

Technical Document LA24001

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
<input checked="" type="checkbox"/> Approval <input type="checkbox"/> Registration <input type="checkbox"/> Authorization	<u>LA24001</u>	<u>NW 6-11-7 W4M</u>
<input type="checkbox"/> Amendment		

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 18 2024

Date of signing

N/A

Corporate name (if applicable)

Signature

Kody Traxel

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)
Feed Pens (Area of 14,400 M2)	155M X 90M (Approx odd shape)
Catch Basin 682.5 M3	7M X 65M X 1.5M
Feedlot pens:	catch basin
New pen dimensions	Dimensions
1) 2x 2150m² (43 x 50)	changed to
2) 2x 2300m² (46 x 50)	15.5 x 82 x 1.5m
1x 2198m ² } irreg.	deep
1x 2174m ² } shape	

Existing	feeding operation facilities and their dimensions	Dimensions (m) (length, width, and depth)	NRCB USE ONLY
Existing			
None			

NRCB USE ONLY

New CFO

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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 October 2024

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
Beef Feeders	0	1000	1000
The Part 1 application was for 1200 beef feeders. Because the new number in Part 2 of 1000 beef feeders, the submission of a new application was not required.			

(NE CORNER) NW 6-11-7W4

2.8KM West of Seven Persons, AB

Cypress County. Alberta

1000 HD Beef Feeders

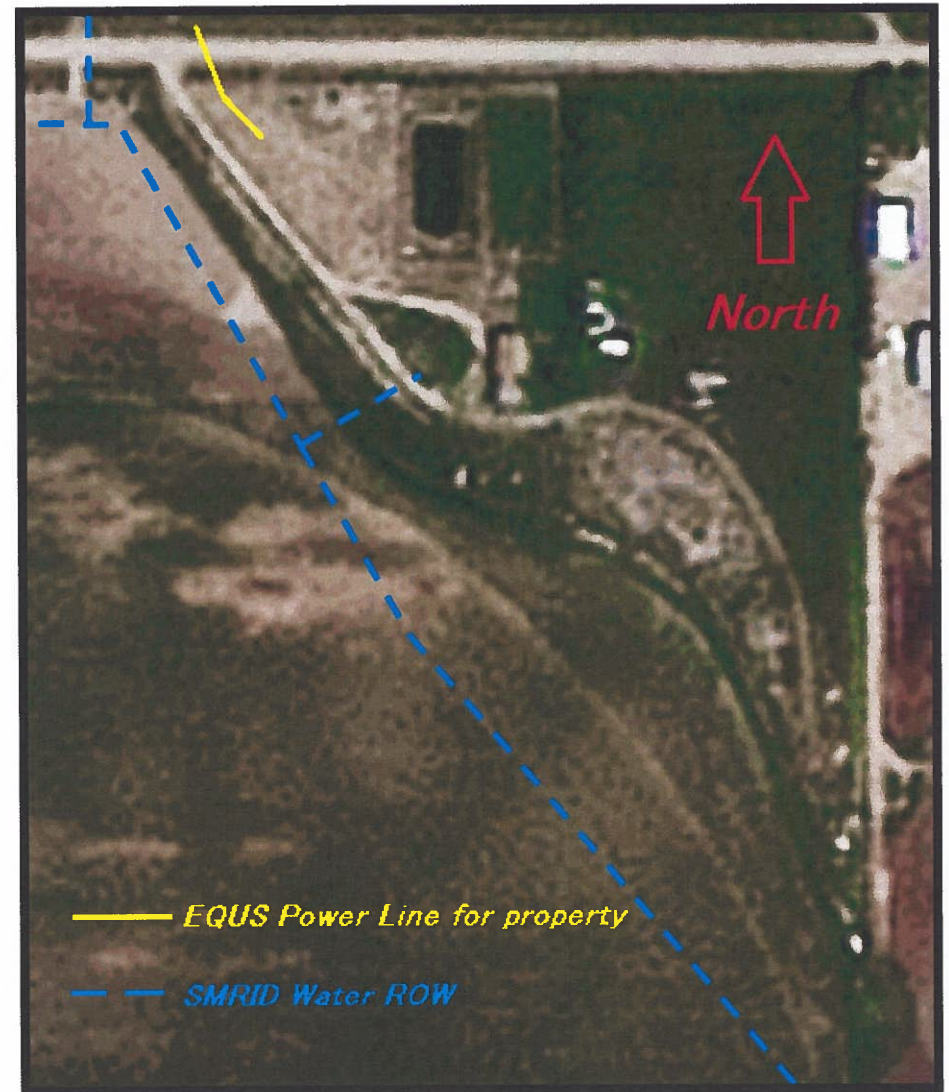


Utilities Map of Property.

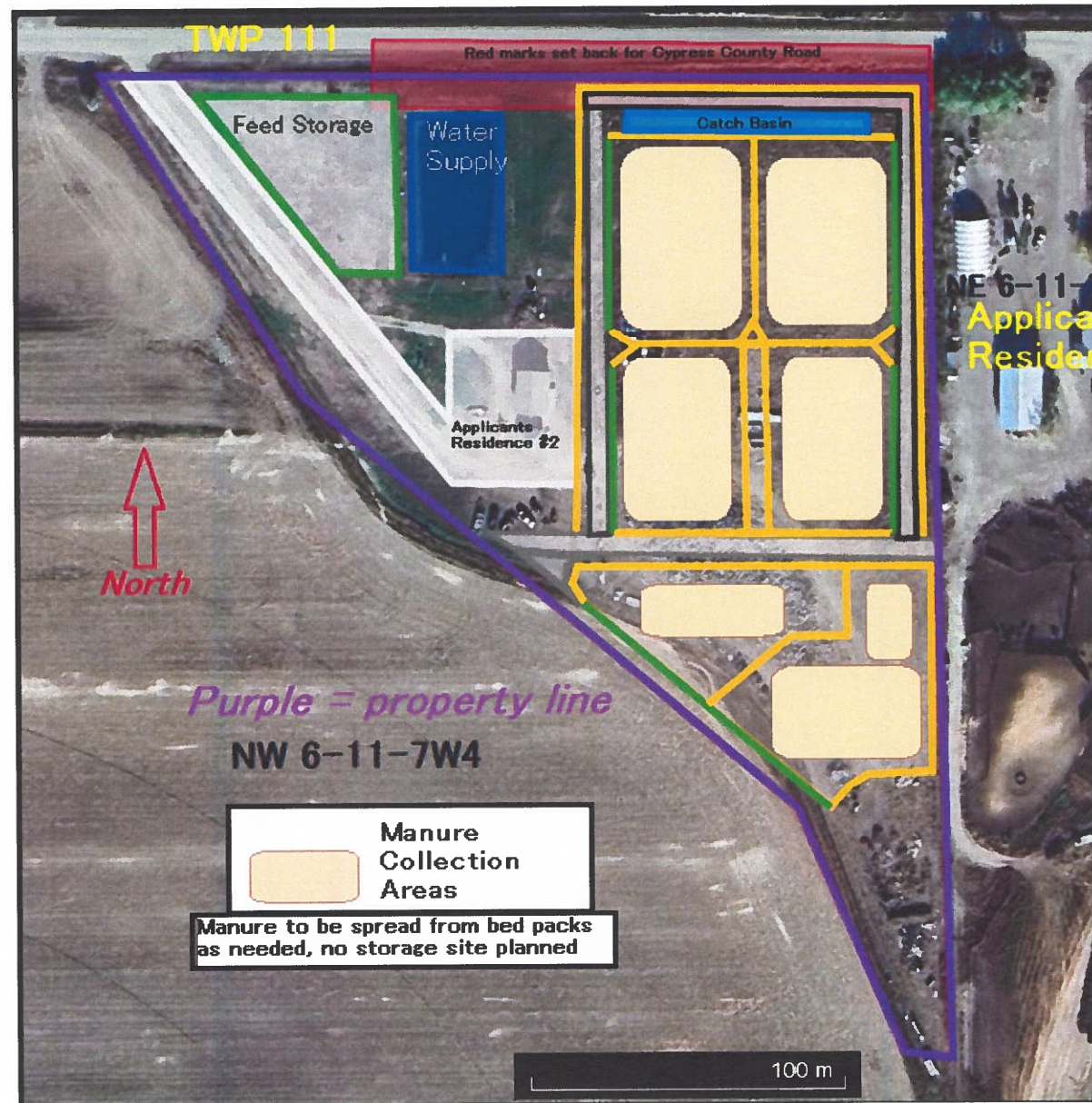
SMRID into property on west side

Equs Power from the North

Both utilities away from project.



Manure Collection Areas Map



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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 Documents on file
* Land holds 5 Acre Feet of water through SMRID Irrigation District that will be used to fill reservoir.

Signed this 18 day of April, 2024.

Signature of Applicant or Agent

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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 ____ day of _____, 20____.

Signature of Applicant or Agent

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GENERAL ENVIRONMENTAL INFORMATION

(complete this section for the worst case of the existing facility which is the closest to water bodies or water wells and for each of the proposed facilities)

Facility description / name (as indicated on site plan)

Existing: N/A

Proposed 1: Feed Pens

Proposed 2: Catch Basin

Proposed 3:

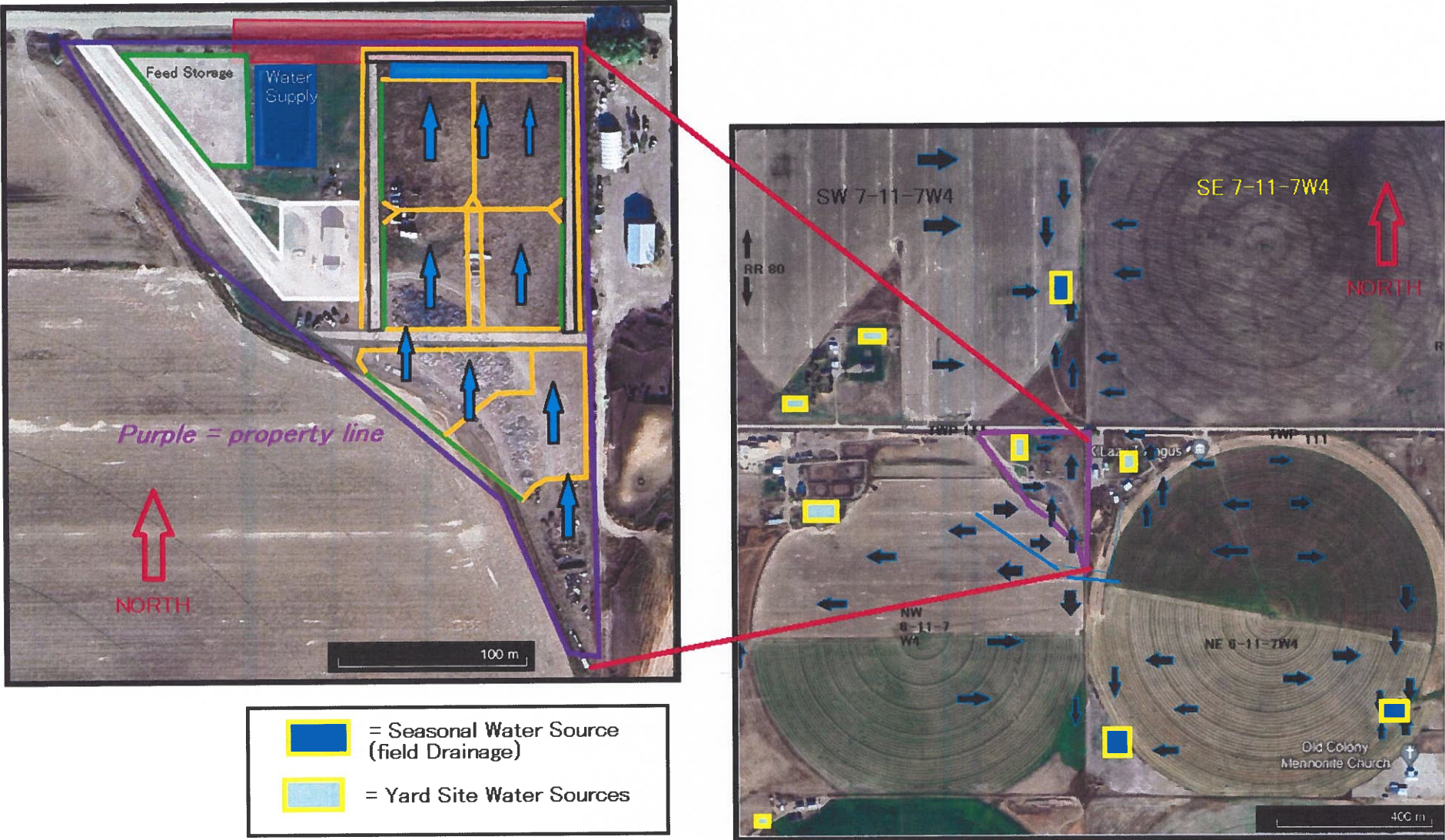
Facility and environmental risk information		Facilities				NRCB USE ONLY	
		Existing	Proposed 1	Proposed 2	Proposed 3	Meets requirements	Comments
Flood plain information	What is the elevation of the floor of the lowest manure storage or collection facility above the 1:25 year flood plain or the highest known flood level?	<input type="checkbox"/> >1 m <input type="checkbox"/> ≤ 1 m	<input checked="" type="checkbox"/> >1 m <input type="checkbox"/> ≤ 1 m	<input checked="" type="checkbox"/> >1 m <input type="checkbox"/> ≤ 1 m	<input type="checkbox"/> > 1 m <input type="checkbox"/> ≤ 1 m	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption	Not in known flood plain
	How many springs are within 100 m of the manure storage facility or manure collection area?	0	0	0	0	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption	none observed during site visit or EPA database
Surface water information	How many water wells are within 100 m of the manure storage facility or manure collection area?	0	0	0	0	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption	none observed during site visit or EPA database
	What is the shortest distance from the manure collection or storage facility to a surface water body? (e.g., lake, creek, slough, seasonal)	0	293M	293M		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption	1 km to intermittent creek
Groundwater information	What is the depth to the water table?	0	9.2M +	9.2M+		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption	Below 9.2 m
	What is the depth to the groundwater resource/aquifer you draw water from?	0	9.2M +	9.2M+		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption	Well ID 203542 20.71 m bgl

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

Attached well report from 1978 on NW 6-11-7W4, and more info on Soils report attached.

bgl= below ground level

Run off patterns of area and site and surrounding water sources.



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NRCB USE ONLY

ENVIRONMENTAL RISK SCREENING INFORMATION

ERST for proposed facilities

See Decision Summary LA24001 for more information

Facility	Groundwater score	Surface water score	File number

ERST for existing facilities

NA (new CFO)

Facility	Groundwater score	Surface water score	File number

ERST related comments:

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WATER WELL AND SURFACE WATER INFORMATION

Well IDs: 203542 _____

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:



Water Well Drilling Report

[View in Metric](#) [Export to Excel](#)

GIC Well ID 203542
GoA Well Tag No.
Drilling Company Well ID
Date Report Received

GOWN ID

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

Well Identification and Location										Measurement in Imperial	
Owner Name		Address		Town		Province		Country		Postal Code	
SEITZ, LINDA M.		SEVEN PERSONS									
Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description		
	NW	6	11	7	4						
Measured from Boundary of					GPS Coordinates in Decimal Degrees (NAD 83)						
ft from					Latitude 49.884008 Longitude -110.954282					Elevation 2550.00 ft	
ft from					How Location Obtained					How Elevation Obtained	
					Not Verified					Estimated	

Drilling Information	
Method of Drilling	Type of Work
Rotary	New Well
Proposed Well Use	
Domestic	

Formation Log			Measurement in Imperial
Depth from ground level (ft)	Water Bearing	Lithology Description	
10.00		Topsoil	
32.00		Brown Sandy Clay	
54.00		Gray Hard Clay	
68.00		Sandy Clay	
80.00		Gravel	

Yield Test Summary			Measurement in Imperial
Recommended Pump Rate 0.00 igpm			
Test Date	Water Removal Rate (igpm)	Static Water Level (ft)	
1974/12/28	20.00	28.00	

Well Completion			Measurement in Imperial
Total Depth Drilled	Finished Well Depth	Start Date	End Date
80.00 ft		1974/12/27	1974/12/28
Borehole			
Diameter (in)	From (ft)	To (ft)	
0.00	0.00	80.00	
Surface Casing (if applicable)		Well Casing/Liner	
Steel			
Size OD :	4.50 in	Size OD :	0.00 in
Wall Thickness :	0.225 in	Wall Thickness :	0.000 in
Bottom at :	75.00 ft	Top at :	0.00 ft
		Bottom at :	0.00 ft
Perforations			
From (ft)	To (ft)	Diameter or Slot Width (in)	Slot Length (in)
			Hole or Slot Interval (in)
Perforated by			
Annular Seal Cement/Grout			
Placed from 0.00 ft to 0.00 ft			
Amount			
Other Seals			
Type		At (ft)	
Screen Type Stainless Steel			
Size OD : 4.50 in			
From (ft)	To (ft)	Slot Size (in)	
75.00	80.00	0.020	
Attachment Attached To Casing			
Top Fittings		Bottom Fittings	
Pack			
Type Natural		Grain Size	
Amount			

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well	Certification No
UNKNOWN NA DRILLER	1
Company Name	Copy of Well report provided to owner Date approval holder signed
SCHLAGL GAS & OIL	



Water Well Drilling Report

[View in Metric](#) [Export to Excel](#)

GIC Well ID 203542
GoA Well Tag No.
Drilling Company Well ID
Date Report Received

GOWN ID

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Well Identification and Location										Measurement in Imperial	
Owner Name		Address			Town		Province		Country	Postal Code	
SEITZ, LINDA M.		SEVEN PERSONS									
Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description		
	NW	6	11	7	4						
Measured from Boundary of					GPS Coordinates in Decimal Degrees (NAD 83)						
ft from					Latitude 49.884008 Longitude -110.954282					Elevation 2550.00 ft	
ft from					How Location Obtained					How Elevation Obtained	
					Not Verified					Estimated	

Additional Information										Measurement in Imperial
Distance From Top of Casing to Ground Level in										
Is Artesian Flow										Is Flow Control Installed
Rate igpm										Describe
Recommended Pump Rate 0.00 igpm										Pump Installed
Recommended Pump Intake Depth (From TOC) 0.00 ft										Depth ft
										Type
										Make
										H.P.
										Model (Output Rating)
Did you Encounter Saline Water (>4000 ppm TDS)										Depth ft
Gas										Well Disinfected Upon Completion
Remedial Action Taken										Geophysical Log Taken
										Submitted to ESRD
Additional Comments on Well										Sample Collected for Potability
DRILLER REPORTS HARD WATER										Submitted to ESRD

Yield Test			Taken From Ground Level	Measurement in Imperial
			Depth to water level	
Test Date	Start Time	Static Water Level	Pumping (ft)	Elapsed Time
1974/12/28	12:00 AM	28.00 ft		Minutes:Sec
				Recovery (ft)
Method of Water Removal				
Type Bailer				
Removal Rate 20.00 igpm				
Depth Withdrawn From 0.00 ft				
If water removal period was < 2 hours, explain why				

Water Diverted for Drilling		
Water Source	Amount Taken	Diversion Date & Time
	ig	

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well	Certification No
UNKNOWN NA DRILLER	1
Company Name	Copy of Well report provided to owner
SCHLAGL GAS & OIL	Date approval holder signed

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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
Darcy English (Map #1)	SE 12-11-8W4	768 m	A-2	1	744 m		yes
Keith, Amanda Traxel (Map #2)	NW 6-11-7W4	548 m	A-2	1	508 m		yes
Bob Richardson (Map #3)	E 1/2 SW 7-11-7W4	482 m	A-2	1	473 m		yes
TJ Lovell (Map #3)	E 1/2 SW 7-11-7W4	392 m	A-2	1	373 m		yes
Applicant Properties (#4) (#5)	NE 6-11-7W4	14M/41M	MDS requirements not applicable				

A-2 = Agricultural District

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)
Kody Traxel, Owner	NE 6-11-7W4	52	Irrigated	52 ha	
Kody Traxel, Owner	NE 1-11-8W4	28	Irrigated	28 ha	
Kody Traxel, Owner	SW 7-11-7W4	23	Irrigated	23 ha	
Total				103 ha irrigated	

* 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)

Manure application map attached.

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NRCB USE ONLY

MINIMUM DISTANCE SEPARATION

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

Margin of error (if applicable): +/- 2 m

Requirements (m): Category 1: 306 m Category 2: 408 m Category 3: 509 m Category 4: 815 m

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: 40 ha irrigated

Land base listed: 103 ha irrigated

Area not suitable: subtracted

Available area 103 ha irrigated

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

New CFO

If already completed, see _____

Name
Address
Legal Land
Location

MDS Spreadsheet based on 2006 AOPA Regulations

Category of Livestock	Type of Livestock	Factor A	Technology Factor	MU	LSU Factor	Number of Animals	LSU
Beef	Cows/Finishers (900+ lbs)	0.700	0.700	0.910	0.446		-
	Feeders (450 - 900 lbs)	0.700	0.700	0.500	0.245	1,000	245.0
	Feeder Calves (<550 lbs)	0.700	0.700	0.275	0.135		-
							-
Dairy (*count lactating cows only)	*Free Stall - Lactating Cows with all associated dries, heifers, and calves	0.800	1.100	2.000	1.760		-
	*Free Stall - Lactating cows with Dry Cows only	0.800	1.100	1.640	1.443		-
	Free Stall - Lactating Cows only	0.800	1.100	1.400	1.232		-
	Tie Stall - Lactating cows only	0.800	1.000	1.400	1.120		-
	Loose Housing - Lactating cows only	0.800	1.000	1.400	1.120		-
	Dry Cow (Solid manure)	0.800	0.700	1.000	0.560		-
	Dry Cow (Liquid manure)						-
	Replacements - Bred Heifers (Breeding to Calving)	0.800	0.700	0.875	0.490		-
	Replacements - Growing Heifers (350 lbs to breeding)	0.800	0.700	0.525	0.294		-
	Calves (< 350 lbs)	0.800	0.700	0.200	0.112		-
Swine Liquid (*count sows only)	Farrow to finish *	2.000	1.100	1.780	3.916		-
	Farrow to wean *	2.000	1.100	0.670	1.474		-
	Farrow only *	2.000	1.100	0.530	1.166		-
	Feeders/Boars	2.000	1.100	0.200	0.440		-
	Growers/Roasters	2.000	1.100	0.118	0.260		-
	Weaners	2.000	1.100	0.055	0.121		-
							-
Swine Solid (*Count sows only)	Farrow to finish *	2.000	0.800	1.780	2.848		-
	Farrow to wean *	2.000	0.800	0.670	1.072		-
	Farrow only *	2.000	0.800	0.530	0.848		-
	Feeders/Boars	2.000	0.800	0.200	0.320		-
	Growers/Roasters	2.000	0.800	0.118	0.189		-
	Weaners	2.000	0.800	0.055	0.088		-
							-
Poultry	Chicken - Breeders - Solid	1.000	0.700	0.010	0.007		-
	Chicken - Layers - Liquid (includes associated pullets)	2.000	1.100	0.008	0.018		-
	Chicken - Layers - (Belt Cage)	2.000	0.700	0.008	0.011		-
	Chicken - Layers - (Deep Pit)	2.000	0.700	0.008	0.011		-
	Chicken - Pullets/Broilers	1.000	0.700	0.002	0.001		-
	Turkey - Toms/Breeders	1.000	0.700	0.020	0.014		-
	Turkey - Hens (light)	1.000	0.700	0.013	0.009		-
	Turkey - Broilers	1.000	0.700	0.010	0.007		-
	Ducks	1.000	0.700	0.010	0.007		-
	Geese	1.000	0.700	0.020	0.014		-
Horses	PMU	0.650	0.700	1.000	0.455		-
	Feeders > 750 lbs	0.650	0.700	1.000	0.455		-
	Foals < 750 lbs	0.650	0.700	0.300	0.137		-
	Mules	0.600	0.700	1.000	0.420		-
	Donkeys	0.600	0.700	0.670	0.281		-
							-
Sheep	Ewes/Rams	0.600	0.700	0.200	0.084		-
	Ewes with lambs	0.600	0.700	0.250	0.105		-
	Lambs	0.600	0.700	0.050	0.021		-
	Feeders	0.600	0.700	0.100	0.042		-
Goats	Meat/Milk (per Ewe)	0.700	0.700	0.170	0.083		-
	Nannies/Billies	0.700	0.700	0.140	0.069		-
	Feeders	0.700	0.700	0.077	0.038		-
							-
Bison	Bison	0.600	0.700	1.000	0.420		-
Cervid	Elk	0.600	0.700	0.600	0.252		-
	Deer	0.600	0.700	0.200	0.084		-
Wild Boar							-
	Feeders	2.000	0.800	0.140	0.224		-
	Sow (farrowing)	2.000	0.800	0.371	0.594		-
							-

Total 245.0

For New Operations

Dispersion Factor

1

Category	Odour Objective	Distance	
		Feet	Metres
1	41.04	1,003	306
2	54.72	1,337	408
3	68.4	1,671	509
4	109.44	2,674	815

For Expanding Operations

Dispersion Factor

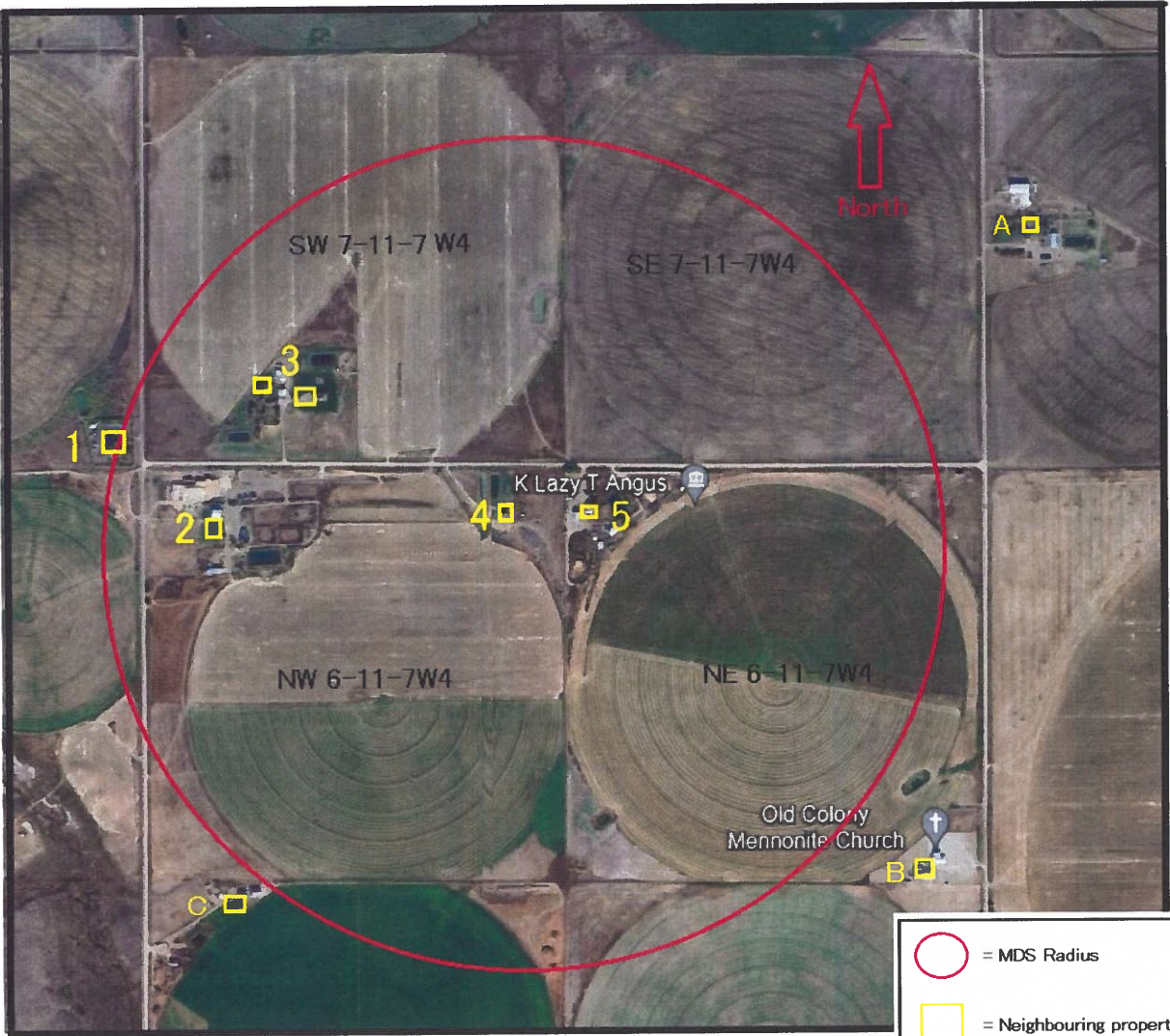
1

Expansion Factor

0.77

Category	Odour Objective	Distance	
		Feet	Metres
1	41.04	772	235
2	54.72	1,030	314
3	68.40	1,287	392
4	109.44	2,059	628

MDS Seperation.



see Land Use Bylaw page 251

Residence distance from edge of proposed CFO inside

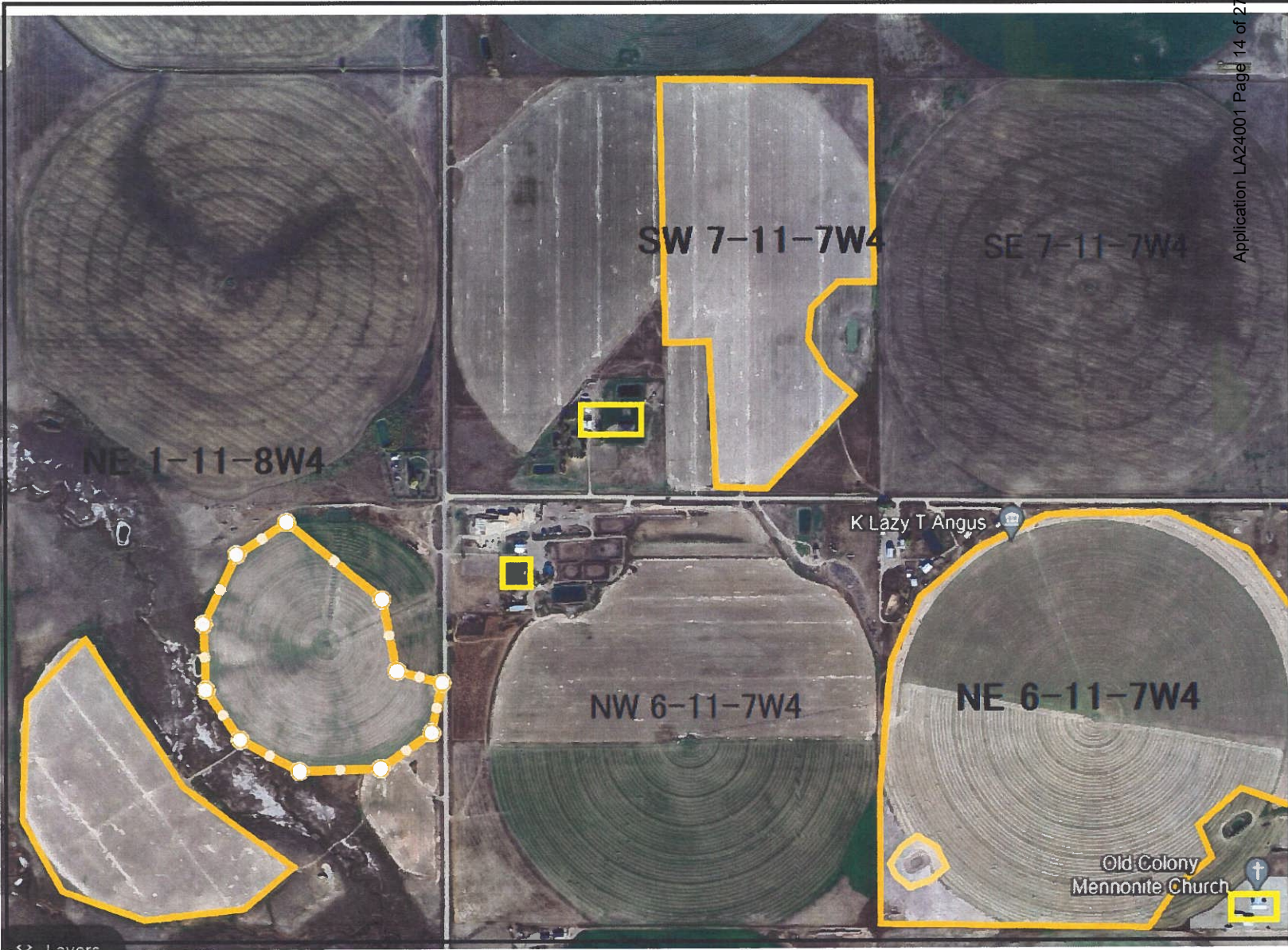
- 1. 768 M Country Residential A2
- 2. 567 M Agriculture Zoned
- 3. 482 M / 392 M Agriculture Zoned
- 4. 14 M Agriculture Zoned
- 5. 41 M Agriculture Zoned

Closest Hamlet Seven Persons AB, 2.8 KM from pro

Residence distance from edge of proposed CFO outsi

- A. 1150 M Agriculture Zoned
- B. 990 M Commercial Purposes Zoned
- C. 895 M Agriculture Zoned

Notification radius		
0.5 miles		
MDS Category for residences on land zoned for:		
1. Agricultural Purposes		
MDS: 306 m (1003 ft)		
MDS with expansion factor*: 235 m (772 ft)		
2. Non-Agricultural Purposes		
MDS: 408 m (1337 ft)		
MDS with expansion factor*: 314 m (1030 ft)		
3. High Use Recreational or Commercial Purposes		
MDS: 509 m (1671 ft)		
MDS with expansion factor*: 392 m (1287 ft)		
4. Large Scale Country Residential, Rural, Hamlet, Village, Town or City		
MDS: 815 m (2674 ft)		
MDS with expansion factor*: 628 m (2059 ft)		
* The expansion factor can only be used if 3 or more years have since the completion of the most recent construction arising n ADPA permit		
Land Base Required - Soil Type	Area	
Irrigated (ha)	40.0 hectares (98.8	



Name 0
Address 0
Legal Land
Location 0

Landbase Requirements (hectares) based on 2006 AOPA requirements

Category of Livestock	Type of Livestock	Number of Animals	Dark Brown & Brown (ha)	Grey Wooded (ha)	Black (ha)	Irrigated (ha)
Beef	Cows/Finishers (900+ lbs)	0	0	0	0	0
	Feeders (450 - 900 lbs)	1000	80	67	50	40
	Feeder Calves (<550 lbs)	0	-	-	-	-
		0	-	-	-	-
Dairy (*count lactating cows only)	*Free Stall - Lactating Cows with all associated dries, heifers, and calves	0	0	0	0	0
	*Free Stall - Lactating cows with Dry Cows only	0	-	-	-	-
	Free Stall - Lactating Cows only	0	-	-	-	-
	Tie Stall - Lactating cows only	0	-	-	0	0
	Loose Housing - Lactating cows only	0	-	-	-	-
	Dry Cow (Solid manure)	0	-	-	-	-
	Dry Cow (Liquid manure)	0	-	-	-	-
	Replacements - Bred Heifers (Breeding to Calving)	0	-	-	-	-
	Replacements - Growing Heifers (350 lbs to breeding)	0	-	-	-	-
	Calves (< 350 lbs)	0	-	-	-	-
		0	-	-	-	-
		0	-	-	-	-
Swine Liquid (*count sows only)	Farrow to finish *	0	-	0	-	-
	Farrow to wean *	0	-	-	-	-
	Farrow only *	0	-	-	-	-
	Feeders/Boars	0	-	0	0	0
	Growers/Roasters	0	-	-	-	-
	Weaners	0	-	-	-	-
		0	-	-	-	-
Swine Solid (*Count sows only)	Farrow to finish *	0	-	-	-	-
	Farrow to wean *	0	-	-	-	-
	Farrow only *	0	-	-	-	-
	Feeders/Boars	0	-	-	-	-
	Growers/Roasters	0	-	-	-	-
	Weaners	0	-	-	-	-
		0	-	-	-	-
Poultry	Chicken - Breeders - Solid	0	-	-	-	-
	Chicken - Layers - Liquid (includes associated pullets)	0	-	0	0	0
	Chicken - Layers - (Belt Cage)	0	-	-	-	-
	Chicken - Layers - (Deep Pit)	0	-	-	-	-
	Chicken - Pullets/Broilers	0	-	0	0	0
	Turkey - Toms/Breeders	0	0	0	0	0
	Turkey - Hens (light)	0	-	-	-	-
	Turkey - Broilers	0	-	-	-	-
	Ducks	0	0	0	0	0
	Geese	0	0	0	0	0
Horses		0	-	-	-	-
	PMU	0	0	0	0	0
	Feeders > 750 lbs	0	-	0	-	-
	Foals < 750 lbs	0	-	-	-	-
	Mules	0	-	-	-	-
	Donkeys	0	-	-	-	-
		0	-	-	-	-
Sheep	Ewes/Rams	0	-	0	0	0
	Ewes with lambs	0	-	-	-	-
	Lambs	0	-	-	-	-
	Feeders	0	-	-	-	-
		0	-	-	-	-
Goats	Meat/Milk (per Ewe)	0	0	0	0	0
	Nannies/Billies	0	-	-	-	-
	Feeders	0	-	-	-	-
		0	-	-	-	-
Bison	Bison	0	0	0	0	0
		0	-	-	-	-
Cervid	Elk	0	0	0	0	0
	Deer	0	0	0	0	0
		0	-	-	-	-
Wild Boar	Feeders	0	-	0	0	0
	Sow (farrowing)	0	-	-	-	-
		0	-	-	-	-
Total Hectares			80.0	67.0	50.0	40.0
Total Acres			197.7	165.6	123.6	98.8

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

April 25, 2024	

CORRESPONDENCE WITH MUNICIPALITIES AND REFERRAL AGENCIES

Date deeming letters sent: May 14, 2024

Municipality: Cypress County

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

Alberta Health Services: NA

☐ 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: South Rural Electrification Assoc. Ltd. and Apex Utilities Inc. ☐ N/A

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

Name 0
Address 0
Legal Land
Location 0

Animal Units to Determine Affected Party Radius

Category of Livestock	Type of Livestock	Number of Animals	Animal Unit Factor	Animal Units
Beef	Cows/Finishers (900+ lbs)	-	1.1	0.0
	Feeders (450 - 900 lbs)	1,000	2	500.0
	Feeder Calves (<550 lbs)	-	3.6	0.0
		-		0.0
Dairy (*count lactating cows only)	*Free Stall - Lactating Cows with all associated dries, heifers, and calves	-	0.5	0.0
	*Free Stall - Lactating cows with Dry Cows only	-	0.6	0.0
	Free Stall - Lactating Cows only	-	0.7	0.0
	Tie Stall - Lactating cows only	-	0.5	0.0
	Loose Housing - Lactating cows only	-	0.5	0.0
	Dry Cow (Solid manure)	-	1	0.0
	Dry Cow (Liquid manure)	-	1	0.0
	Replacements - Bred Heifers (Breeding to Calving)	-	1.15	0.0
	Replacements - Growing Heifers (350 lbs to breeding)	-	1.9	0.0
	Calves (< 350 lbs)	-	5	0.0
		-		0.0
		-		0.0
Swine Liquid (*count sows only)	Farrow to finish *	-	0.56	0.0
	Farrow to wean *	-	1.5	0.0
	Farrow only *	-	1.9	0.0
	Feeders/Boars	-	5	0.0
	Growers/Roasters	-	8.5	0.0
	Weaners	-	18.2	0.0
		-		0.0
Swine Solid (*Count sows only)	Farrow to finish *	-	0.56	0.0
	Farrow to wean *	-	1.5	0.0
	Farrow only *	-	1.9	0.0
	Feeders/Boars	-	5	0.0
	Growers/Roasters	-	8.5	0.0
	Weaners	-	18.2	0.0
		-		0.0
Poultry	Chicken - Breeders - Solid	-	100	0.0
	Chicken - Layers - Liquid (includes associated pullets)	-	125	0.0
	Chicken - Layers - (Belt Cage)	-	150	0.0
	Chicken - Layers - (Deep Pit)	-	150	0.0
	Chicken - Pullets/Broilers	-	500	0.0
	Turkey - Toms/Breeders	-	50	0.0
	Turkey - Hens (light)	-	75	0.0
	Turkey - Broilers	-	100	0.0
	Ducks	-	100	0.0
	Geese	-	50	0.0
		-		0.0
Horses	PMU	-	1	0.0
	Feeders > 750 lbs	-	1	0.0
	Foals < 750 lbs	-	3.3	0.0
	Mules	-	1	0.0
	Donkeys	-	1.5	0.0
		-		0.0
Sheep	Ewes/Rams	-	5	0.0
	Ewes with lambs	-	4	0.0
	Lambs	-	21	0.0
	Feeders	-	10	0.0
Goats	Meat/Milk (per Ewe)	-	6	0.0
	Nannies/Billies	-	10	0.0
	Feeders	-	13	0.0
		-		0.0
Bison	Bison	-	1	0.0
		-		0.0
Cervid	Elk	-	1.7	0.0
	Deer	-	5	0.0
Wild Boar		-		0.0
	Feeders	-	6	0.0
	Sow (farrowing)	-	1.25	0.0
		-		0.0

Total Animal Units 500.0

Affected Party Radius 0.5 miles

Affected Party radius is measured from the boundary of the parcel of land where the cfo is located to land that is within the affected party radius.

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. **Feedlot**

Manure storage capacity

Mature Storage capacity			<div>2 × 2175 m² (43 × 50)</div> <div>2 × 2310 m² (46 × 50) m</div> <div>1 × 2198 m² } irreg.</div> <div>1 × 2174 m² } shape</div>	NRCB USE ONLY
	Length (m)	Width (m)		Estimated storage capacity (m ³)
1.				
2.				
TOTAL CAPACITY				

☐ 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

AO comment: runoff control catch basin

Naturally occurring protective layer details

Thickness of naturally occurring protective layer		Provide details (as required)	
	(m)		
Soil texture	<u>26</u> % sand	<u>34</u> % silt	<u>40</u> % clay
Hydraulic conductivity - naturally occurring protective layer	Depth and type of soil tested <u>7.5 m</u>	Hydraulic conductivity (cm/s) <u>5.5×10^{-8}</u>	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: 31 Mar 20

Page ____ of ____

NRCB USE ONLY

Kody Traxel Proposed CFO Figure 2

(NE CORNER) NW 6-11-7W4 Plot Plan



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. _____

2. _____

Determination of runoff area

Provide a plan and show how you calculated the

Catch Basin
(new dimensions)
15.5 x 82 m
x 1.5 deep

catch basin

AO comment: inside slopes will be 1:3. top at ground level

Catch basin capacity

	Length (m)	Width (m)	Total depth (m)	Depth below ground level (m)	Slope run:rise			NRCB USE ONLY Calculated storage capacity (excl. 0.5 m freeboard) (m³)
					Inside end walls	Inside side walls	Outside walls	
1.								
2.								
3.								
TOTAL CAPACITY								725 m³

Naturally occurring protective layer details

Required runoff volume met

Thickness of naturally occurring protective layer	_____ (m)	Provide details (as required)		
Soil texture	46 % sand	28 % silt	26 % clay	
Hydraulic conductivity - naturally occurring protective layer	7.5 m	2.7 x 10 ⁻⁸	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

Catch Basin Storage Volume Calculator

Construction Dimensions of Catch Basin

* Only cells in blue can be changed.

Overall Dimensions of Catch Basin

Total Length* ₄	15.5	m
Total Width* ₄	82.0	m
Total Depth* ₄	1.5	m
Design Capacity Depth	1.00	m
End Slope* ₄	3	run:rise
Side Slope* ₄	3	run:rise
Length of Bottom	6.5	m
Width of Bottom	73.0	m

Capacity @ top of Bank 1,289 m³

Design Capacity of Catch Basin (freeboard level)

Length (design capacity depth)	12.5	m
Width (design capacity depth)	79.0	m
Total Depth	1.5	m
Design Capacity Depth	1.00	m
End Slope	3	run:rise
Side Slope	3	run:rise

Design Capacity (freeboard level) 725 m³

level) 988 m²

Catch Basin Dimensions

51	ft
269	ft
5	ft
3	ft
3	run:rise
3	run:rise
21	ft
240	ft

Capacity (@top)
45,516 ft³
283,513 Imp. Gal.

Design Capacity (freeboard level)

41	ft
259	ft
5	ft
3	ft
3	run:rise
3	run:rise

25,603 ft³
159,478 Imp. Gal.
10,629 ft²

CFO Name ₁ (Enter CFO Name Here)

Land Location ₁ 1-1-4-W5

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	2,150	1	2,150.0
7	2,150	1	2,150.0
8	4,600	1	4,600.0
9	2,174	1	2,174.0
10	2,198	1	2,198.0
Total Area (m ²)			13,272

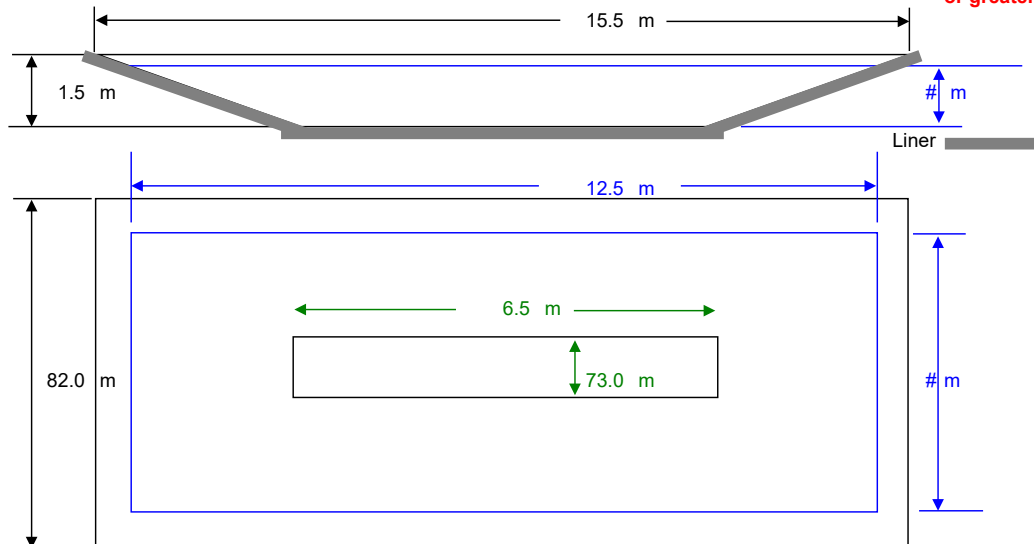
Rainfall (Select Town ₃)

Picture Butte 85
AOPA Design Rainfall 85 mm

Minimum Catchbasin Storage Volume Required

677 m³ ** 23903.509 ft³
148890.97 Imp. Gal.

** Design capacity of catch basin should be equal to or 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

18 April 2024

J Lobbezoo Engineering & Consulting Services Ltd.

Box 96, Monarch, AB T0L 1M0

JLECS File: P24006

Kody Traxel
7515 TWP 111
Cypress County, Alberta T0K 1Z0

Attention: Kody Traxel

**Re: Geotechnical Review and Evaluation
 NRCB Permitting of Proposed Feedlot Pens and Catch Basin
 NW-06-011-07-W4M, near Seven Persons, 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 site soil conditions to support a permit application related to proposed feedlot pens and a catch basin to be located in the northeast corner area of NW-06-011-07-W4M (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, five boreholes were advanced at the site on March 5, 2024. The boreholes were advanced at the approximate locations denoted as KT1-24 to KT5-24 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 ranging between 3.0 m and 9.2 m below existing grades. The boreholes were logged by Larry Delong of Chilako Drilling Services.

In general, the natural mineral soils encountered within the boreholes consisted of a thin layer of topsoil underlain by stiff medium plastic clay till to the termination depth of the boreholes. No evidence of free groundwater or a groundwater resource (as defined by the AOPA) was identified within the 9.2 m investigation depth at the proposed lagoon site.

Samples of soil collected from the screened zone of boreholes KT1-24 to KT5-24 were subjected to textural analyses, which was carried out by Down to Earth Laboratories in Lethbridge, Alberta. The results indicate a textural breakdown of:

Table 1: Soil Textural Analyses

Borehole/Depth	% Sand	% Silt	% Clay
KT1-24 / 1.5-3.0m	43	28	30
KT2-24 / 1.5-3.0m	34	36	30
KT3-24 / 2.3-3.0m	26	34	40
KT4-24 / 6.5-7.5m	46	28	26
KT4-24 / 6.5-7.5m	44	29	27

To measure the *in situ* permeability of the subsurface soils, a 50 mm diameter PVC monitoring well was constructed in boreholes KT3-24 (pen area) and KT4 (catch basin area). Test Well KT3-24 was screened from 2.2 m to 3.8 m depth, while Test Well KT4-24 was screened from 4.4 m to 7.5 m depth. Well saturation of the 50 mm diameter monitoring wells was carried out by filling the monitoring well to the top for several consecutive days. After several days of testing, a 24-hour water drop of 0.43 m was determined at KT3-24, and a 24-hour water drop of 0.66 m was determined at KT4-24.

To calculate the permeability of the screened portion of the clay till 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 indicate an *in situ* hydraulic conductivity, k_s , of 5.5×10^{-8} cm/s at KT3-24, and an *in situ* hydraulic conductivity, k_s , of 2.7×10^{-8} cm/s at KT4-24.

Using the measured permeability of the clay stratum, the 1.6 m of clay screened at KT3-24 is estimated to represent the equivalent of approximately 29 m of naturally occurring materials having a hydraulic conductivity of 1×10^{-6} cm/s (the reference standard in AOPA), while the 3.1 m of clay screened at KT3-24 is estimated to represent the equivalent of over 100 m of naturally occurring materials having a hydraulic conductivity of 1×10^{-6} cm/s. This represents natural material protection in excess of the minimum requirements outlined by the AOPA for solid manure storage (minimum 2 m, Section 9.5-c), and catch basins (minimum 5 m, Section 9.5-b).

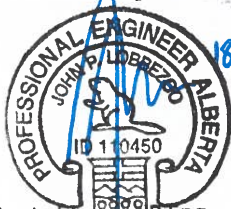
Conclusion

Based on the results of the current investigation, permeability testing, and our understanding of the site and proposed 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 solid manure storage lagoon and catch basin 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.



John Lobbezoo, P.Eng.
Principal Geotechnical Engineer

Attachments

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

PERMIT TO PRACTICE	
J LOBBEZOO ENGINEERING & CONSULTING SERVICES LTD.	
RM SIGNATURE: _____	_____
RM APEGA ID #: _____	110450
DATE: _____	18 April 2024
PERMIT NUMBER: P016456	
The Association of Professional Engineers and Geoscientists of Alberta (APEGA)	

Figure 1
 Borehole Locations
 Proposed Pens & Catch Basin
 Kody Traxel
 JLECS File: P24006
 April, 2024



KT3-24

In Situ Permeability Test

Modified Falling Head Permeability Equation

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

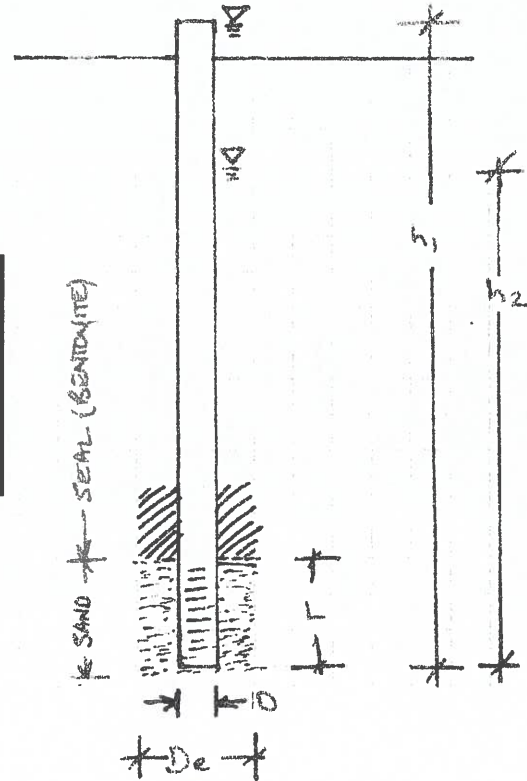
taken from USBR Engineering Geology Field Manual Volume 2 (2001)

KT3-24 - Kody Traxel

JLECS File: P24006

INPUT VARIABLES	Terms	Value	Definition
	D	0.0520	diameter of standpipe (m)
	De	0.1500	diameter of borehole (m)
	L	1.60	length of sand section (m)
	h1	4.20	initial height of water above base of hole (m)
	h2	3.77	final height of water above base of hole (m)
	t	24.0	time of test (h)

$$k_s = 5.5E-08 \text{ cm/sec}$$



KT4-24

In Situ Permeability Test

Modified Falling Head Permeability Equation

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

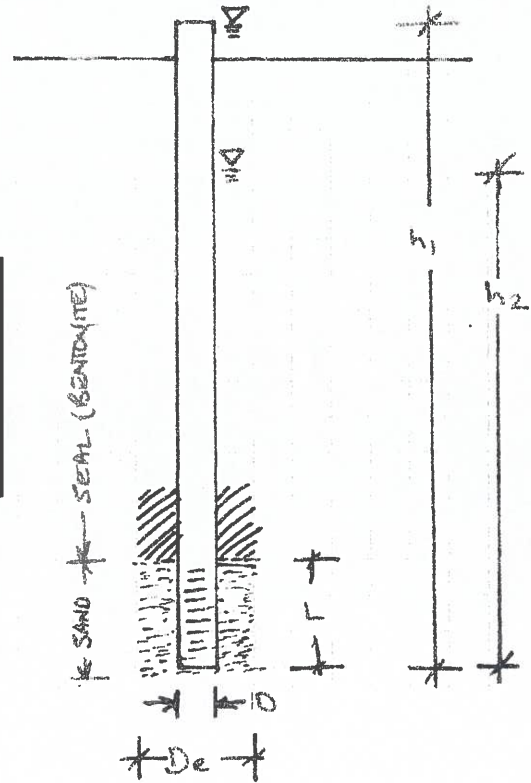
taken from USBR Engineering Geology Field Manual Volume 2 (2001)

KT4-24 - Kody Traxel

JLECS File: P24006

INPUT VARIABLES	Terms	Value	Definition
	D	0.0520	diameter of standpipe (m)
	De	0.1500	diameter of borehole (m)
	L	3.10	length of sand section (m)
	h1	8.10	initial height of water above base of hole (m)
	h2	7.44	final height of water above base of hole (m)
	t	24.0	time of test (h)

$$k_s = 2.7E-08 \text{ cm/sec}$$



CHILAKO DRILLING SERVICES LTD

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

SOIL PROFILE AND PARENT MATERIAL DESCRIPTION

Site Location: NW6-11-7W4, Kody Traxel

Date: 05-Mar-24

Hole #	Location	Depth	Texture	Moisture	Geological	Sample	Remarks
KT1-24	0503644	0-0.15	CL	F	Topsoil		
	5525978	0.15-0.8	CL	M	Till		Stiff, med plastic, brown, sand streaks
		0.8-3.0	CL	M	Till	1.5-3.0	
KT2-24	0503629	0-0.15	CL	F	Topsoil		
	5526059	0.15-3.0	CL	M	Till	1.5-3.0	Stiff, med plastic, brown, sand streaks
KT3-24	0503654	0-0.15	CL	F	Topsoil		
	5526019	0.15-2.1	CL	M	Till		Stiff, med plastic, brown, sand streaks
		2.1-3.8	CL	M	Till	2.3-3.0	Stiff, med plastic, brown 50mm H.C. Well installed to 3.8m BGS Screen: 3.8-2.3m Sand: 3.8-2.2m Bentonite: 2.2-0.0m Stickup: 0.4m Hole Diameter: 0.15m
KT4-24	0503615	0-0.15	CL	F	Topsoil		
	5526142	0.15-3.8	CL	M	Till		Stiff, med plastic, brown
		3.8-7.5	CL-C	M	Till	6.5-7.5	Stiff, med plastic, brown, iron staining 50mm H.C. Well installed to 7.5m BGS Screen: 7.5-4.5m Sand: 7.5-4.4m Bentonite: 4.4-0.0m Stickup: 0.6m Hole Diameter: 0.15m
KT5-24	0503658	0-0.15	CL	F	Topsoil		
	5526121	0.15-2.4	CL	M	Till		Stiff, med plastic
		2.4-2.5	CL	M	Till		Sand lensing
		2.5-9.2	CL-C	M	Till	6.5-7.5	Stiff, med plastic, brown, iron staining

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