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	LA24039	SW 9-20-13 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.

February 14, 2025
Date of signing

[redacted]
Signature

Quintus Dairy LTD
Corporate name (if applicable)

Philip Van Steekelenburg
Print name

GENERAL INFORMATION REQUIREMENTS

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

Proposed facilities	Dimensions (m) (length, width, and depth)
Dairy Barn Extension	198 x 80 ft.

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

Existing facilities	Dimensions (m) (length, width, and depth)	NRCB USE ONLY
Existing Barn	132 x 60 ft.	
NRCB USE ONLY		

Dairy barn : U-shape
16 x 46m + 27 x 21m +
27 + 19m

Existing facilities

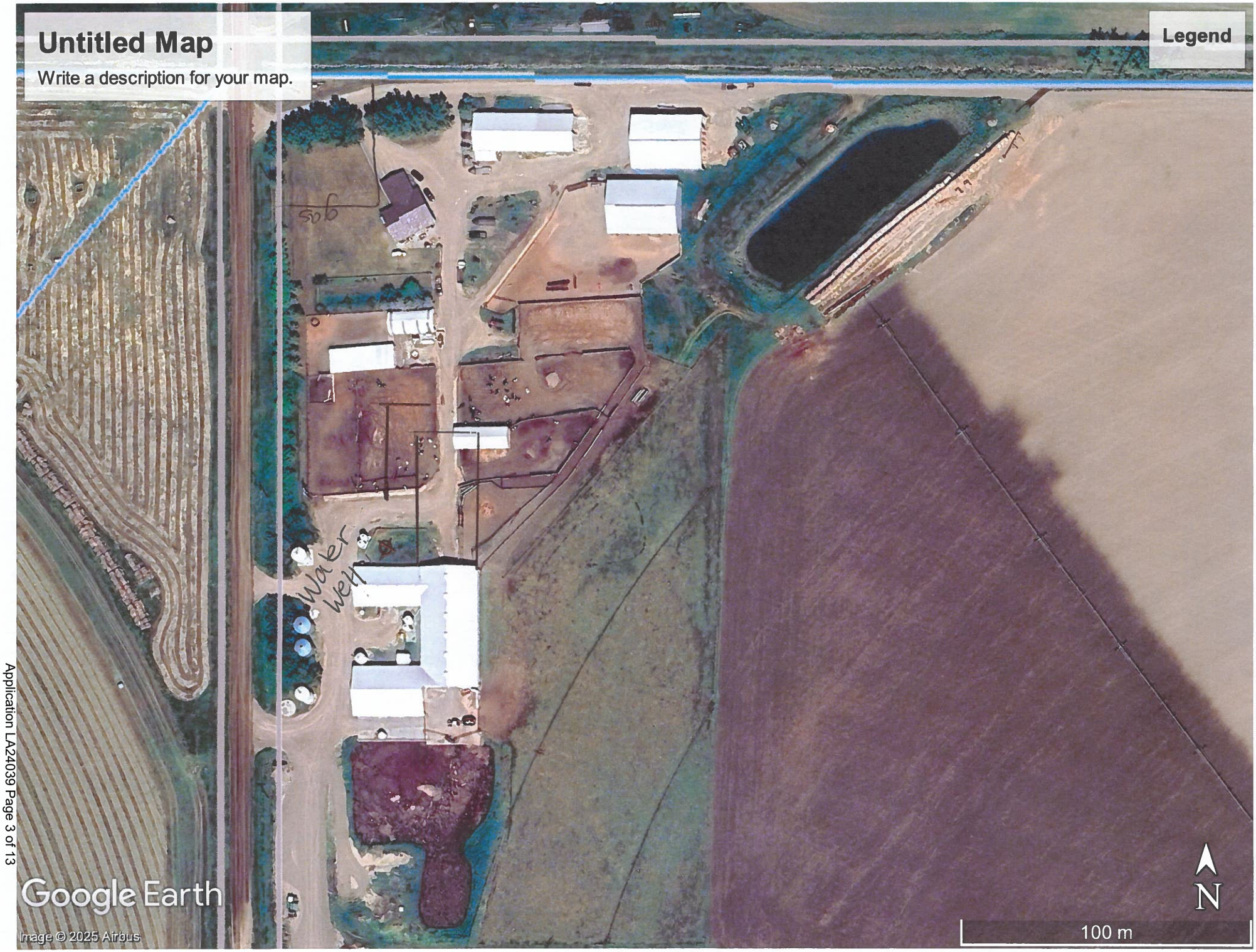
Pen area 1 with shelter: 43 m x 45 m

Pen north of pen area 1: 20 m x 26 m

Pen area 2 (triangular shape): 61 m x 73 m x 91 m + 73 m x 212 m

Pen north of pen area 2: 19 m x 41 m

EMS: 49 m x 34 m x 3.6 m deep plus an extension on the south side: 29 m x 21m x 3.6 m


Untitled Map
Write a description for your map.
Legend
Water well
Google Earth
Image © 2025 Airbus
N
100 m

Part 2 — Technical Requirements

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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 December 2027

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**
Proposed increase			
Dairy cows (plus dries + replacements)			
73 ⟶ 102			
Sheep will remain at			
130 (ewes w. lambs)			

NRCB USE ONLY

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)

DECLARATION AND ACKNOWLEDGMENT OF APPLICANT CONCERNING *WATER ACT* LICENCE

issued by Alberta Environment and Parks (AEP) 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 AEP 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** AEP'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 AEP 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 AEP'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.

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 AEP under the *Water Act* for the development or activity proposed in this AOPA application.

Signed this MMS 23 14 day of February, 20 25. [redacted]

Signature of Applicant or Agent

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 AEP 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** AEP'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 AEP 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 AEP'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.

Signed this ____ day of _____, 20____. _____

Signature of Applicant or Agent

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: Sheep Pen **Proposed 1:** Barn

Proposed 2: _____ **Proposed 3:** _____

Facility and environmental risk information		Facilities				NRCB USE ONLY	
		Existing	Proposed 1	Proposed 2	Proposed 3	Meets requirements	Comments
Flood plain information	What is the height 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	
Surface water information	How many springs are within 100 m of the manure storage facility or manure collection area?	None	None			☐ YES ☐ NO ☐ YES with exemption	
	How many water wells are within 100 m of the manure storage facility or manure collection area?	20m	20m.			☐ YES ☐ NO ☐ YES with exemption	
	What is the shortest distance from the manure collection or storage facility to a surface water body? (e.g., lake, creek, slough, seasonal)	150 m	~~200~~ m.			☐ YES ☐ NO ☐ YES with exemption	
Groundwater information	What is the depth to the water table?					☐ YES ☐ NO ☐ YES with exemption	
	What is the depth to the groundwater resource/aquifer you draw water from?	17.68m.	17.68m			☐ YES ☐ NO ☐ YES with exemption	

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

Water Well Drilling Report

View in Imperial | Export to Excel

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.

GOWN ID

GIC Well ID 183331
GoA Well Tag No.
Drilling Company Well ID
Date Report Received 1985/04/24

Well Identification and Location

Measurement in Metric

Owner Name	Address	Town	Province	Country	Postal Code
VAN STAKALENBURG, PHILIP	GEN DEL, MILLICENT				T0J 2H0

Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description
	SW	9	20	13	4				

Measured from Boundary of
m from
m from

GPS Coordinates in Decimal Degrees (NAD 83)
Latitude 50.677494 Longitude -111.752889
How Location Obtained
Not Verified

Elevation m
How Elevation Obtained
Not Obtained

Drilling Information

Method of Drilling
Rotary

Proposed Well Use
Domestic & Stock

Type of Work
New Well

Formation Log

Measurement in Metric

Depth from ground level (m)	Water Bearing	Lithology Description
1.83		Brown Clay & Coal
14.63		Brown Sandy Clay
15.85		Light Brown Clay
17.68		Brown Clay
17.98	Yes	Water Bearing Gravel
22.86		Blue Sandy Clay
24.99		See Comments
26.52		Blue Clay
32.61		Shale
33.22		Brown Sandy Shale
39.93		Blue Shale
42.06		Gray Sandy Shale
60.35		Blue Gray Shale
62.79		Gray Sandy Shale & Sandstone
69.19		Gray Shale
74.37	Yes	Water Bearing Sandstone
78.64		Brown Shale
79.55	Yes	Gray Water Bearing Sandstone
81.99	Yes	Water Bearing Shale & Sandstone Ledges
97.54		Blue Gray Shale

Yield Test Summary

Measurement in Metric

Recommended Pump Rate 68.19 L/min

Test Date	Water Removal Rate (L/min)	Static Water Level (m)
1985/04/16	68.19	4.57

Well Completion

Measurement in Metric

Total Depth Drilled	Finished Well Depth	Start Date	End Date
97.54 m		1985/04/09	1985/04/16

Borehole

Diameter (cm)	From (m)	To (m)
0.00	0.00	97.54

Surface Casing (if applicable)
Size OD : 0.00 cm
Wall Thickness : 0.000 cm
Bottom at : 0.00 m

Well Casing/Liner
Steel
Size OD : 14.12 cm
Wall Thickness : 0.478 cm
Top at : 0.00 m
Bottom at : 82.60 m

Perforations

From (m)	To (m)	Diameter or Slot Width (cm)	Slot Length (cm)	Hole or Slot Interval(cm)
70.10	74.07	0.000		0.00
79.25	82.60	0.000		0.00

Perforated by Unknown

Annular Seal Driven
Placed from 0.00 m to 67.06 m
Amount

Other Seals

Type	At (m)

Screen Type
Size OD : 0.00 cm

From (m)	To (m)	Slot Size (cm)

Attachment
Top Fittings
Bottom Fittings

Pack
Type
Grain Size
Amount 0.00

Contractor Certification

Name of Journeyman responsible for drilling/construction of well
UNKNOWN NA DRILLER

Certification No
1

Company Name
M&M DRILLING CO. LTD.

Copy of Well report provided to owner | Date approval holder signed

Part 2 — Technical Requirements

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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**
Shepards	SNW 9-20-13	800m.					

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)**
			Total		

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

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

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

Additional information (attach any additional information as required)

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)

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

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

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

1. Dairy Barn Extension
2. Transfer Pit
3. _____

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

	Length (m)	Width (m)	Total depth (m)	Depth below ground level (m)	**NRCB USE ONLY** Calculated storage capacity (m^3)
1.	198ft	80 ft.			
2.	11 ft	12ft.	10ft	10ft.	
3.					
				TOTAL CAPACITY	

Concrete liner details

Scrape alleys or unslatted portions of barn floors (if applicable)	Concrete thickness: 6-8 inch	Method of sulphate protection: Type 50	
	Concrete strength: 32 mpa	Concrete reinforcement size and spacing: 10 mm 16 inch gr OC	
In-barn manure pit floors	Concrete thickness: 6-8 inch	Method of sulphate protection: Type 50	
	Concrete strength: 32 mpa	Concrete reinforcement size and spacing: 10mm 16 inch OC	
In-barn manure pit walls	Concrete thickness	Method of sulphate protection	
	Concrete strength	Horizontal reinforcement size and spacing	Vertical reinforcement size and spacing

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

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

Water stops and Silka flex

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

Same as above

Concrete requirements can be found in Technical Guideline Agdex 096-93
Guideline minimums:
Solid manure (wet): 30MPa (C)
Liquid manure: 32MPa (B)
Category A is required to be engineered
Method of sulphate protection:
Type 50 or Type 10 with fly ash or equivalent

NRCB USE ONLY

Requirements met: ☐ YES ☐ NO
Condition required: ☐ YES ☐ NO

Additional information

NRCB USE ONLY

Liquid manure storage volume calculator attached: ☐ YES ☐ NO

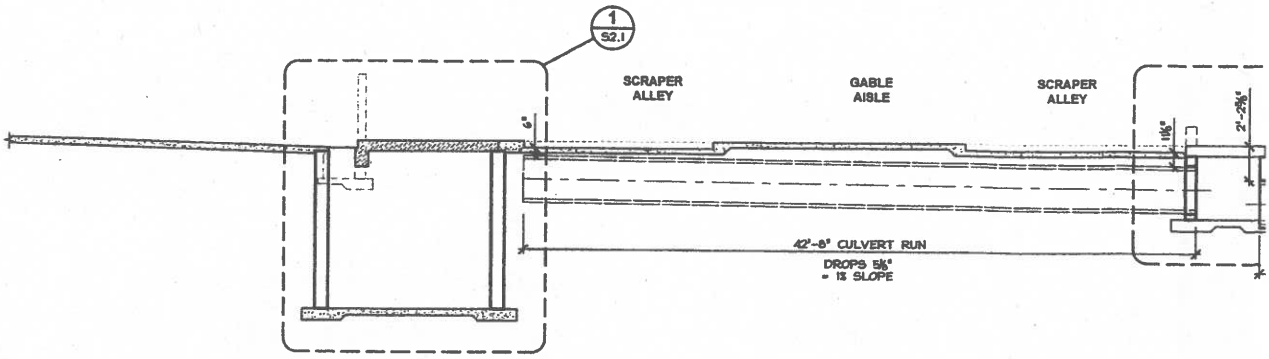
Depth to water table: _____ Requirements met: ☐ YES ☐ NO

Depth to uppermost groundwater resource: _____ Requirements met: ☐ YES ☐ NO

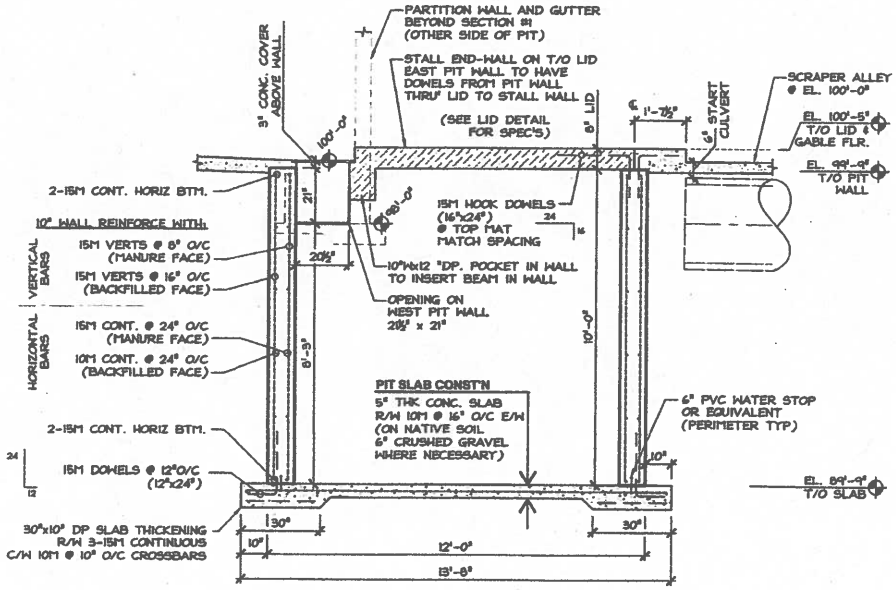
ERST completed: ☐ see ERST page for details

Concrete liner requirements

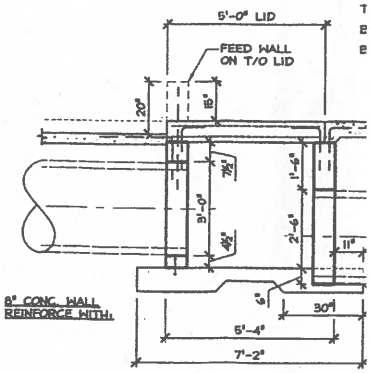
Leakage detection system required: ☐ YES ☐ NO If yes, please explain why



H / S1.3 OVERALL SECTION THRU' PITS & CULVERT
SCALE: 3/16" = 1'-0"



1 / S2.1 FLUSH PIT
SCALE: 3/8" = 1'-0"



PIT SLAB CONST'N:
SAME AS FLUSH PIT

2 / S2.1 TRANSFER PIT
SCALE: 3/8" = 1'-0"

BAR PLACEMENT LEGEND:

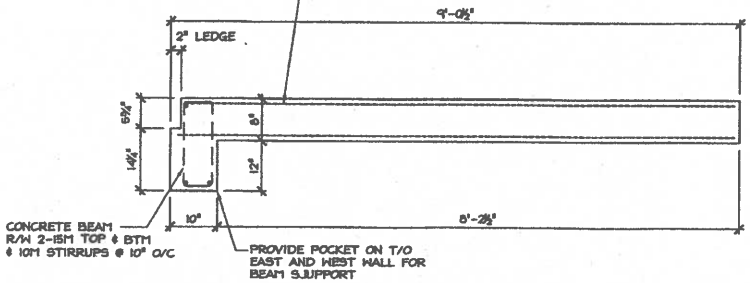
B.L.L. = BOTTOM LOWER LEVEL
B.U.L. = BOTTOM UPPER LEVEL
T.L.L. = TOP LOWER LEVEL
T.U.L. = TOP UPPER LEVEL

FLUSH PIT LID SPECS

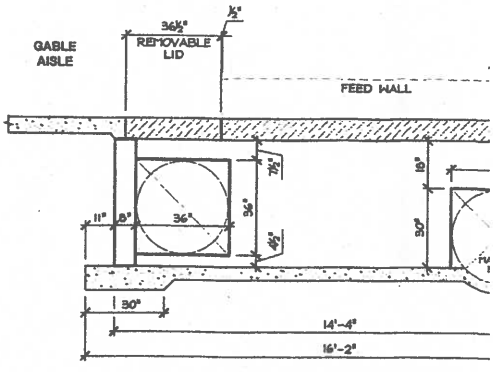
T.U.L. = 15M @ 14" O/C
T.L.L. = 10M @ 18" O/C
B.U.L. = 10M @ 16" O/C
B.U.L. = 15M @ 12" O/C

NOTE:

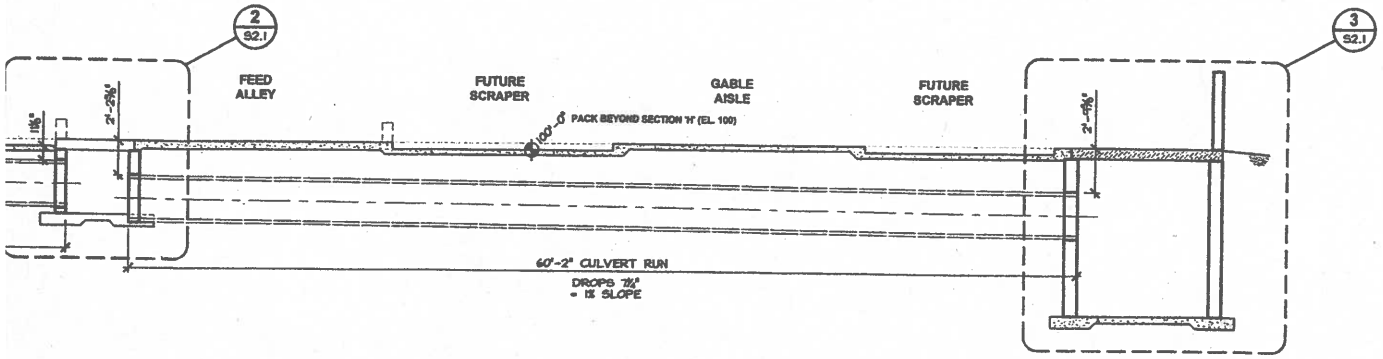
ENSURE THE ORIENTATION OF BARS UPPER LEVEL/ LOWER LEVEL (EAST-WEST NORTH-SOUTH) IS FOLLOWED AS DRAWN BELOW. (DUE TO ORIENTATION OF OPENING IN LID)

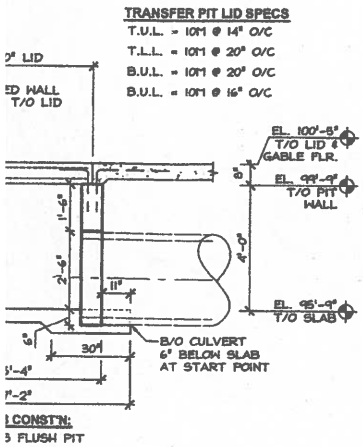


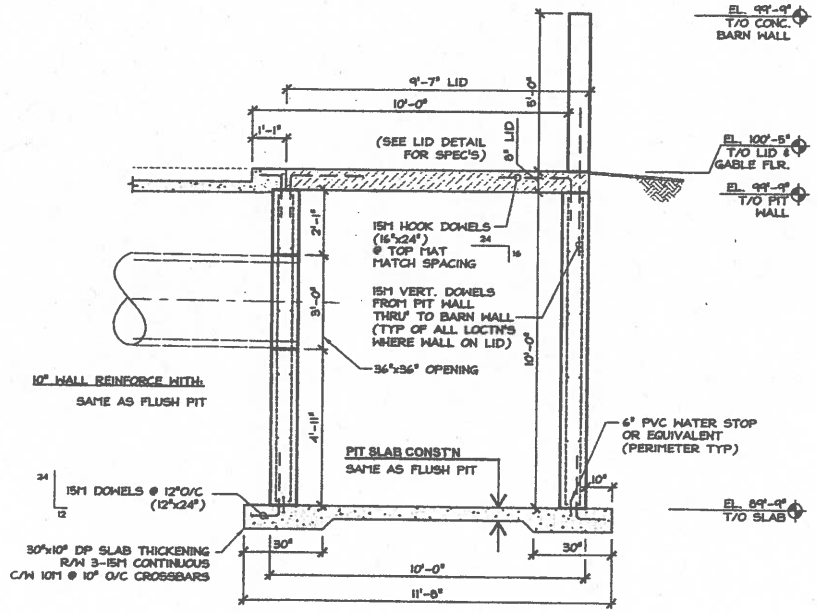
6 / S2.1 LID BEAM DETAIL - FLUSH PIT
SCALE: 3/4" = 1'-0"



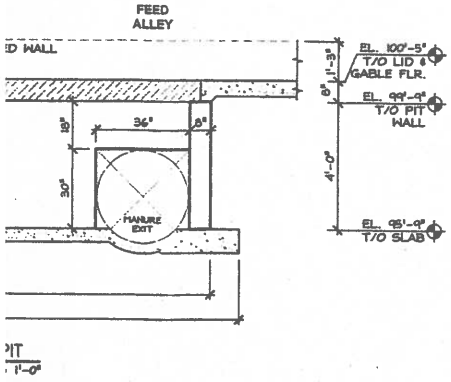
4 / S1.3 TRANSFER PIT
SCALE: 3/8" = 1'-0"

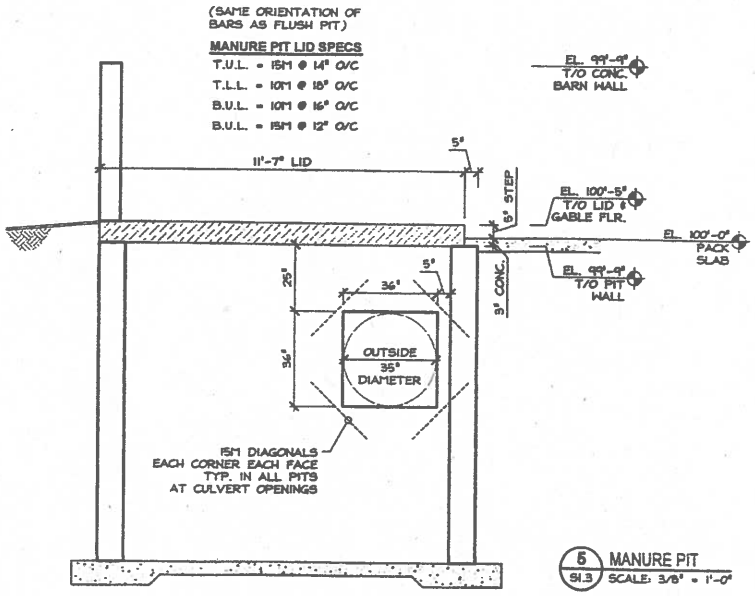




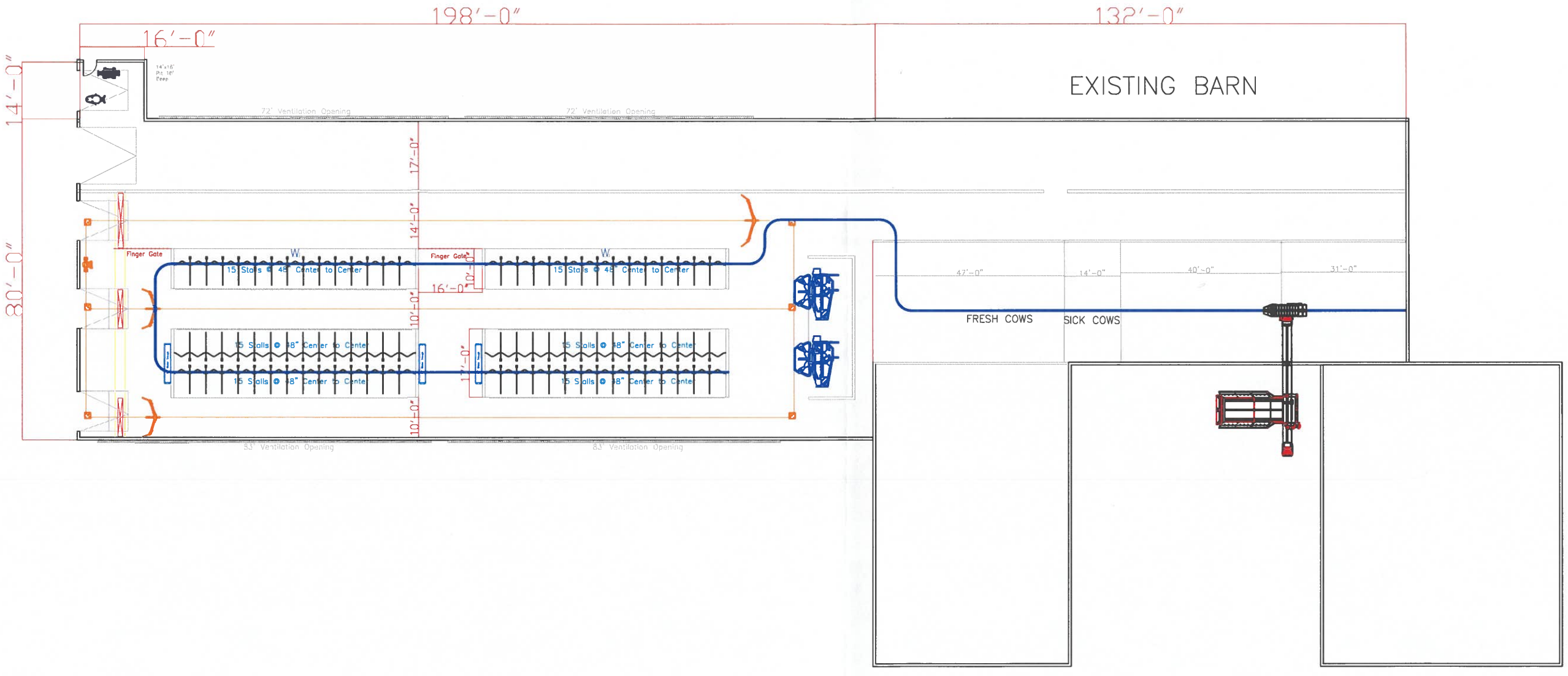


3 S2.1 MANURE PIT
SCALE: 3/8" = 1'-0"





5 S1.3 MANURE PIT
SCALE: 3/8" = 1'-0"



Application LA24039 Page 13 of 13

NO.	DESCRIPTION	DATE
	Track length for bedding robot 566'	

Customer Information	
Name	Quintus Dairy
Project	Barn Extension
Location	AB

Notes

Drawn By	Paul Templeman
Contact Info	403-885-2527 paul@chinookfarm.com
Date	November 18th 2024
Scale 1:1	Sheet # 1 of 1

CHINOOK FARM INNOVATIONS INC