Application for Amendment

NRCB Natural Resources Conservation Board

Application under the *Agricultural Operation Practices Act* to amend a permit for a confined feeding operation, manure collection area and/or manure storage facility(ies). ("Permit" means an NRCB-issued or grandfathered approval, registration, or authorization, including a grandfathered municipal development permit.)

NRCB USE ONLY	NRCB Application number	Date Stamp
☒ Approval ☐ Registration ☐ Authorization	LA24002XA	NRCB APPLICATION RECEIVED 31 JAN 25

CONTACT INFORMATION

Applicant Information

Name:	Corporate Name (if applicable)
Henry Van Huigenbos	Van Huigenbos Farms
Address: (Street/P.O. Box) P.O Box 2517	
City/Town: Fort MacLeod	Province: AB / Postal Code: T0L 0Z0

Agent consent *(if applicable)*

I, _____, hereby give consent for _____
(name of applicant) *(name of agent and company)*

to act on my behalf or as my agent for this application.

Signed this ____day of _____, 20____.

_____
Signature of Applicant

LOCATION OF DEVELOPMENT

Which permit do you wish to amend? (List permit number and issuing agency.)	AO Comment: Applicant is applying to amend NRCB Approval LA24002X. LA 24002 N.R.C.B
Legal Land Description(s)	(Qtr-Sec-Twp-Rg-W Mer) SE 21-09-26 W4

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 herein and acknowledge that the information provided in this application is true to the best of my knowledge.

Nov 5, 2024
Date of signing

[redacted]
Signature

Van Huigenbos Farms
Corporate name (if applicable)

Henry Van Huigenbos
Print name

Amendment Request Info

Pen layout and size change

Shortly after Permit #24002 was approved we came to realize that we did not have a comfortable level of storage capacity for water to service the new build. To accommodate this, we increased the size of our freshwater dugout. This came at the expense of feedlot space. As a result, our final feedlot layout compared to the permitted build is missing two pens directly to the north of the dugout (A), and the three pens directly to the east have been made 25% smaller (B). To compensate for the loss of this area, we are proposing to add a pie shaped piece of land to the south of the feedlot unto the south row (C). This would increase the size of these pens and reduce the total feedlot area lost by roughly 40%. As we still have ample pen space to accommodate 16,500 feeder calves, I do not feel that the loss of this area negatively affects any part of our business, or any directed related party. I would like to ask the N.R.C.B to allow for an amendment to Permit #24002 to reflect these proposed changes.

South Catch Basin Change

To accommodate the bigger dugout, we had to change the dimensions on the south catch basin. By increasing the width 2 metres, and the depth by roughly .5 metres we were able to shorten the length by 10 metres. The entire catch basin was also moved to the north, decreasing the distance between the two catch basins by 13 metres. Our new catch capacity is easily 10% bigger than our initial approved catch capacity, which in turn was already bigger then AOPA requirements. We feel that these changes were made not only to improve our water situation, but it also gives us much more flexibility on when we need to divert from the Willow Creek, and in part the L.N.I.D. This could reduce demand during peak irrigating times.

Application for Amendment – contd.

NRCB Natural Resources Conservation Board

AMENDMENT INFORMATION REQUIREMENTS

Instructions:
For each part of your permit that you would like amended, please detail what change you would like made and why, and how your proposed change will meet the AOPA requirements. You may attach additional pages to this form to provide this information.

Please note that an approval officer may require a page (or pages) of the Part 2 application forms to be completed as part of this application for amendment, depending on what changes are proposed.

AO Comment: Applicant is applying to amend the dimensions of the following facilities:

North Catch Basin to the as built dimensions of 185 m x 42 m x 2.25 m deep (average). The permitted dimensions in LA24002X were 185 m x 40 m x 2 m deep. Applicant indicated that the depth of the catch basin slopes from 2 m deep in the north portion to 2.5 m deep in the south portion, to allow for easier emptying and removal of solids.

South Catch basin to the as built dimensions of 96 m x 42 m x 2.25 m deep (average). The permitted dimensions in LA24002X were 105 m x 40 m x 2 m deep. Applicant indicated that the depth of the catch basin slopes from 2 m deep in the south portion to 2.5 m deep in the north portion, to allow for easier emptying and removal of solids.

West pens to dimensions 152.1 m x 35.7 m (5 rows), 38.8 m x 35.7 m (2 rows), and 38.8 m x 45.9 m, irregular shape (1 row). The permitted dimensions in LA24002X were 152.1 m x 36.9 m (6 rows) and 50.7 m x 36.9 m (2 rows).

East pens to dimensions 152.8 m x 35.7 m (5 rows) and 152.8 m x 62.5 m, irregular shape (1 row). The permitted dimensions in LA24002X were 153.4 m x 36.9 m (6 rows).

AO Comment: During the first post construction inspection on October 31, 2024, of both catch basins, the North pens, and partially constructed West pens, I noticed that the not-yet built portion of the West pens would be different than what was permitted in LA24002X. I asked the applicant if there was going to be a change to the site layout, and he informed me at that time that due to having to construct the freshwater dugout larger, they would need to alter some of the pens to accommodate the larger freshwater dugout. I informed the applicant that any alteration to the site layout would require an amendment of his permit, and the affected facilities could not be constructed until an amended permit is issued.

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

WATER WELL AND SURFACE WATER INFORMATION

Well IDs: 9731008 _____ _____ _____

_____ _____ _____

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 Condition carried forward from LA15045

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

Water Well Exemption Screening Tool ☑ N/A Water well exemption carried forward from LA15045

Water Well ID	Preliminary Screening Score	Secondary Screening Score	Facility

Groundwater or surface water related comments:

Name	Henry Van Huigenbos
Address	
Legal Land Location	

AO Comment: Application for an amendment for North catch basin, South catch basin, West pens, and East pens dimensions, not increasing animal numbers.

MDS Spreadsheet based on 2006 AOPA Regulations

Category of Livestock	Type of Livestock	Factor A	Technology Factor	MU	LSU Factor	Number of Animals	LSU
Feedlot Animals	Beef Cows/Finishers (900+ lbs)	0.700	0.700	0.910	0.4459		-
	Beef Feeders (450 - 900 lbs)	0.700	0.700	0.500	0.2450		-
	Beef Feeder Calves (<550 lbs)	0.700	0.700	0.275	0.1348	16,500	2,223.4
	Horses - PMU	0.650	0.700	1.000	0.4550		-
	Horses - Feeders > 750 lbs	0.650	0.700	1.000	0.4550		-
	Horses - Foals < 750 lbs	0.650	0.700	0.300	0.1365		-
	Mules	0.600	0.700	1.000	0.4200		-
	Donkeys	0.600	0.700	0.670	0.2814	-	-
	Bison	0.600	0.700	1.000	0.4200		-
	Other						-
Dairy (*count lactating cows only)	Free Stall – Lactating Cows with all associated dries, heifers, and calves*	0.800	1.100	2.000	1.7600		-
	Free Stall – Lactating Cows with Dry Cows only*	0.800	1.100	1.640	1.4432		-
	Free Stall – Lactating Cows only	0.800	1.100	1.400	1.2320		-
	Tie Stall – Lactating Cows only	0.800	1.000	1.400	1.1200		-
	Loose Housing – Lactating Cows only	0.800	1.000	1.400	1.1200		-
	Dry Cow	0.800	0.700	1.000	0.5600		-
	Replacements – Bred Heifers (Breeding to Calving)	0.800	0.700	0.875	0.4900		-
	Replacements - Growing Heifers (350 lbs to breeding)	0.800	0.700	0.525	0.2940		-
	Calves (< 350 lbs)	0.800	0.700	0.200	0.1120		-
	Other						-
Swine Liquid (*count sows only)	Farrow to finish *	2.000	1.100	1.780	3.9160		-
	Farrow to wean *	2.000	1.100	0.670	1.4740		-
	Farrow only *	2.000	1.100	0.530	1.1660		-
	Feeders/Boars	2.000	1.100	0.200	0.4400		-
	Growers/Roasters	2.000	1.100	0.118	0.2600		-
	Weaners	2.000	1.100	0.055	0.1210		-
	Other						-
Swine Solid (*Count sows only)	Farrow to finish *	2.000	0.800	1.780	2.8480		-
	Farrow to wean *	2.000	0.800	0.670	1.0720		-
	Farrow only *	2.000	0.800	0.530	0.8480		-
	Feeders/Boars	2.000	0.800	0.200	0.3200		-
	Growers/Roasters	2.000	0.800	0.118	0.1888		-
	Weaners	2.000	0.800	0.055	0.0880		-
	Other						-
Poultry	Chicken - Breeders - Solid	1.000	0.700	0.010	0.0070		-
	Chicken - Layers - Liquid (includes associated pullets)	2.000	1.100	0.008	0.0176		-
	Chicken - Layers - (Belt Cage)	2.000	0.700	0.008	0.0112		-
	Chicken - Layers - (Deep Pit)	2.000	0.700	0.008	0.0112		-
	Chicken - Pullets/Broilers	1.000	0.700	0.002	0.0014		-
	Turkey - Toms/Breeders	1.000	0.700	0.020	0.0140		-
	Turkey - Hens (light)	1.000	0.700	0.013	0.0091		-
	Turkey - Broilers	1.000	0.700	0.010	0.0070		-
	Ducks	1.000	0.700	0.010	0.0070		-
	Geese	1.000	0.700	0.020	0.0140		-
	Other						-
Sheep and Goats	Sheep - Ewes/Rams	0.600	0.700	0.200	0.0840		-
	Sheep - Ewes with lambs	0.600	0.700	0.250	0.1050		-
	Sheep - Lambs	0.600	0.700	0.050	0.0210		-
	Sheep - Feeders	0.600	0.700	0.100	0.0420		-
	Goats - Meat/Milk (per Ewe)	0.700	0.700	0.170	0.0833		-
	Goats - Nannies/Billies	0.700	0.700	0.140	0.0686		-
	Goats - Feeders	0.700	0.700	0.077	0.0377		-
	Other						-
Cervid	Elk	0.600	0.700	0.600	0.2520		-
	Deer	0.600	0.700	0.200	0.0840		-
	Other						-
Wild Boar	Feeders	2.000	0.800	0.140	0.2240	-	-
	Sow (farrowing)	2.000	0.800	0.371	0.5936		-
	Other						-
					Total		2,223.4

For New Operations

Dispersion Factor 1

Category	Odour Objective	Distance Feet	Distance Metres
1	41.04	2,243	684
2	54.72	2,991	912
3	68.4	3,739	1,140
4	109.44	5,982	1,823

For Expanding Operations

Dispersion Factor 1

Expansion Factor 0.77

Category	Odour Objective	Distance Feet	Distance Metres
1	41.04	1,727	526
2	54.72	2,303	702
3	68.40	2,879	877
4	109.44	4,606	1,404

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)

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ENVIRONMENTAL RISK SCREENING INFORMATION

ERST for **proposed** facilities

Facility	Groundwater score	Surface water score	File number
AO Comment: No new facilities proposed in this application, only a change in dimensions to approved facilities. The increased depth of the North and South catch basins does not change the previous risk assessment.			

ERST for **existing** facilities

Facility	Groundwater score	Surface water score	File number
East Pens	Low	Low	LA24002
West Pens	Low	Low	LA24002
North Pens	Low	Low	LA24002
North Catch Basin	Low	Low	LA24002
South Catch Basin	Low	Low	LA24002
Feedlots Pens Row A	Low	Low	LA15045
Feedlot Pens Row B	Low	Low	LA15045
Calf barn (with transfer pit)	Low	Low	LA17054A

~~**ERST related comments**:~~

Pole calf barn	Low	Low	LA15037
Barn 3	Low	Low	Deemed permit
Feedlot pens	Low	Low	Deemed permit

Name Henry VanHuigenbos
Address 0
Legal Land
Location

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)
Feedlot Animals	Cows/Finishers (900+ lbs)	0.0	0.0	0.0	0.0	0.0
	Feeders (450 - 900 lbs)	0.0	0.0	0.0	0.0	0.0
	Feeder Calves (<550 lbs)	16500.0	511.5	429.0	313.5	247.5
	Horses - PMU	0.0	0.0	0.0	0.0	0.0
	Horses - Feeders > 750 lbs	0.0	0.0	0.0	0.0	0.0
	Horses - Foals < 750 lbs	0.0	0.0	0.0	0.0	0.0
	Mules	0.0	0.0	0.0	0.0	0.0
	Donkeys	0.0	0.0	0.0	0.0	0.0
	Bison	0.0	0.0	0.0	0.0	0.0
	Other	0.0				
Dairy (*count lactating cows only)	Free Stall – Lactating Cows with all associated dries, heifers, and calves*	0.0	0.0	0.0	0.0	0.0
	Free Stall – Lactating Cows with Dry Cows only *	0.0	0.0	0.0	0.0	0.0
	Free Stall – Lactating Cows only*	0.0	0.0	0.0	0.0	0.0
	Tie Stall – Lactating Cows only	0.0	0.0	0.0	0.0	0.0
	Loose Housing – Lactating Cows only	0.0	0.0	0.0	0.0	0.0
	Dry Cow (Solid manure)	0.0	0.0	0.0	0.0	0.0
	Dry Cow (Liquid manure)	0.0	0.0	0.0	0.0	0.0
	Replacements – Bred Heifers (Breeding to Calving)	0.0	0.0	0.0	0.0	0.0
	Replacements - Growing Heifers (350 lbs to breeding)	0.0	0.0	0.0	0.0	0.0
	Calves (< 350 lbs)	0.0	0.0	0.0	0.0	0.0
	Other	0.0				
Swine Liquid (*count sows only)	Farrow to finish *	0.0	0.0	0.0	0.0	0.0
	Farrow to wean *	0.0	0.0	0.0	0.0	0.0
	Farrow only *	0.0	0.0	0.0	0.0	0.0
	Feeders/Boars	0.0	0.0	0.0	0.0	0.0
	Growers/Roasters	0.0	0.0	0.0	0.0	0.0
	Weaners	0.0	0.0	0.0	0.0	0.0
	Other	0.0				
Swine Solid (*Count sows only)	Farrow to finish *	0.0	0.0	0.0	0.0	0.0
	Farrow to wean *	0.0	0.0	0.0	0.0	0.0
	Farrow only *	0.0	0.0	0.0	0.0	0.0
	Feeders/Boars	0.0	0.0	0.0	0.0	0.0
	Growers/Roasters	0.0	0.0	0.0	0.0	0.0
	Weaners	0.0	0.0	0.0	0.0	0.0
		0.0				
Poultry	Chicken - Breeders - Solid	0.0	0.0	0.0	0.0	0.0
	Chicken - Layers - Liquid (includes associated pullets)	0.0	0.0	0.0	0.0	0.0
	Chicken - Layers - (Belt Cage)	0.0	0.0	0.0	0.0	0.0
	Chicken - Layers - (Deep Pit)	0.0	0.0	0.0	0.0	0.0
	Chicken - Pullets/Broilers	0.0	0.0	0.0	0.0	0.0
	Turkey - Toms/Breeders	0.0	0.0	0.0	0.0	0.0
	Turkey - Hens (light)	0.0	0.0	0.0	0.0	0.0
	Turkey - Broilers	0.0	0.0	0.0	0.0	0.0
	Ducks	0.0	0.0	0.0	0.0	0.0
	Geese	0.0	0.0	0.0	0.0	0.0
	Other	0.0				
Goats and Sheep	Sheep - Ewes/Rams	0.0	0.0	0.0	0.0	0.0
	Sheep - Ewes with lambs	0.0	0.0	0.0	0.0	0.0
	Sheep - Lambs	0.0	0.0	0.0	0.0	0.0
	Sheep - Feeders	0.0	0.0	0.0	0.0	0.0
	Goats - Meat/Milk (per Ewe)	0.0	0.0	0.0	0.0	0.0
	Goats - Nannies/Billies	0.0	0.0	0.0	0.0	0.0
	Goats - Feeders	0.0	0.0	0.0	0.0	0.0
	Other	0.0				
Cervid	Elk	0.0	0.0	0.0	0.0	0.0
	Deer	0.0	0.0	0.0	0.0	0.0
	Other	0.0				
Wild Boar	Feeders	0.0	0.0	0.0	0.0	0.0
	Sow (farrowing)	0.0	0.0	0.0	0.0	0.0
	Other	0.0				
	Total Hectares		512	429.0	313.5	247.5
	Total Acres		1,264	1060.1	774.7	611.6

AO Comment: In Approval LA24002, applicant provided 612 acres of suitable total irrigated lands (not including dry corners and setbacks to wetlands).

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)

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MINIMUM DISTANCE SEPARATION

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

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

Requirements (m): Category 1: 526 Category 2: 702 Category 3: 877 Category 4: 1,404

Technology factor: ☐ YES ☑ NO

Expansion factor: ☑ YES ☐ NO

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

Change in dimensions to catch basins and feedlot pens does not change the distance of existing CFO facilities to closest neighbouring residence and still meets MDS to other neighbouring residences.

LAND BASE FOR MANURE AND COMPOST APPLICATION

Land base required: _____

Land base listed: _____

Area not suitable: _____

Applicant provided 612 irrigated acres for manure spreading. See LA24002 TD for further information.

Available area _____ Requirement met: ☐ YES ☐ NO

Land spreading agreements required: ☐ YES ☐ NO

Manure management plan: ☐ YES ☐ NO If yes, plan is attached: ☐

PLANS

Submitted and attached construction plans: ☑ YES ☐ NO

Submitted aerial photos: ☑ YES ☐ NO

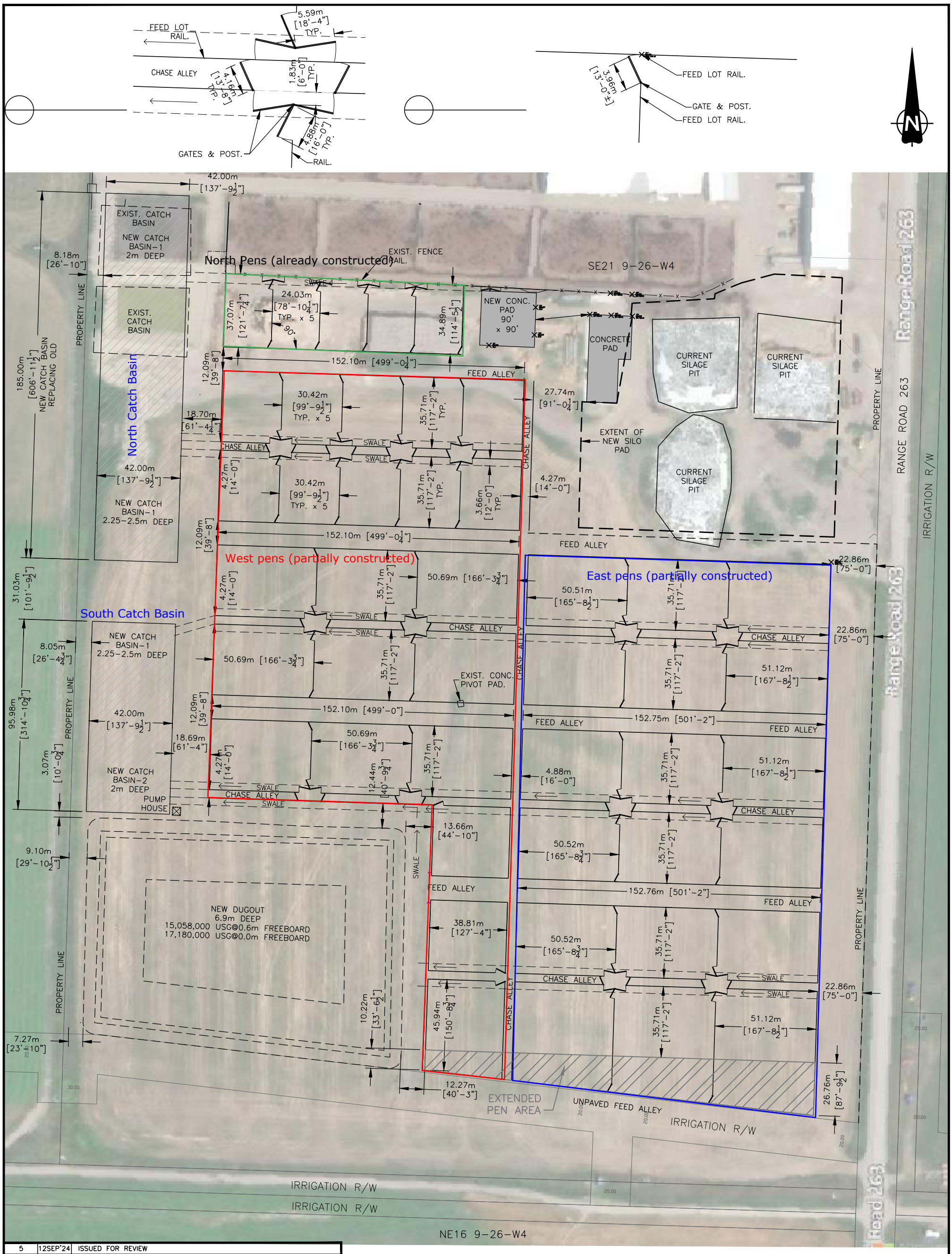
Submitted photos: ☐ YES ☑ NO

GRANDFATHERING

Already completed: ☑ YES ☐ NO ☐ N/A

If already completed, see LA14004

AO Comment: New site plan reflecting as built dimensions of the catch basins and proposed alteration to feedlot pens.



ISSUE	DATE	REVISION DESCRIPTION
5	12SEP'24	ISSUED FOR REVIEW
4	31JUL'24	ISSUED FOR REVIEW
3	29JUL'24	ISSUED FOR REVIEW
2	24JUN'24	ISSUED FOR REVIEW
1	20OCT'23	ISSUED FOR REVIEW

LEGEND / NOTES

1. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE DEPTH OF SERVICES PRIOR TO CONSTRUCTION.
2. ALL UNDERGROUND UTILITIES, INCLUDING GAS, OIL, TELUS, ELECTRICAL, MUNICIPAL WATER, ETC., AS SHOWN ON THIS PLAN, ARE BASED ON INFORMATION RECEIVED FROM THE RESPECTIVE AUTHORITIES. NO RESPONSIBILITY IS IMPLIED OR ASSUMED BY THE ENGINEER AS TO LOCATION, OR OMISSIONS. THE CONTRACTOR MUST CONTACT THE VARIOUS UTILITIES FOR ON-SITE INFORMATION AS TO ACTUAL LINE LOCATIONS PRIOR TO STARTING CONSTRUCTION.
3. IT IS THE LANDSCAPER'S RESPONSIBILITY TO ENSURE THAT RUNOFF FOLLOWS THE RECOMMENDED DRAINAGE PATHS AND NO STANDING WATER OCCURS NEAR THE RESIDENCE.

—— x —— x —— x ——

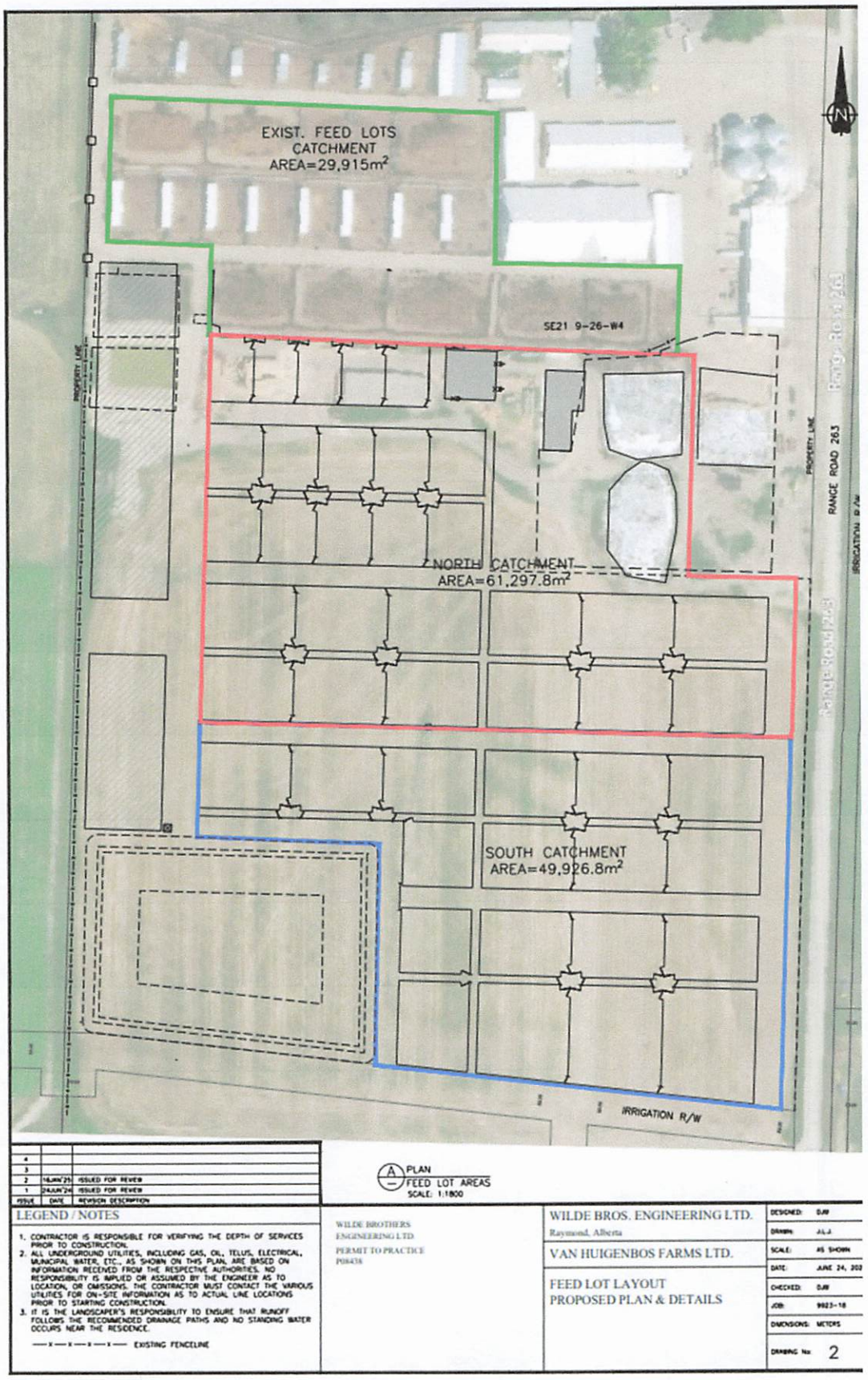
WILDE BROTHERS ENGINEERING LTD.
PERMIT TO PRACTICE P08438

WILDE BROS. ENGINEERING LTD.
Raymond, Alberta

VAN HUIGENBOS FARMS LTD.

FEED LOT LAYOUT
PROPOSED PLAN & DETAILS

DESIGNED:	DJW
DRAWN:	J.L.J.
SCALE:	AS SHOWN
DATE:	OCTOBER 1, 2023
CHECKED:	DJW
JOB:	9923-18
DIMENSIONS:	METERS



ISSUE	DATE	REVISION DESCRIPTION
4		
3		
2	16JAN'25	ISSUED FOR REVIEW
1	24JUN'24	ISSUED FOR REVIEW

A PLAN
FEED LOT AREAS
SCALE: 1:1800

LEGEND / NOTES

1. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE DEPTH OF SERVICES PRIOR TO CONSTRUCTION.
2. ALL UNDERGROUND UTILITIES, INCLUDING GAS, OIL, TELUS, ELECTRICAL, MUNICIPAL WATER, ETC., AS SHOWN ON THIS PLAN, ARE BASED ON INFORMATION RECEIVED FROM THE RESPECTIVE AUTHORITIES. NO RESPONSIBILITY IS IMPLIED OR ASSUMED BY THE ENGINEER AS TO LOCATION, OR OMISSIONS. THE CONTRACTOR MUST CONTACT THE VARIOUS UTILITIES FOR ON-SITE INFORMATION AS TO ACTUAL LINE LOCATIONS PRIOR TO STARTING CONSTRUCTION.
3. IT IS THE LANDSCAPER'S RESPONSIBILITY TO ENSURE THAT RUNOFF FOLLOWS THE RECOMMENDED DRAINAGE PATHS AND NO STANDING WATER OCCURS NEAR THE RESIDENCE.

—x—x—x—x— EXISTING FENCELINE

WILDE BROTHERS ENGINEERING LTD.
PERMIT TO PRACTICE P08438

WILDE BROS. ENGINEERING LTD.
Raymond, Alberta

VAN HUIGENBOS FARMS LTD.

FEED LOT LAYOUT
PROPOSED PLAN & DETAILS

DESIGNED:	DJW
DRAWN:	ALJ
SCALE:	AS SHOWN
DATE:	JUNE 24, 202
CHECKED:	DJW
JOB:	9823-18
DIMENSIONS:	METERS
DRAWING No:	2

AO Comment: Updated site plan for areas contributing to run-off.

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]	185.0	m	607 ft
Total Width*[4]	42.0	m	138 ft
Total Depth*[4]	2.3	m	7 ft
Design Capacity Depth	*1.75*	m	6 ft
End Slope*[4]	3	run:rise	3 run:rise
Side Slope*[4]	3	run:rise	3 run:rise
Length of Bottom	171.5	m	563 ft
Width of Bottom	28.5	m	94 ft
Capacity @ top of Bank	*14,172*	m^3	*Capacity (@tob) 500,466 ft^3 3,117,320 Imp. Gal.*

Design Capacity of Catch Basin (freeboard level)			Design Capacity (freeboard level)
Length (design capacity depth)	182.0	m	597 ft
Width (design capacity depth)	39.0	m	128 ft
Total Depth	*2.3*	m	7 ft
Design Capacity Depth	1.75	m	6 ft
End Slope	3	run:rise	3 run:rise
Side Slope	3	run:rise	3 run:rise
Design Capacity (freeboard level)	**10,455**	m^3	369,228 ft^3
			2,299,860 Imp. Gal.
level)	*7,098*	m^2	*76,402 ft^2*

CFO Name [1]	Van Huigenbos Farms Ltd.
Land Location [1]	

Paved Runoff Catchment Area(s)

Area [2]	Length (m)	Width (m)	Area (m^2)
1	29,915	1	29,915.0
2	61,298	1	61,297.8
3			0.0
4			0.0
5			0.0
		Total Area (m^2)	**91,213**

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])

Fort Macleod 90

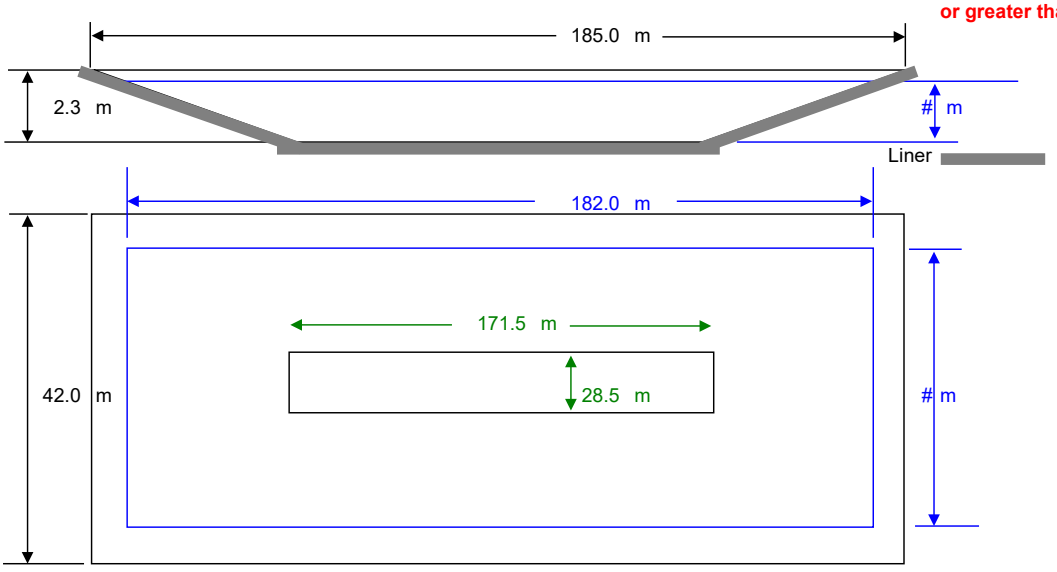
AOPA Design Rainfall **90 mm**

Minimum Catchbasin Storage Volume Required

8,209 m^3 ** **289903.47 ft^3**

1805760.3 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

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)

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

NRCB USE ONLY

Catch basin calculator. Total volume @ freeboard level: 10,455 m^3 Runoff capacity requirements met: ☑ YES ☐ NO

Calculation of the volume attached: ☑ YES ☐ NO

Depth to water table: 1.2 m below grade Requirements met: ☑ YES ☐ NO

Depth to uppermost groundwater resource: 23.77 m below grade 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):

AO Comment: Water encountered during drilling for Approval LA24002 appeared to be a perched water table from irrigation of the site. Construction completion report of the catch basin confirms the water table was not within 1 m of the bottom of the catch basin at the time of field review.

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

AO Comment: Calculation for South Catch Basin provided by applicant.

Catch Basin Dimension Calculator

For more information on runoff control catch basin design consideration including liner options, catch basin protection, etc., check out the catch basin factsheet.

Name Van Huigenbos Farms

Land Location SE 21-09-21 W4

Estimating Runoff Potential

Area	Length (m)	Width (m)	Paved?	Area (m^2)
1	499	100	YES	49900.00
	Total Area			49900.00

Estimation of water runoff to be collected in the catch basin:

4491 m^3

158598 ft^3

987881 Imp. Gal

Calculating Catch Basin Volume:

	Construction Dimensions	Storage Dimensions
Length (m):	96	93.0
Width (m):	42	39.0
Depth (m):	2.5	2

Evacuation Capacity:

7680 m^3

271217 ft^3

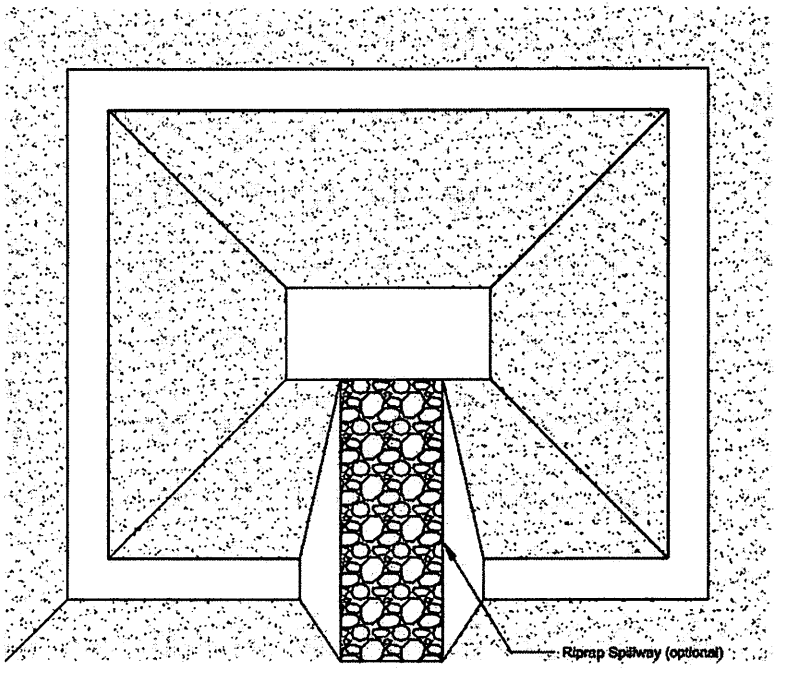
1689365 Imp. Gal

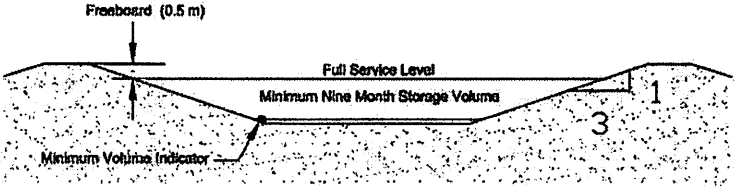
Catch basin volume (minus freeboard):

5766 m^3

203624 ft^3

1268340 Imp. Gal





Comparing Catch Basin Volume versus Runoff Potential:

Runoff potential:	4491 m^3
Catch basin volume:	5766 m^3

The catch basin dimensions meet the design requirements in AOPA

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]	96.0	m	315 ft
Total Width*[4]	42.0	m	138 ft
Total Depth*[4]	2.3	m	7 ft
Design Capacity Depth	*1.75*	m	6 ft
End Slope*[4]	3	run:rise	3 run:rise
Side Slope*[4]	3	run:rise	3 run:rise
Length of Bottom	82.5	m	271 ft
Width of Bottom	28.5	m	94 ft
Capacity @ top of Bank	*7,113*	m^3	*Capacity (@tob)* *251,187* ft^3 *1,564,599 Imp. Gal.*

Design Capacity of Catch Basin (freeboard level)			Design Capacity (freeboard level)
Length (design capacity depth)	93.0	m	305 ft
Width (design capacity depth)	39.0	m	128 ft
Total Depth	*2.3*	m	7 ft
Design Capacity Depth	1.75	m	6 ft
End Slope	3	run:rise	3 run:rise
Side Slope	3	run:rise	3 run:rise
Design Capacity (freeboard level)	**5,199**	m^3	183,594 ft^3
			1,143,578 Imp. Gal.
level)	*3,627*	m^2	*39,041* ft^2

CFO Name [1]	Van Huigenbos Farms Ltd.
Land Location [1]	

Paved Runoff Catchment Area(s)

Area [2]	Length (m)	Width (m)	Area (m^2)
1	49,927	1	49,926.8
2			0.0
3			0.0
4			0.0
5			0.0
		Total Area (m^2)	**49,927**

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])

Fort Macleod 90

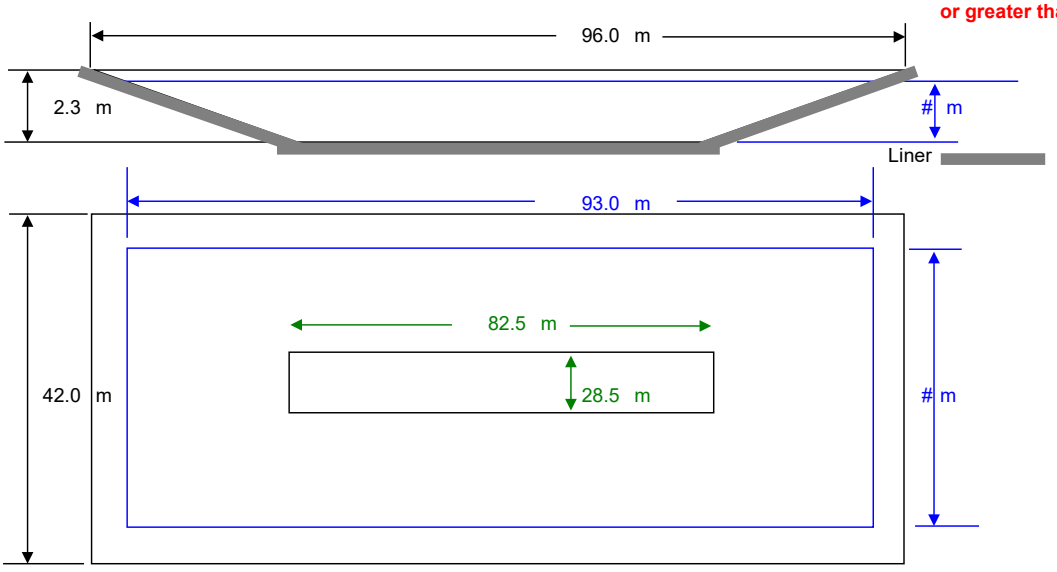
AOPA Design Rainfall **90 mm**

Minimum Catchbasin Storage Volume Required

4,493 m^3 ** **158683.35 ft^3**

988412.07 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

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)

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

NRCB USE ONLY

Catch basin calculator. Total volume @ freeboard level: 5,199 m^3 Runoff capacity requirements met: ☑ YES ☐ NO

Calculation of the volume attached: ☑ YES ☐ NO

Depth to water table: 1.2 m below grade Requirements met: ☑ YES ☐ NO

Depth to uppermost groundwater resource: 23.77 m below grade 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):

AO Comment: Water encountered during drilling for Approval LA24002 appeared to be a perched water table from irrigation of the site. Construction completion report of the catch basin confirms the water table was not within 1 m of the bottom of the catch basin at the time of field review.

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

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 **RUNOFF CONTROL CATCH BASIN CAPACITY SUMMARY (if applicable)**	
Facility 1	
Name / description North Catch Basin	Capacity 10,455 m^3
Facility 2	
Name / description South Catch Basin	Capacity 5,199 m^3
Facility 3	
Name / description	Capacity
Facility 4	
Name / description	Capacity
TOTAL CAPACITY	15,654 m^3
RUNOFF VOLUME FROM CONTRIBUTING AREAS	12,702 m^3
MEETS AOPA RUNOFF CONTROL VOLUME REQUIREMENTS	☑ YES ☐ NO

Part 2 — Technical Requirements

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

NRCB USE ONLY

ALL SIGNATURES IN FILE ☑ YES ☐ NO

DATES OF APPROVAL OFFICER SITE VISITS

October 31, 2024	
December 3, 2024	

CORRESPONDENCE WITH MUNICIPALITIES AND REFERRAL AGENCIES

Date deeming letters sent: February 19, 2025

Municipality: MD of Willow Creek

☑ 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: Town of Fort Macleod ☐ N/A

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

Other: Fortis Alberta Inc., South Alta Rural Electrification, Atco Gas ☐ N/A

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

AO Comment: New construction completion report for the North and South catch basins as required for this amendment application.

JLECS

21 January 2024

JLECS File: P24047

PO Box 96
Monarch, AB T0L1M0

Van Huigenbos Farms Ltd.
PO Box 2517
Fort Macleod, Alberta T0L 0Z0

Attention: Henry Van Huigenbos

Re: Substantial Completion Report
New Catch Basin Construction
SE-21-009-26-W4M, near Fort Macleod, Alberta

As requested, J Lobbezoo Engineering & Consulting Services Ltd. (JLECS) has carried out a field review in conjunction with the recent construction of two new catch basins at the above captioned location. Initial design details for the catch basins were outlined in the NRCB Authorization LA24002X, which indicated catch basin dimensions of 105 m by 40 m by 2 m deep, and 185 m by 40 m by 2 m deep. It is understood that the NRCB Permit application is being resubmitted for amendment to, in part, reflect a variation in catch basin dimensions.

The following comments and observations by JLECS relative to the construction of the catch basins are provided as follows:

1. The two catch basins (denoted in the Approval as the "North" and "South" catch basins were both constructed at the general location identified in the application. As-built survey information provided showed that the completed south catch basin at approximately 8 m from the west property line while the north catch basin was at approximately 8.2 m from the west property line, satisfying the minimum requirement of 6.1 m from the west property line as noted in the original Approval.

2. Based on as-built survey information provided by Wilde Bros. Engineering Ltd, the completed dimensions of the south catch basin were found to be approximately 42 m by 96 m by 2 m to 2.5 m deep, while the north catch basin was 42 m wide by 185 m long, and 2 m to 2.5 m deep. Interior side slopes of both new catch basins are inclined at approximately 3H:1V, in accordance with Section 14 of the AOPA.

3. As part of the construction of the new catch basins, sandy areas of the catch basin sideslopes had been subexcavated and replaced with low permeable compacted clay, consistent with the recommendation provided in the WPS report dated March 13, 2024. The base of both catch basins was observed to be competent low-permeable clay.

4. The groundwater table was not observed to be within 1 m of the bottom of the catch basins at during the field reviews by JLECS.

JLECS

It is noted that the assessment of the naturally occurring protective layer was based on boreholes VF5-23, VF10-23, VF11-23, and VF14-23. At these locations the portion of subsurface strata screened for permeability testing was below 2.7 m to 2.9 m depth (VF5-23, VF11-23 & CF14-23), and below 4.4 m depth at VF10-23 (which was located in the footprint of the north catch basin). Accordingly, the marginally increased depth of the as-built catch basins (i.e., up to 2.5 m depth) would still be above the portion of subsurface strata assessed for the naturally occurring liner.

Based on JLECS's site observations, the completed catch basins meet the applicable requirements of the Agricultural Operations Practices Act (AOPA).

We trust this satisfies your present requirements. If you have questions or require further information or clarification, please don't hesitate to contact the undersigned.

Respectfully submitted,

J Lobbezoo Engineering & Consulting Services Ltd.

PROFESSIONAL ENGINEER ALBERTA
JOHN P. LOBBEZOO
ID 160450

21 Jan 2025

John Lobbezoo, P.Eng.
Principal Geotechnical Engineer

PERMIT TO PRACTICE
J LOBBEZOO ENGINEERING & CONSULTING SERVICES LTD.
RM SIGNATURE: _____
RM APEGA ID #: 160450
DATE: 21 Jan 2025
PERMIT NUMBER: P016456
The Association of Professional Engineers and Geoscientists of Alberta (APEGA)