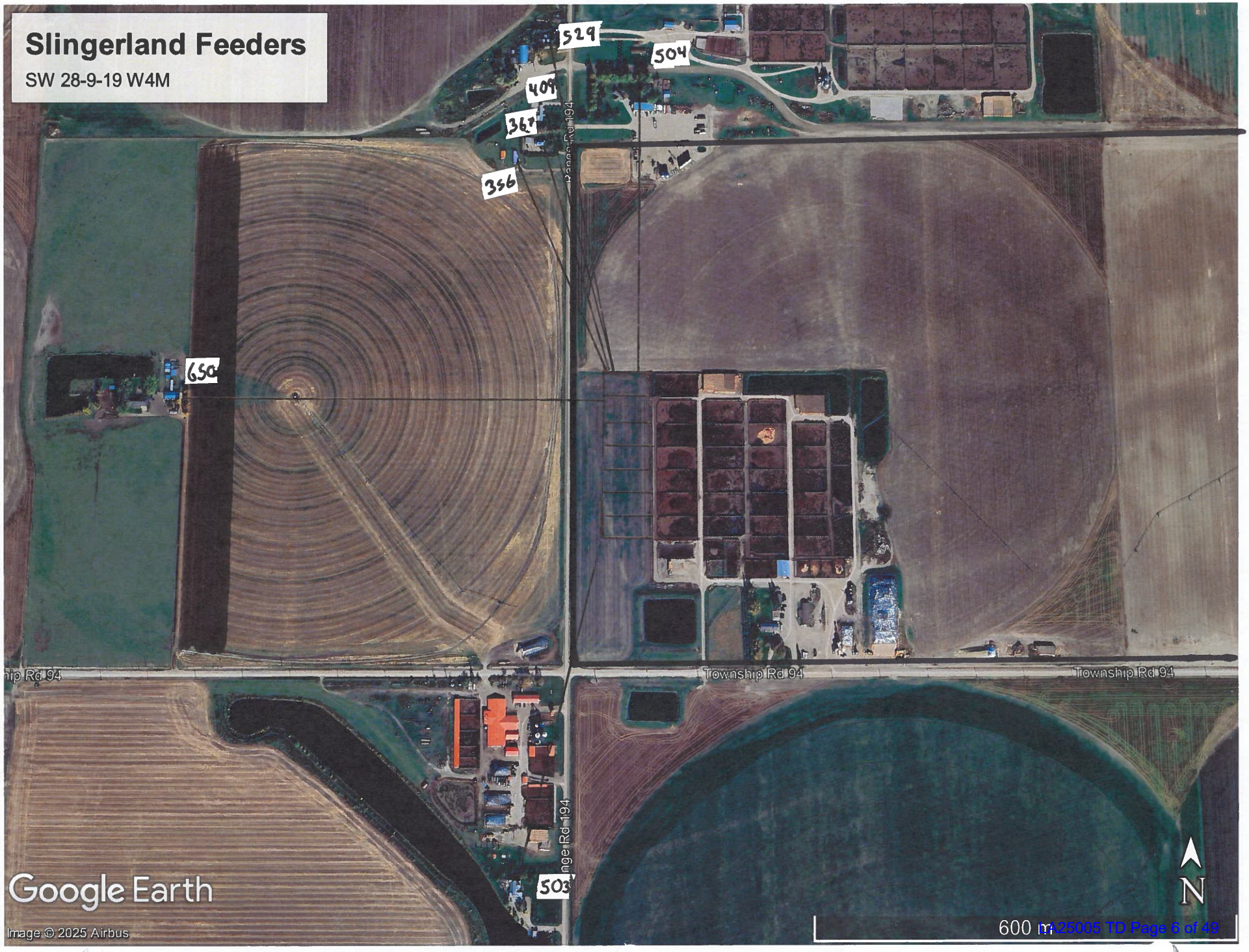
1. At this time, I (we) do not know whether a new water licence is needed from EPA under the *Water Act* for the development or activity proposed in this AOPA application.
2. If a new *Water Act* licence is needed, I (we) request that the NRCB process the AOPA application **independently of** EPA's processing 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 22 day of April, 2025.

[redacted]

nt or Agent


Slingerland Feeders
SW 28-9-19 W4M
West alley
North catch basin
Centre alley
East alley
Catch basin 1
Catch basin 2
Catch basin 3
South catch basin
Property Line 5
Google Earth
Image © 2025 Airbus
200 m


Slingerland Feeders
SW 28-9-19 W4M
529
504
409
367
356
650
503
Township Rd 94
Township Rd 94
Township Rd 94
Range Rd 194
Range Rd 194
Google Earth
Image © 2025 Airbus
N
600 m

Part 2 — Technical Requirements

NRCB Natural Resources Conservation Board

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

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: pens 1 -7 **Proposed 1:** add pens E1 -E7, N and S Catch basin

Proposed 2: Catch basin 1 and 2 and pen 8b **Proposed 3:** catch basin 3 and pens 27-29

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?	☒ >1 m ☐ ≤ 1 m	☒ >1 m ☐ ≤ 1 m	☒ >1 m ☐ ≤ 1 m	☒ > 1 m ☐ ≤ 1 m	☑ YES ☐ NO ☐ YES with exemption	Confirmed not in a flood plain
Surface water information	How many springs are within 100 m of the manure storage facility or manure collection area?	0	0	0	0	☑ YES ☐ NO ☐ YES with exemption	None observed during site visit
	How many water wells are within 100 m of the manure storage facility or manure collection area?	0	0	0	0	☑ YES ☐ NO ☐ YES with exemption	None registered to LLD on AB water wells database
	What is the shortest distance from the manure collection or storage facility to a surface water body? (e.g., lake, creek, slough, seasonal)	front dugout				☑ YES ☐ NO ☐ YES with exemption	Canal 1.7 km SW of CFO
Groundwater information	What is the depth to the water table?		7m	7m	7m	☑ YES ☐ NO ☐ YES with exemption	Saturated sand lens encountered at 6.9 m
	What is the depth to the groundwater resource/aquifer you draw water from?	no wells	no wells	no wells	no wells	☑ YES ☐ NO ☐ YES with exemption	> 9.2 m. Not observed during drilling and no water wells within 2 miles

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

Part 2 — Technical Requirements

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NRCB USE ONLY

ENVIRONMENTAL RISK SCREENING INFORMATION

ERST for **proposed** facilities

Facility	Groundwater score	Surface water score	File number
Catch basin 1	Low	Low	LA25005
Catch basin 2 expansion			
Catch basin 3			
North catch basin			
South catch basin			
Pens E1-E7 Pens 27-29 Pen 8b			

ERST for **existing** facilities

Facility	Groundwater score	Surface water score	File number
Feedlot pens (west alley)	Low	Low	LA25005
Feedlot pens (centre alley)			
Feedlot pens (east alley)			
Catch basin 2			

ERST related comments:

See Decision Summary LA25005

Part 2 — Technical Requirements

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NRCB USE ONLY

WATER WELL AND SURFACE WATER INFORMATION

Well IDs: None registered to LLD

None within 2 miles

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:

Part 2 — Technical Requirements

NRCB Natural Resources Conservation Board

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

			NRCB USE ONLY				
Neighbour name(s)	**Legal land description**	**Distance (m)**	**Zoning (LUB) category**	**MDS category (1-4)**	**Distance (m)**	**Waiver attached (if required)**	**Meets regulations**
Jim Veurink Home (James and Esther)	NE 20-9-19	503m	Rural Ag	1	503	Yes	Yes
John Willms	NE 29-9-19	529m	↓	↓	529	↓	↓
Jim Veurink Rentals (James and Esther)	SE 29-9-19	356m & 367m	↓	↓	356	↓	↓
Peter Hamm	NE 29-9-19	409m	↓	↓	409	↓	↓
Dave Van Pelt South Lot House	NW 28-9-19	504m	↓	↓	504	↓	↓
Ite and Jane veurink	SE 29-9-19 W4M	650 m			650 m	Yes	Yes

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

				NRCB USE ONLY	
Name of land owner(s)*	**Legal land description**	**Usable area** (ha)**	**Soil zone *****	**Usable area (ha)**	**Agreement attached (if required)**
Slingerland Feeders Ltd	SW 28-9-19	40	irrigated	40	
Slingerland Feeders Ltd	SE 28-9-19	65	irrigated	65	
Slingerland Feeders Ltd	NW 21-9-19	81	irrigated	81	
Slingerland Feeders Ltd	NE 21-9-19	49	irrigated	49	
Rod Moser	W 29-9-19	121	irrigated	121	Yes
Lane Lievaart Farms Ltd. (additional manure spreading agreement attached)	N 8-10-18 W4	280 acres (113 ha)	irrigated	Total 469 ha	

* 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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NRCB USE ONLY

MINIMUM DISTANCE SEPARATION

Methods used to determine distance (if applicable): Google earth

Margin of error (if applicable): +/- 3 m

Requirements (m): Category 1: 731 Category 2: 975 Category 3: 1219 Category 4: 1951

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: 372 ha

Land base listed: 469

Area not suitable: Already subtracted

Available area 469 ha 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 See Decision Summary LA25005

Manure Spreading Agreement

This agreement is between Slingeland Feeders Ltd, manure producer, and Rod Moser manure receiver.

Length of agreement: This agreement is valid for a time period of 3 years (minimum of one year)

Legal land location	Soil type[1]	Acres suitable for manure spreading[2]
SW 29-9-19 W4	irrigated	145
NW 29-9-19 W4	irrigated	160

[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 SW 28-9-19

Date of signing	Signature	Print name	Corporate name(if appl)
April 7 2025	[redacted]	Byron Slingeland	Slingeland Feeders Ltd

Manure Receiver – Landowner(s)[3]

Date of signing	Signature	Print name	Corporate name(if appl)
April 7 2025	[redacted]	ROD MOSER	

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

This agreement is between Slingerland Feeders Ltd, manure producer, and Lane Lievoort Farms Ltd manure receiver.

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

Legal land location	Soil type[1]	Acres suitable for manure spreading[2]
N 8-10-18 W4	Irrigated	280

[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 SW 28-9-19 W4

July 19 2025 — Date of signing

[redacted] — Signature

Byron Slingerland — Print name

Slingerland Feeders — Corporate name(if appl)

Manure Receiver – Landowner(s)[3]

July 19 2025 — Date of signing

[redacted] — Signature

Lane Lievoort — Print name

Lane Lievoort Farms — Corporate name(if appl)

Minimum Distance Separation (MDS) Waiver (declaration)

Applicant information NRCB application number: LA25005

Operator/operation name: Slingerland Feeders

Address: Box 1425 Coaldale Ab Postal Code: T1M1N2

Legal land location of confined feeding operation: SW 28-9-19

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:
  5000 Beef Finishers

- My application for a new AOPA permit proposes the following changes to the existing livestock category, type and/or capacity at my CFO:
  add 1000 Beef Finishers

- 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):
  We plan to add one row of seven pens to the west boundary of the existing pens.
  A additional Catch basin would be constructed to the south of new pens

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

Permit Applicant: [redacted] Date: January 15 2025

Residence owner(s) to initial: [redacted]

Minimum Distance Separation (MDS) Waiver (declaration)

Residence owner(s) information

ALL Names on land title: ITE + JANE VEURINK

Legal land location of residence(s): SE 29-09-10 W4

Telephone number(s)[1]: [redacted] Address(es)[1]: [redacted]

Address(es)[1] and Postal code(s)[1]: BOX 65 CORALDALE AB T1M 1M2

[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 LA25005

[redacted] [redacted]

Signatures of **all** residence owner(s) on title

ITE VEURINK JANE VEURINK

Printed names of **all** residence owner(s) on title

Date: Jan 23 / 2025

Minimum Distance Separation (MDS) Waiver (declaration)

Applicant information NRCB application number: LA25005

Operator/operation name: Slingerland Feeders

Address: Box 1425 Coaldale Ab Postal Code: T1M1N2

Legal land location of confined feeding operation: SW 28-9-19

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:

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  5000 Beef Finishers

- My application for a new AOPA permit proposes the following changes to the existing livestock category, type and/or capacity at my CFO:
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- 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):
  We plan to add one row of seven pens to the west boundary of the existing pens.
  A additional Catch basin would be constructed to the south of new pens

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

Permit Applicant: [redacted] Date: January 15 2025

Residence owner(s) to initi [redacted]

Minimum Distance Separation (MDS) Waiver (declaration)

Residence owner(s) information

ALL Names on land title: DAVE VANPELT FARMS INC

Legal land location of residence(s): NW 28-9-19 W4

Telephone number(s)[1] [redacted] Email address(es)[1] [redacted]

Address(es)[1] and Postal code(s)[1]: BOX 1 COALDALE AB T1M 1M2

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

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- 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 LA25005.

[redacted]

Signatures of **all** residence owner(s) on title

DAVE VAN PELT FARMS INC.

Printed names of **all** residence owner(s) on title

Date: Jan 15, 2025

Willms

Minimum Distance Separation (MDS) Waiver (declaration)

Applicant information NRCB application number: LA 25005

Operator/operation name: Slingerland Feeders

Address: Box 1425 Coaldale Ab Postal Code: T1M1N2

Legal land location of confined feeding operation: SW 28-9-19

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Permit Applicant [redacted] Date: January 15 2025

Signature

Residence owner(s) to initial: [redacted]

Minimum Distance Separation (MDS) Waiver (declaration)

Residence owner(s) information

ALL Names on land title: John Willms

Legal land location of residence(s): SE 29-9-19

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

Address(es)[1] and Postal code(s)[1]: [redacted] Lethbridge T1K5B

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

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- 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 LA 25005 [redacted]

Sign [redacted]

John Willms

Printed names of **all** residence owner(s) on title

Date: April 10 2025

Homm

Minimum Distance Separation (MDS) Waiver (declaration)

Applicant information NRCB application number: LA 25005

Operator/operation name: Slingerland Feeders

Address: Box 1425 Coaldale Ab Postal Code: T1M1N2

Legal land location of confined feeding operation: SW 28-9-19

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

Permit Applicant: [redacted] Date: January 15 2025

Residence owner(s) to initial: [redacted] [redacted]

Minimum Distance Separation (MDS) Waiver (declaration)

Residence owner(s) information

ALL Names on land title: Peter + Greta Hamm

Legal land location of residence(s): NE 29 - 009 - 19 - 4

Telephone number(s)[1]: [redacted] mail address(es)[1]: [redacted]

Address(es)[1] and Postal code(s)[1]: Po Box 1145 Coaldale T1M1M9 AB [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

Appl[redacted]ber _____

[redacted]

Signatures of **all** residence owner(s) on title

Peter Hamm Greta Hamm

Printed names of **all** residence owner(s) on title

Date: 2025 - 1 - 15

Vuerink

Minimum Distance Separation (MDS) Waiver (declaration)

Applicant information NRCB application number: LA25005

Operator/operation name: Slingerland Feeders

Address: Box 1425 Coaldale Ab Postal Code: T1M1N2

Legal land location of confined feeding operation: SW 28-9-19

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:
  5000 Beef Finishers

- My application for a new AOPA permit proposes the following changes to the existing livestock category, type and/or capacity at my CFO:
  add 1000 Beef Finishers

- 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):
  We plan to add one row of seven pens to the west boundary of the existing pens.
  A additional Catch basin would be constructed to the south of new pens

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

Permit Applicant: _____ Date: January 15 2025

Signature

Residence owner(s) to initial: [redacted]

Minimum Distance Separation (MDS) Waiver (declaration)

Residence owner(s) information

ALL Names on land title: James Veurink Esther Veurink

Legal land location of residence(s): NE 20 09 19 W4

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

Address(es)[1] and Postal code(s)[1]: Box 312 Coaldale AB T1M 1M4

[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 LA25005

[redacted] [redacted]

all residence owner(s) on title

James Veurink Esther Veurink

Printed names of **all** residence owner(s) on title

Date: Jan 23 2025

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

ALL SIGNATURES IN FILE ☑ YES ☐ NO

DATES OF APPROVAL OFFICER SITE VISITS

March 11, 2025	

CORRESPONDENCE WITH MUNICIPALITIES AND REFERRAL AGENCIES

Date deeming letters sent: May 6, 2025

Municipality: Lethbridge 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: SMRID ☐ N/A

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

Other: County of Lethbridge Rural Water Association Ltd. ☐ N/A

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

Part 2 — Technical Requirements

NRCB Natural Resources Conservation Board

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

SOLID MANURE, COMPOST, & COMPOSTING MATERIALS: Barns, feedlots, & storage facilities - Naturally occurring protective layer

*(complete a copy of this section for **EACH** barn, feedlot, and storage facility for solid manure, composting materials, or compost with a naturally occurring protective layer for the liner)*

Facility description / name *(as indicated on site plan)*

1. Pens E1 - E7
2. Pens 27 - 29

Manure storage capacity

	Length (m)	Width (m)	Depth below ground level (m)	**NRCB USE ONLY** Estimated storage capacity (m^3)
1.	238	57	0	
2.	Pen 27: 56 x 29 120 & 56	Pens 28 & 29: 29 x 120 total dimensions 29 & 29	0	
			TOTAL CAPACITY	Feedlot pens are considered 9 months storage

☐ I plan to use a short-term solid manure storage (STMS) as part of my manure storage and handling plan for this CFO. (The AOPA requirements for STMS are set out in the NRCB Short-Term Solid Manure Storage Requirements Fact Sheet.

Surface water control systems

Describe the run-on and runoff control system
Catch basin

Naturally occurring protective layer details

Thickness of naturally occurring protective layer	2 (m)	Provide details (as required) See attached report	
Soil texture	n/a % sand	n/a % silt	n/a % clay
Hydraulic conductivity - naturally occurring protective layer	Depth and type of soil tested 3 m clay loam	Hydraulic conductivity (cm/s) 6.6 x 10.8 cm/s	Describe test standard used modified falling head test

Additional information *(attach copies of soil test reports)*

NRCB USE ONLY

Requirements met: ☑ YES ☐ NO
Condition required: ☑ YES ☐ NO
Report attached: ☑ YES ☐ NO

Last updated February 26, 2021

Part 2 — Technical Requirements

NRCB Natural Resources Conservation Board

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

SOLID MANURE, COMPOST, & COMPOSTING MATERIALS: Barns, feedlots, & storage facilities - Naturally occurring protective layer

*(complete a copy of this section for **EACH** barn, feedlot, and storage facility for solid manure, composting materials, or compost with a naturally occurring protective layer for the liner)*

Facility description / name *(as indicated on site plan)*

1. Pen 8b
2. _____

Manure storage capacity

	Length (m)	Width (m)	Depth below ground level (m)	**NRCB USE ONLY** Estimated storage capacity (m^3)
1.	29	29	0	
2.				
			TOTAL CAPACITY	Feedlot pens are considered 9 months storage

☐ I plan to use a short-term solid manure storage (STMS) as part of my manure storage and handling plan for this CFO. (The AOPA requirements for STMS are set out in the NRCB Short-Term Solid Manure Storage Requirements Fact Sheet.

Surface water control systems

Describe the run-on and runoff control system

Catch basin

Naturally occurring protective layer details

Thickness of naturally occurring protective layer	_____(m)	Provide details (as required) See attached report	
Soil texture	_____% sand	_____% silt	_____% clay
Hydraulic conductivity - naturally occurring protective layer	Depth and type of soil tested	Hydraulic conductivity (cm/s)	Describe test standard used

Additional information *(attach copies of soil test reports)*

NRCB USE ONLY

Requirements met: ☑ YES ☐ NO

Condition required: ☐ YES ☑ NO

Report attached: ☑ YES ☐ NO

Last updated February 26, 2021


45.72
41.20
42.65
15.60
20.60
20.60
34.08
35.25
13.65
6.03 (TYP.)
Existing Pen
4.39
56.78
35.48
28.70
5.27 (TYP.)
34.76
31.03
59.83
34.47
30.75
56.11
35.11
31.39
59.83
34.93
31.21
56.11
29.31
22.54
56.78
N
NOTES:
1. 834.00m OF FENCE.
2. 43.75m OF GATE.
LEGEND:
FENCE LINES
GATES
For Discussion Only
Use of this drawing automatically enacts Dennis Dirtworx LTD fee disclaimer. Available upon request.
Dennis' Dirtworx
Dennis Dirtworx LTD
FENCE LINE DETAIL
PROJECT NAME:
BYRON SLINGERLAND
Date
FEB 2025
Drawn RENZO P.
Checked DAN D.
Scale NTS
Job No. 25048

Pens E1-E7

NOTES:

Elevations Table				
Number	Minimum Elevation	Maximum Elevation	Area	Color
1	−6.67	−0.29	9078.90	
2	−0.29	−0.10	3647.94	
3	−0.10	0.04	3814.91	
4	0.04	0.14	3890.13	
5	0.14	0.24	4071.28	
6	0.24	0.33	3971.24	
7	0.33	0.45	3868.19	
8	0.45	2.18	6886.63	

For Discussion Only

Use of this drawing automatically waives Dennis Dirtworx LTD its disclaimer. Available upon request.

Dennis Dirtworx LTD

CUT AND FILL

PROJECT NAME: BYRON SLINGERLAND

Date: FEB 2025

Drawn: RENZO P.

Checked: DAN D.

Job No. 25048

Scale: NTS

SOLID MANURE, COMPOST, & COMPOSTING MATERIALS: Barns, feedlots, & storage facilities - Naturally occurring protective layer (cont.)

NRCB USE ONLY

Nine month manure storage volume requirements met: ☑ YES ☐ YES With STMS ☐ NO

Depth to water table: 6.9 mbgs Requirements met: ☐ YES ☐ NO

Depth to uppermost groundwater resource: >9.2 mbgs Requirements met: ☐ YES ☐ NO

ERST completed: ☑ see ERST page for details

Surface water control systems

Requirements met: ☑ YES ☐ NO Details/comments:

Naturally occurring protective layer details

Layer specification comments (e.g. sand lenses; layering uniform or irregular; number and location of boreholes):

Part 2 — Technical Requirements

NRCB Natural Resources Conservation Board

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

RUNOFF CONTROL CATCH BASIN: Naturally occurring protective layer

*(complete a copy of this section for **EACH proposed** runoff control catch basin with a naturally occurring protective layer)*

Facility description / name *(as indicated on site plan)*

1. North Catch Basin
2. South Catch Basin
3. Catch Basin 1

Determination of runoff area

Provide a plan and show how you calculated the area contributing to runoff for each catch basin

See attached drawing

Catch basin capacity

	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)
1.	40	15	2.5	2.5	3:1	3:1		396
2.	56	24	3.5	3.5	3:1	3:1		1,665
3.	56	24	3.5	3.5	3:1	3:1		1,665
							TOTAL CAPACITY	

Naturally occurring protective layer details

Thickness of naturally occurring protective layer	4 (m)	Provide details (as required)	
Soil texture	n/a % sand	n/a % silt	n/a % clay
Hydraulic conductivity - naturally occurring protective layer	Depth and type of soil tested: silty clay 9.2 m	Hydraulic conductivity (cm/s): 4.4 x 10.8 cm/s	Describe test standard used: modified falling head test

Catch Basin – Design and management requirements can be found in Technical Guideline Agdex 096-101

If soil info differs per facility include additional soils page.

NRCB USE ONLY

Requirements met: ☑ YES ☐ NO

Condition required: ☑ YES ☐ NO

Report attached: ☑ YES ☐ NO

Part 2 — Technical Requirements

NRCB Natural Resources Conservation Board

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

RUNOFF CONTROL CATCH BASIN: Naturally occurring protective layer

*(complete a copy of this section for **EACH proposed** runoff control catch basin with a naturally occurring protective layer)*

Facility description / name *(as indicated on site plan)*

1. Catch basin 2
2. Catch basin 3
3. _____

Determination of runoff area

Provide a plan and show how you calculated the area contributing to runoff for each catch basin

Catch basin capacity

	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)
1.	53.5	32.5	4	3.5	3:1	3:1		2,789
2.	31	28	3.35	2.85	3:1	3:1		981
3.								
							TOTAL CAPACITY	capacity of all proposed catch basins: 7,496 m3

Naturally occurring protective layer details

Thickness of naturally occurring protective layer	_____(m)	Provide details (as required)	
Soil texture	_____% sand	_____% silt	_____% clay
Hydraulic conductivity - naturally occurring protective layer	Depth and type of soil tested	Hydraulic conductivity (cm/s)	Describe test standard used

Catch Basin – Design and management requirements can be found in Technical Guideline Agdex 096-101

If soil info differs per facility include additional soils page.

NRCB USE ONLY

Requirements met: ☑ YES ☐ NO

Condition required: ☑ YES ☐ NO

Report attached: ☑ YES ☐ NO

RUNOFF CONTROL CATCH BASIN: Naturally occurring protective layer (cont.)

NRCB USE ONLY

Catch basin calculator. Total volume @ freeboard level: 7,496 Runoff capacity requirements met: ☑ YES ☐ NO

Calculation of the volume attached: ☑ YES ☐ NO

Depth to water table: 6.9 mbgs Requirements met: ☐ YES ☐ NO

Depth to uppermost groundwater resource: >9.2 mbgs Requirements met: ☐ YES ☐ NO

ERST completed: ☑ See ERST page for details

Protective layer specification comments (e.g. sand lenses; layering uniform or irregular; number and location of boreholes):

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

Catch Basin Storage Volume Calculator

Construction Dimensions of Catch Basin

*** Only cells in blue can be changed.**

Overall Dimensions of Catch Basin			Catch Basin Dimensions	
Total Length*[4]	15.0	m	49	ft
Total Width*[4]	40.0	m	131	ft
Total Depth*[4]	2.5	m	8	ft
Design Capacity Depth	*2.00*	m	7	ft
End Slope*[4]	3	run:rise	3	run:rise
Side Slope*[4]	3	run:rise	3	run:rise
Length of Bottom	-	m	0	ft
Width of Bottom	25.0	m	82	ft
Capacity @ top of Bank	*656*	m^3	*Capacity (@tob)* *23,175*	ft^3
			144,355	*Imp. Gal.*

Design Capacity of Catch Basin (freeboard level)			Design Capacity (freeboard level)	
Length (design capacity depth)	12.0	m	39	ft
Width (design capacity depth)	37.0	m	121	ft
Total Depth	*2.5*	m	*8*	ft
Design Capacity Depth	2.00	m	7	ft
End Slope	3	run:rise	3	run:rise
Side Slope	3	run:rise	3	run:rise
Design Capacity (freeboard level)	**396**	m^3	13,985	ft^3
			87,108	Imp. Gal.
level)	*444*	m^2	*4,779*	ft^2

CFO Name [1]

Land Location [1]

Paved Runoff Catchment Area(s)

Area [2]	Length (m)	Width (m)	Area (m^2)
1			0.0
2			0.0
3			0.0
4			0.0
5			0.0
		Total Area (m^2)	**0**

Unpaved Runoff Catchment Area(s)

Area [2]	Length (m)	Width (m)	Area (m^2)
6			0.0
7			0.0
8			0.0
9			0.0
10			0.0
		Total Area (m^2)	**0**

Rainfall (Select Town [3])

Coaldale 85

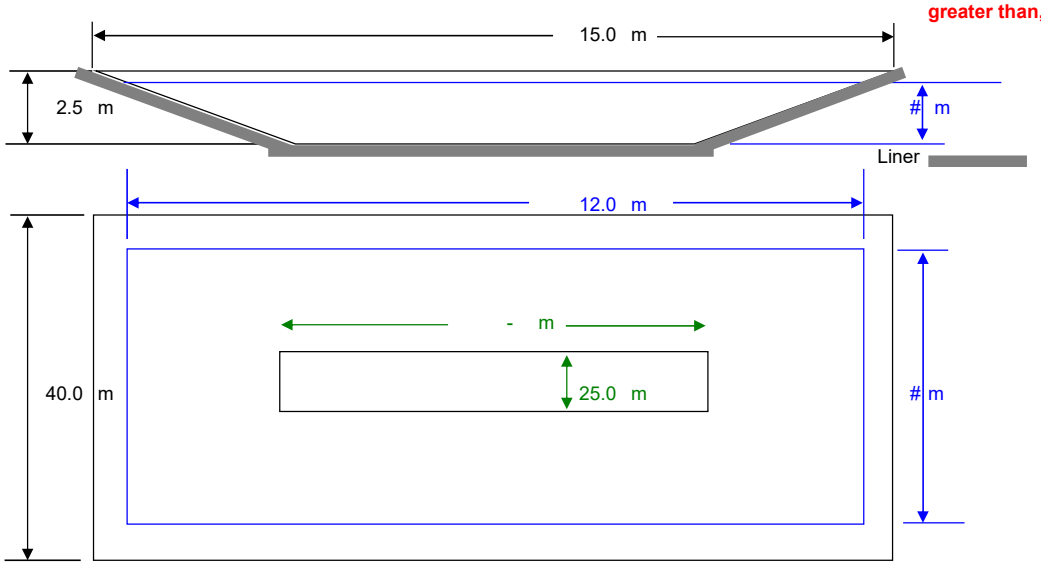
AOPA Design Rainfall **85 mm**

Minimum Catchbasin Storage Volume Required

0 m^3 ** **0 ft^3**

0 Imp. Gal.

**** Design capacity of catch basin should be equal to, greater than, minimum storage volume required.**



Lines in Black - Overall catch basin dimensions

Lines in Blue - Design capacity depth dimensions (excludes freeboard)

NTS - Not To Scale

Catch Basin Storage Volume Calculator

Construction Dimensions of Catch Basin

*** Only cells in blue can be changed.**

Overall Dimensions of Catch Basin			Catch Basin Dimensions
Total Length*[4]	24.0	m	79 ft
Total Width*[4]	56.0	m	184 ft
Total Depth*[4]	3.5	m	11 ft
Design Capacity Depth	*3.00*	m	10 ft
End Slope*[4]	3	run:rise	3 run:rise
Side Slope*[4]	3	run:rise	3 run:rise
Length of Bottom	3.0	m	10 ft
Width of Bottom	35.0	m	115 ft
Capacity @ top of Bank	*2,279*	m^3	*Capacity (@tob)* *80,464* ft^3 *501,200 Imp. Gal.*

Design Capacity of Catch Basin (freeboard level)			Design Capacity (freeboard level)
Length (design capacity depth)	21.0	m	69 ft
Width (design capacity depth)	53.0	m	174 ft
Total Depth	*3.5*	m	*11 ft*
Design Capacity Depth	3.00	m	10 ft
End Slope	3	run:rise	3 run:rise
Side Slope	3	run:rise	3 run:rise
Design Capacity (freeboard level)	**1,665**	m^3	58,799 ft^3
			366,249 Imp. Gal.
level)	*1,113*	m^2	*11,980* ft^2

CFO Name [1]

Land Location [1]

Paved Runoff Catchment Area(s)

Area [2]	Length (m)	Width (m)	Area (m^2)
1			0.0
2			0.0
3			0.0
4			0.0
5			0.0
		Total Area (m^2)	**0**

Unpaved Runoff Catchment Area(s)

Area [2]	Length (m)	Width (m)	Area (m^2)
6			0.0
7			0.0
8			0.0
9			0.0
10			0.0
		Total Area (m^2)	**0**

Rainfall (Select Town [3]**)**

Coaldale 85

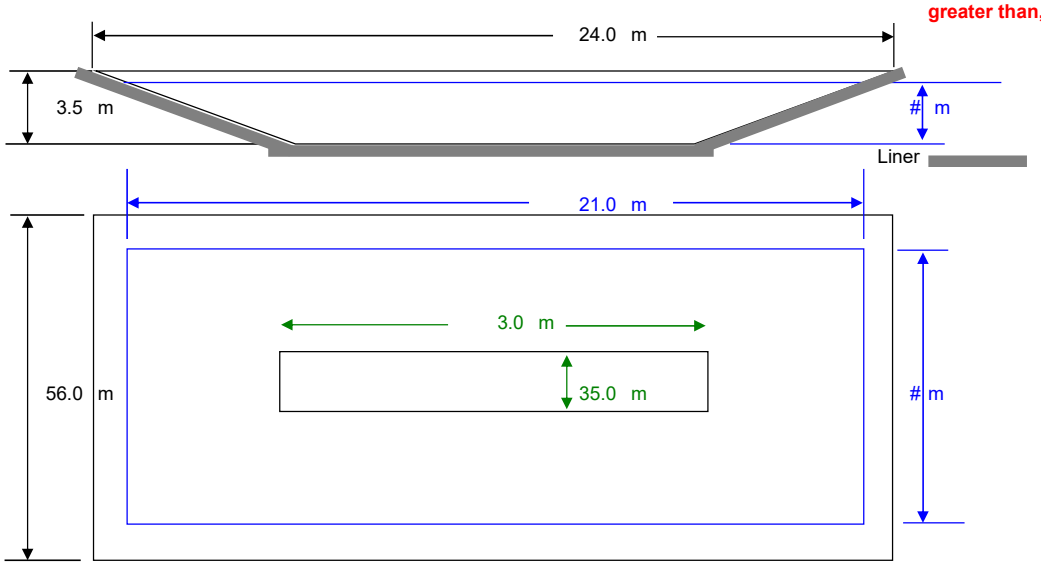
AOPA Design Rainfall **85 mm**

Minimum Catchbasin Storage Volume Required

0 m^3 ** **0 ft^3**

0 Imp. Gal.

**** Design capacity of catch basin should be equal to, greater than, minimum storage volume required.**



Lines in Black - Overall catch basin dimensions

Lines in Blue - Design capacity depth dimensions (excludes freeboard)

NTS - Not To Scale

Catch Basin Storage Volume Calculator

Construction Dimensions of Catch Basin

*** Only cells in blue can be changed.**

Overall Dimensions of Catch Basin			Catch Basin Dimensions
Total Length*[4]	53.5	m	176 ft
Total Width*[4]	32.5	m	107 ft
Total Depth*[4]	4.0	m	13 ft
Design Capacity Depth	*3.50*	m	11 ft
End Slope*[4]	3	run:rise	3 run:rise
Side Slope*[4]	3	run:rise	3 run:rise
Length of Bottom	29.5	m	97 ft
Width of Bottom	8.5	m	28 ft
Capacity @ top of Bank	*3,595*	m^3	*Capacity (@tob)* *126,956* ft^3 *790,789 Imp. Gal.*

Design Capacity of Catch Basin (freeboard level)			Design Capacity (freeboard level)
Length (design capacity depth)	50.5	m	166 ft
Width (design capacity depth)	29.5	m	97 ft
Total Depth	*4.0*	m	*13* ft
Design Capacity Depth	3.50	m	11 ft
End Slope	3	run:rise	3 run:rise
Side Slope	3	run:rise	3 run:rise
Design Capacity (freeboard level)	**2,789**	m^3	98,479 ft^3
			613,412 Imp. Gal.
level)	*1,490*	m^2	*16,036* ft^2

CFO Name [1]

Land Location [1]

Paved Runoff Catchment Area(s)

Area [2]	Length (m)	Width (m)	Area (m^2)
1			0.0
2			0.0
3			0.0
4			0.0
5			0.0
		Total Area (m^2)	**0**

Unpaved Runoff Catchment Area(s)

Area [2]	Length (m)	Width (m)	Area (m^2)
6			0.0
7			0.0
8			0.0
9			0.0
10			0.0
		Total Area (m^2)	**0**

Rainfall (Select Town [3]**)**

Coaldale 85

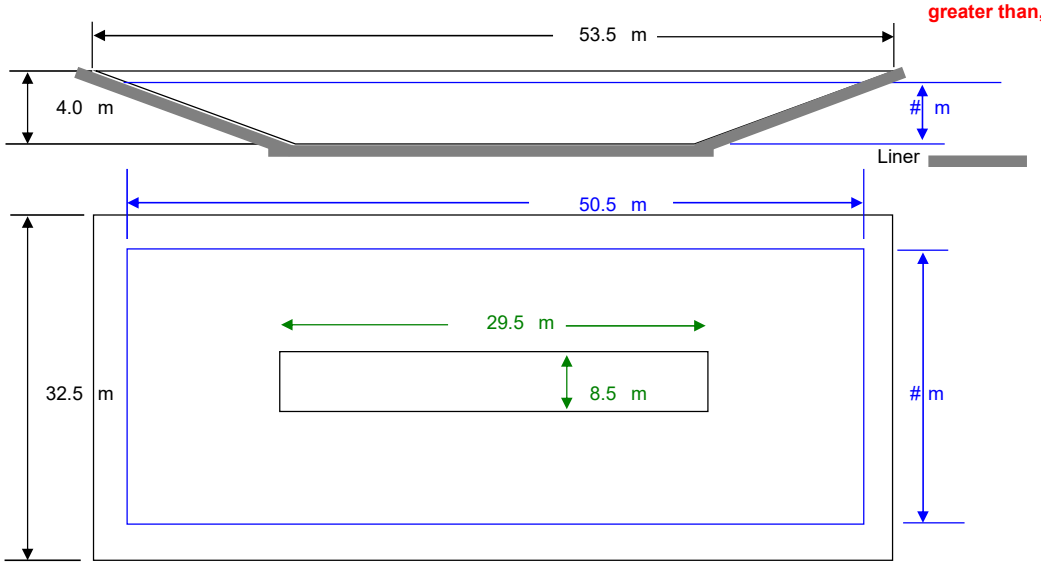
AOPA Design Rainfall **85 mm**

Minimum Catchbasin Storage Volume Required

0 m^3 ** **0 ft^3**

0 Imp. Gal.

**** Design capacity of catch basin should be equal to, greater than, minimum storage volume required.**



Lines in Black - Overall catch basin dimensions

Lines in Blue - Design capacity depth dimensions (excludes freeboard)

NTS - Not To Scale

Catch Basin Storage Volume Calculator

Construction Dimensions of Catch Basin

*** Only cells in blue can be changed.**

Overall Dimensions of Catch Basin			Catch Basin Dimensions
Total Length*[4]	31.0	m	102 ft
Total Width*[4]	28.0	m	92 ft
Total Depth*[4]	3.4	m	11 ft
Design Capacity Depth	*2.85*	m	9 ft
End Slope*[4]	3	run:rise	3 run:rise
Side Slope*[4]	3	run:rise	3 run:rise
Length of Bottom	10.9	m	36 ft
Width of Bottom	7.9	m	26 ft
Capacity @ top of Bank	*1,373*	m^3	*Capacity (@tob)* *48,472* ft^3 *301,921 Imp. Gal.*

Design Capacity of Catch Basin (freeboard level)			Design Capacity (freeboard level)
Length (design capacity depth)	28.0	m	92 ft
Width (design capacity depth)	25.0	m	82 ft
Total Depth	*3.4*	m	*11 ft*
Design Capacity Depth	2.85	m	9 ft
End Slope	3	run:rise	3 run:rise
Side Slope	3	run:rise	3 run:rise
Design Capacity (freeboard level)	**981**	m^3	34,655 ft^3
			215,858 Imp. Gal.
level)	*700*	m^2	*7,535* ft^2

CFO Name [1]

Land Location [1]

Paved Runoff Catchment Area(s)

Area [2]	Length (m)	Width (m)	Area (m^2)
1			0.0
2			0.0
3			0.0
4			0.0
5			0.0
		Total Area (m^2)	**0**

Unpaved Runoff Catchment Area(s)

Area [2]	Length (m)	Width (m)	Area (m^2)
6			0.0
7			0.0
8			0.0
9			0.0
10			0.0
		Total Area (m^2)	**0**

Rainfall (Select Town [3]**)**

Coaldale 85

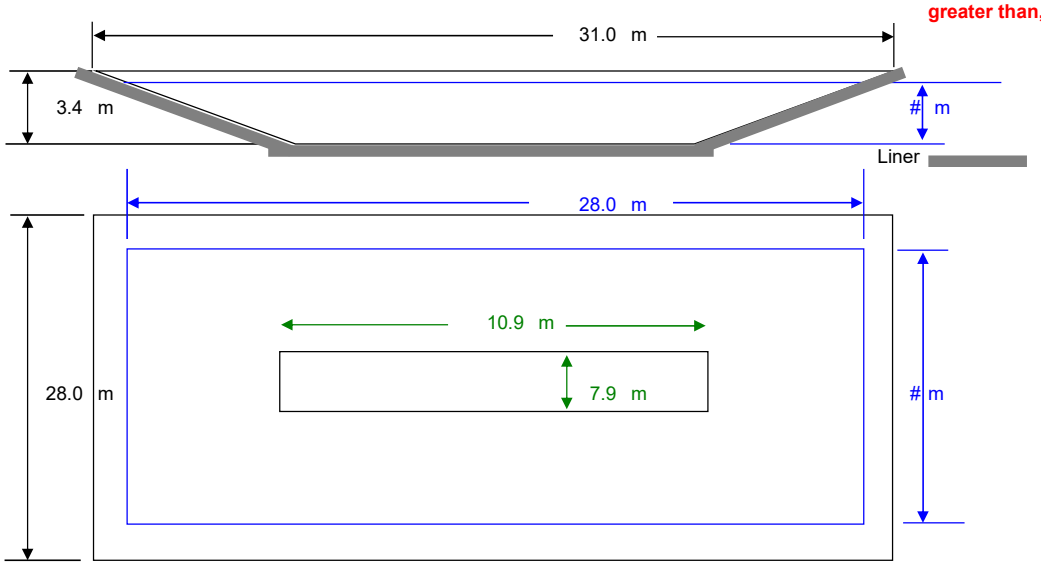
AOPA Design Rainfall **85 mm**

Minimum Catchbasin Storage Volume Required

0 m^3 ** **0 ft^3**

0 Imp. Gal.

**** Design capacity of catch basin should be equal to, greater than, minimum storage volume required.**



Lines in Black - Overall catch basin dimensions

Lines in Blue - Design capacity depth dimensions (excludes freeboard)

NTS - Not To Scale

NRCB USE ONLY **RUNOFF CONTROL CATCH BASIN CAPACITY SUMMARY (if applicable)**	
Facility 1	
Name / description: North catch basin	Capacity: 396 m3
Facility 2	
Name / description: South catch basin	Capacity: 1,665 m3
Facility 3	
Name / description: Catch basin 1	Capacity: 1,665 m3
Facility 4: Catch basin 2	2,789 m3
Name / description: Catch basin 3	Capacity: 981 m3
TOTAL CAPACITY	7,496 m3
RUNOFF VOLUME FROM CONTRIBUTING AREAS	4,058 m3
MEETS AOPA RUNOFF CONTROL VOLUME REQUIREMENTS	☑ YES ☐ NO

----JLECS----

J Lobbezoo Engineering & Consulting Services Ltd.
PO Box 96, Monarch, AB T0L1M0

16 January 2025

JLECS File: P25004

Slingerland Feeders Ltd.
PO Box 1425
Coaldale, Alberta T1M 1N2

Attention: Mr. Byron Slingerland

Re: Geotechnical Review and Evaluation
NRCB Permitting of Proposed Catch Basin & Pen Expansion
SW-28-009-19-W4M, near Coaldale, Alberta

As requested, J Lobbezoo Engineering & Consulting Services Ltd. (JLECS) has carried out a geotechnical review and evaluation of the above-captioned site relative to the required protection of the groundwater resource, as required by the Agricultural Operation Practices Act, AB Reg. 267/2001 (hereinafter referred to as "AOPA"). This letter describes the site soil conditions to support a permit application related to a proposed catch basin and pen expansion at the west side of the existing feedlot at the above captioned site (refer to Figure 1, attached).

In order to demonstrate the suitability of the naturally existing soils for consideration as a naturally occurring protective layer to the groundwater resource, eight boreholes were advanced at the site on May 14, 2020. The boreholes were advanced at the approximate locations denoted as SF1-20 to SF8-20 on Figure 1, attached.

The boreholes were advanced by a truck-mounted drill rig owned and operated by Chilako Drilling Services and extended to depths of 3.0 m to 9.2 m below the existing grade. The boreholes were logged by Larry Delong of Chilako Drilling Services.

In general, the natural mineral soils encountered in the boreholes consisted of lacustrine clay and silty clay to the termination depths of all the boreholes. While minor perched groundwater (seepage) was noted at 6.9 m depth in borehole SF1-20, no groundwater resource (as defined by the AOPA) was encountered within the 9.2 m investigation depth at this site.

To measure the *in situ* permeability of the subsurface soils, 50 mm diameter PVC monitoring wells were constructed in boreholes SF2-20 (proposed catch basin) and SF7-20 (proposed pen expansion area). Test well SF2-20 was screened from 5.8 m to 8.2 m depth while SF7-20 was screened from 2.7 m to 4.5 m depth. Well saturation of the 50 mm diameter monitoring wells was carried out by filling the monitoring wells to the top for several consecutive days. After several days of testing, the following 24-hour water drop were determined: 1.96 m drop at SF2-20; and 0.46 m at SF7-20.

To calculate the permeability of the screened portion of the clay strata at the test well locations, a modified falling head test (as outlined in the USBR Engineering Geology Field Manual Volume 2 [2001]) was used. The input variables and output data are outlined on the attached In Situ Permeability Test reports. The results of the permeability testing indicated an *in situ* hydraulic conductivity (k_s) of 6.6×10^{-8} cm/s at SF2-20 (proposed catch basin) and k_s of 4.4×10^{-8} cm/s at SF7-20 (proposed pen expansion area.

Using the measured permeability of the clay at this site, the 3.4 m of clay screened at test hole SF2-20 is estimated to represent the equivalent of 51 m of naturally occurring materials having a hydraulic conductivity of 1 x 10^{-6} cm/s (the reference standard in AOPA). At SF7-20, the 1.8 m of clay screened is estimated to represent the equivalent of approximately 41 m of naturally occurring materials having a hydraulic conductivity of 1 x 10^{-6} cm/s. This represents natural material protection in excess of the minimum requirements outlined by the AOPA for catch basins (minimum 5 m, Section 9.5-b) and solid manure storage (minimum 2 m, Section 9.5-c).

Conclusion

Based on the results of the current investigation, permeability testing, and our understanding of the site and development at the site, it is JLECS's opinion that the naturally occurring materials at the site satisfy the AOPA requirements for permitting the proposed catch basin and pen expansion at this location.

We trust that this report satisfies your present requirements. Should you have any questions, please contact the undersigned at your convenience.

Yours truly,

J Lobbezoo Engineering & Consulting Services Ltd.

PROFESSIONAL ENGINEER ALBERTA
JOHN LOBBEZOO
ID 110450

16 Jan 2025

John Lobbezoo, P.Eng.
Principal Geotechnical Engineer

PERMIT TO PRACTICE
J LOBBEZOO ENGINEERING & CONSULTING SERVICES LTD.
RM SIGNATURE:
RM APEGA ID #: 110450
DATE: 16 Jan 2025
PERMIT NUMBER: P016456
The Association of Professional Engineers and Geoscientists of Alberta (APEGA)

Attachments
- Figure 1 Borehole Locations
- In Situ Permeability Test Calculations
- Soil Profile and Parent Material Description, Chilako Drilling Services

Figure 1: Site Layout & Borehole Locations

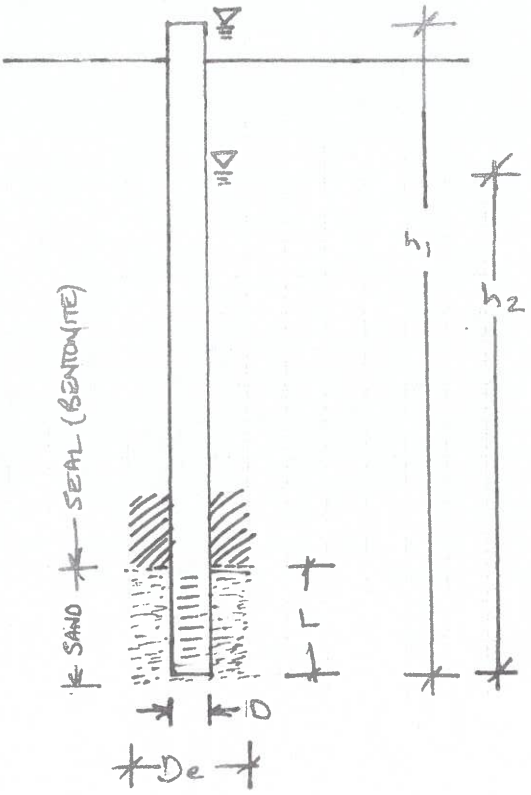
SF7-20

In Situ Permeability Test

Modified Falling Head Permeability Equation

$$K_s = \frac{r^2}{2\ell\Delta t}\left[\frac{\sinh^{-1}\frac{\ell}{r_e}}{2}\ln\left[\frac{2H_1-\ell}{2H_2-\ell}\right]-\ln\left[\frac{2H_1H_2-\ell H_2}{2H_1H_2-\ell H_1}\right]\right]$$

taken from USBR Engineering Geology Field Manual Volume 2 (2001)



SF7-20 - Slingerland Feeders Ltd.

JLECS File: P25004

INPUT VARIABLES	Terms	Value	Definition
	D	0.0520	diameter of standpipe (m)
	De	0.1500	diameter of borehole (m)
	L	1.80	length of sand section (m)
	h1	5.10	initial height of water above base of hole (m)
	h2	4.64	final height of water above base of hole (m)
	t	24.0	time of test (h)

k_s = 4.4E-08 cm/sec

CHILAKO DRILLING SERVICES LTD

Box 942 Coaldale, Alberta, T1M 1M8
(403) 345-3710

SOIL PROFILE AND PARENT MATERIAL DESCRIPTION

Site Location: SW28-9-19W4, Slingerland Feeders Date: 14-May-20

Hole #	Location	Depth	Texture	Moisture	Geological	Sample	Remarks
SF1-20	0389680	0-0.15	CL	M	Topsoil		
	5512912	0.15-0.6	CL	M	Lac		
	Near water	0.6-1.5	C-SiC	M	Lac		Stiff, med-high plastic, grayish brown
	reservoir	1.5-3.3	SiC	M	Lac		Stiff, med plastic, yellow brown
		3.3-5.2	SiCL	M	Lac		V.firm-stiff, high plastic, yellow brown
		5.2-9.2	SiC	M-VM	Lac		V.firm-stiff, high plastic, yellow brown Sat sand lense @ 6.9m, free water, weak varving
SF2-20	0389641	0-0.15	CL	M	Topsoil		
	5512918	0.15-1.5	C-SiC	M	Lac		Stiff, med plastic, grayish brown
		1.5-3.3	SiC	M	Lac		Stiff, med plastic, yellow brown
		3.3-4.0	SiCL	M	Lac		V.firm, med plastic, yellow brown, varved (SiCL-SiC), silt lensing
		4.0-9.2	SiC	M	Lac		Stiff, high plastic, yellow brown, varved (SiCL 50mm H.C. well installed to 9.2m Screen: 9.2-6.2m Sand: 9.2-5.8m Bentonite: 5.8-0.0m Stickup: 0.6m Hole Diameter: 0.15m
SF3-20	0389621	0-0.15	CL	M	Topsoil		
	5512923	0.15-0.6	CL	M	Lac		
		0.6-1.5	CL-SiCL	M	Lac		Stiff, med plastic, light gray
		1.5-2.1	SiCL	M	Lac		V.firm, med plastic, yellow brown
		2.1-4.5	SiC	M	Lac		Stiff, med-high plastic, yellow brown
		4.5-6.2	SiC	M	Lac		Stiff, med-high plastic, yellow brown, varved
		6.2-6.7	SiCL	M	Lac		V.firm, med plastic, yellow brown
		6.7-9.2	SiC	M	Lac		Stiff, high plastic, yellow brown, varved
SF4-20	0389623	0-0.15	CL	M	Topsoil		
	5513000	0.15-1.5	C	M	Lac		Stiff, med plastic, light gray
		1.5-3.0	C-SiC	M	Lac		Stiff, med plastic, olive brown, large amounts of gypsum salts, weak varving
SF5-20	0389623	0-0.15	CL	M	Topsoil		
	5513075	0.15-1.5	C	M	Lac		Stiff, med plastic, olive brown
		1.5-2.6	SiCL	M	Lac		Stiff, med plastic, olive brown, layered with SiL/SiC
		2.6-4.5	SiC	M	Lac		Stiff, med plastic, olive brown, varved

SOIL PROFILE AND PARENT MATERIAL DESCRIPTION (CONTINUED)

Hole #	Location	Depth	Texture	Moisture	Geological	Sample	Remarks
SF6-20	0389670	0-0.15	CL	M	Topsoil		
	5513122	0.15-1.2	C	M	Lac		Stiff, med plastic, olive gray
		1.2-3.0	SiCL	SM	Lac		Stiff, med plastic, olive brown, silt lenses
SF7-20	0389653	0-0.15	CL	SM	Topsoil		
	5513050	0.15-1.5	C	M	Lac		Stiff, med plastic, dark brown
		1.5-2.7	CL-SiCL	M	Lac		Stiff, med plastic, yellow brown, silt lenses, large amounts of gypsum salts
		2.7-4.5	SiCL	M	Lac		Stiff, med plastic, yellow brown 50mm H.C. well installed to 4.5m Screen: 4.5-3.0m Sand: 4.5-2.7m Bentonite: 2.7-0.0m Stickup: 0.6m Hole Diameter: 0.15m
SF8-20	0389675	0-0.15	CL	SM	Topsoil		
	5512976	0.15-1.0	C	SM	Lac		Stiff, med plastic, gray
		1.0-2.0	C-SiC	SM	Lac		Stiff, med plastic, yellow brown, silt lenses
		2.0-3.0	SiC	M	Lac		Stiff, med plastic, yellow brown

Legend:

L	Loam
C	Clay
S	Sand
Gr.	Gravel
Si	Silt
F	Fine (sand)
VF	Very Fine (sand)

Eg. VFSCL = Very Fine Sandy Clay Loam

----JLECS----

J Lobbezoo Engineering & Consulting Services Ltd.
PO Box 96, Monarch, AB T0L1M0

8 July 2025

JLECS File: P25004

Slingerland Feeders Ltd.
PO Box 1425
Coaldale, Alberta T1M 1N2

Attention: Mr. Byron Slingerland

Re: Geotechnical Review and Evaluation
NRCB Permitting of Catch Basin
SW-28-009-19-W4M, near Coaldale, Alberta

As requested, J Lobbezoo Engineering & Consulting Services Ltd. (JLECS) has carried out a geotechnical review and evaluation of the above-captioned site relative to the required protection of the groundwater resource, as required by the Agricultural Operation Practices Act, AB Reg. 267/2001 (hereinafter referred to as "AOPA"). This letter describes the site soil conditions to support a permit application related to a catch basin at the east side of the existing feedlot at the above captioned site (refer to Figure 1, attached).

In order to demonstrate the suitability of the naturally existing soils for consideration as a naturally occurring protective layer to the groundwater resource, two boreholes were advanced at the site on June 25, 2025. The boreholes were advanced at the approximate locations denoted as SF1-25 and SF2-25 on Figure 1, attached.

The boreholes were advanced by a truck-mounted drill rig owned and operated by Chilako Drilling Services and extended to depths of 9.2 m below the existing grade. The boreholes were logged by Larry Delong of Chilako Drilling Services.

In general, the natural mineral soils encountered in the boreholes consisted of lacustrine clay and silty clay to the about 5 m depth, transitioning to medium plastic clay till below this depth to the termination depths of the two boreholes. Neither groundwater nor a groundwater resource (as defined by the AOPA) were encountered within the 9.2 m investigation depth at this site.

Samples of soil collected from the screened zone of borehole SF2-25 as well as a sample from a similar depth at borehole SF1-25 were subjected to grain size analyses, which was carried out by Down to Earth Laboratories in Lethbridge, Alberta. The lab report is attached, for reference. The results indicate a soil texture breakdown of:

Table 1: Soil Texture Analyses

Borehole/Depth	% Sand	% Silt	% Clay
SF1-25 / 6.5 – 8.5 m	14	36	50
SF2-25 / 6.5 – 8.5 m	36	30	34
Average:	*25*	*33*	*42*

To measure the *in situ* permeability of the subsurface soils, a 50 mm diameter PVC monitoring well was constructed in borehole SF2-25. The test well was screened from 5.3 m to 9.2 m depth. Well saturation of the 50 mm diameter monitoring well was carried out by filling the monitoring well to the top for several consecutive days. After several days of testing, 24-hour water drop of 2.67 m was determined SF2-25.

To calculate the permeability of the screened portion of the clay strata at the test well locations, a modified falling head test (as outlined in the USBR Engineering Geology Field Manual Volume 2 [2001]) was used. The input variables and output data are outlined on the attached In Situ Permeability Test report. The results of the permeability testing indicated an *in situ* hydraulic conductivity (k_s) of 9.1×10^{-8} cm/s at SF2-25.

Using the measured permeability of the clay at this location, the 3.9 m of clay screened at test hole SF2-25 is estimated to represent the equivalent of 43 m of naturally occurring materials having a hydraulic conductivity of 1×10^{-6} cm/s (the reference standard in AOPA). This represents natural material protection in excess of the minimum requirements outlined by the AOPA for catch basins (minimum 5 m, Section 9.5-b).

Conclusion

Based on the results of the current investigation, permeability testing, and our understanding of the site and development at the site, it is JLECS's opinion that the naturally occurring materials at the site satisfy the AOPA requirements for permitting the proposed catch basin and pen expansion at this location.

We trust that this report satisfies your present requirements. Should you have any questions, please contact the undersigned at your convenience.

Yours truly,

J Lobbezoo Engineering & Consulting Services Ltd.

PROFESSIONAL ENGINEER ALBERTA
JOHN S. LOBBEZOO
ID 110450

9 July 2025

John Lobbezoo, P.Eng.
Principal Geotechnical Engineer

PERMIT TO PRACTICE
J LOBBEZOO ENGINEERING & CONSULTING SERVICES LTD.
RM SIGNATURE: _____
RM APEGA ID #: 110450
DATE: 9 July 2025
PERMIT NUMBER: P016456
The Association of Professional Engineers and Geoscientists of Alberta (APEGA)

Attachments
- Figure 1 Site Layout & Borehole Locations
- *In Situ* Permeability Test Calculations
- Down to Earth Soil Texture Results
- Soil Profile and Parent Material Description, Chilako Drilling Services

Figure 1: Site Layout & Borehole Locations

Image Credit: Google

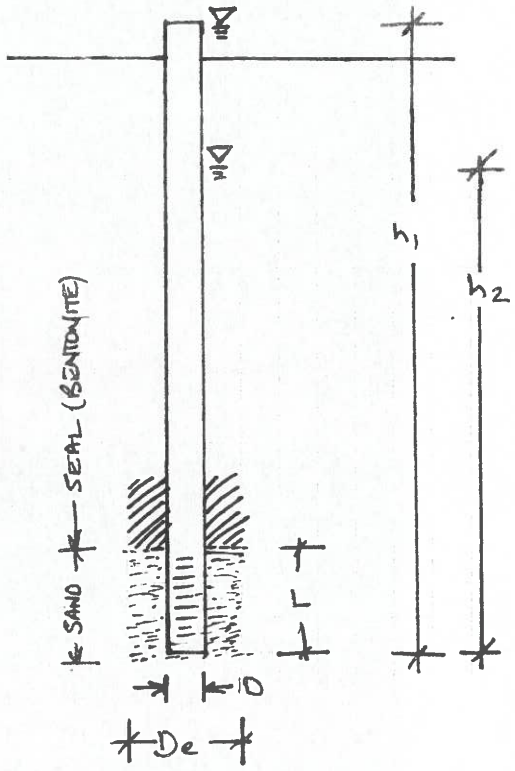
SF2-25

In Situ Permeability Test

Modified Falling Head Permeability Equation

$$K_s = \frac{r^2}{2\ell\Delta t}\left[\frac{\sinh^{-1}\frac{\ell}{r_e}}{2}\ln\left[\frac{2H_1-\ell}{2H_2-\ell}\right]-\ln\left[\frac{2H_1H_2-\ell H_2}{2H_1H_2-\ell H_1}\right]\right]$$

taken from USBR Engineering Geology Field Manual Volume 2 (2001)



SF2-25 - Slingerland Feeders Ltd.

JLECS File: P25004

INPUT VARIABLES

Terms	Value	Definition
D	0.0520	diameter of standpipe (m)
De	0.1500	diameter of borehole (m)
L	3.90	length of sand section (m)
h1	9.50	initial height of water above base of hole (m)
h2	6.83	final height of water above base of hole (m)
t	24.0	time of test (h)

k_s = 9.1E-08 cm/sec

Down To Earth Labs Inc.

The Science of Higher Yields

J. Lobbezoo Engineering + Consulting Services
Box 96
Monarch, Alberta T0L 1M0

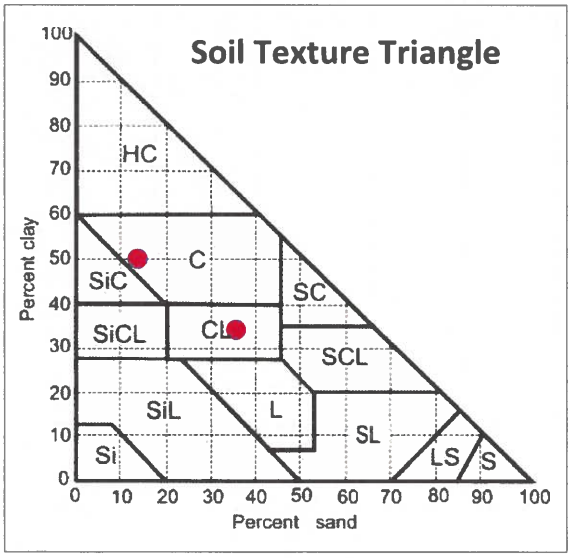
Report #: 209830
Report Date: 2025-07-08
Received: 2025-07-04
Completed: 2025-07-08
Test Done: ST

Project : Slingerland

PO:

3510 6th Ave North
Lethbridge, AB T1H 5C3
403-328-1133
www.downtoearthlabs.com
info@downtoearthlabs.com

		Sample ID:	250704O009	250704O010
		Cust. Sample ID:	SF1 - 25	SF2 - 25
Analyte	**Units**		6.5-8.5	6.5-8.5
Sand	%		14.0	35.9
Silt	%		36.0	30.1
Clay	%		50.0	34.0
Soil Texture	-		Clay	Clay Loam



Raygan Boyce - Chemist

CHILAKO DRILLING SERVICES LTD

Box 942 Coaldale, Alberta, T1M 1M8
(403) 345-3710

SOIL PROFILE AND PARENT MATERIAL DESCRIPTION

Site Location: SW28-9-19W4, Slingerland Feeders Date: 25-Jun-25

Hole #	Location	Depth	Texture	Moisture	Geological	Sample	Remarks
SF1-25	0389983	0-1.5	CL-C	M	Fill		old irrigation ditch
	5512944	1.5-3.1	SiC	M	Lac		Stiff, med plastic, gray
		3.1-4.9	SiC	M	Lac		Stiff, med plastic, brown
		4.9-9.2	C	M	Till	6.5-8.5	Stiff, med plastic, brown
SF2-25	0389985	0-1.1	C	M	Fill		old ditch
	5512969	1.1-1.7	CL	M	Fill		Gray
		1.7-4.5	SiC	M	Lac		Stiff, med plastic, brown
		4.5-9.2	C	M	Till	6.5-8.5	Stiff, med plastic, brown
							50mm H.C. Well installed to 9.2m
							Screen: 9.2-6.2m
							Sand: 9.2-5.3m
							Bentonite: 5.3-0.0m
							Stickup: 0.3m
							Hole Diameter: 0.15m

Legend:

L	Loam
C	Clay
S	Sand
Gr.	Gravel
Si	Silt
F	Fine (sand)
VF	Very Fine (sand)

Eg. VFSCL = Very Fine Sandy Clay Loam