

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	LA 19036	NE 10-9-27 WPM
<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.

October 1, 2019
Date of signing

[Signature]
Signature
Arie + Willeminga Mulwyk
Print name

Corporate name (if applicable)

GENERAL INFORMATION REQUIREMENTS

Proposed facilities. List all proposed confined feeding operation facilities and their measurements, including if it is an addition to an existing facility (attach additional pages if needed)

Proposed manure collection areas & manure storage facilities	Dimensions (m)
Covered shelter	AM 82 109 m x 15 m
3 corrals (2 existing + 1 new)	92 m x 37 m
Catch basin	25 m x 17 m x 1.5 m

Existing facilities. List ALL existing confined feeding operation facilities and their measurements (use additional pages if needed)

Existing barns, manure collection areas & manure storage facility	Dimensions (m)	NRCB USE ONLY
Barn 1	50 m x 12 m	
Barn 2	60 m x 12 m	
Lagoon #1	40 m x 25 m x 1.75 m deep	
Lagoon #2	20 m x 20 m x 2.5 m	
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If a new facility is replacing an old facility, what will be done with the old facility and when? N/A

Proposed construction completion date: November 30, 2022

Additional information:

Livestock Numbers: (include all livestock)

Note: Livestock numbers in this table will be used when processing the application)

Livestock type/ category	Existing number	Change in number (if applicable)	Total
Feeder Calves	0	+ 3000	3000
Hog's Farrow to wean	250	-250	0

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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 (or check) 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 de-populate the CFO and/or to cease further construction, or to remove "works" or "undertakings" (as defined in the *Water Act*).
6. **CHECK IF 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 ____ day of _____, 20____.

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 de-populate the CFO and/or to cease further construction, or to remove "works" or "undertakings" (as defined in the *Water Act*).
6. **CHECK IF 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 14th day of August, 2019.



Signature of Applicant or Agent

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AREA PLAN (AERIAL PICTURE)

The application must include an area plan, unless otherwise directed by the approval officer. An area plan should include:

- Standard map features (north arrow, scale and legend)
- Municipal district/county name
- Legal land location(s)
- Lands proposed to be used for manure application in the first year of operation
- Neighbouring residences
- Water courses and common bodies of water
- Springs
- Runoff patterns
- Roadways

DETAILED SITE LAYOUT PLAN

The application must include a detailed site layout plan unless otherwise directed by the approval officer. As a minimum, the site plan should show the following:

- Standard map features (north arrow, scale and legend)
- Legal land description(s)
- Location and dimensions of existing and proposed manure storage facilities, ancillary structures, residences and barns
- Wells and springs
- Common bodies of water
- Runoff patterns and natural drainage flow
- Run-on and runoff controls
- Proposed works in relation to boundaries of the quarter section in which the works are located
- Right-of-ways
- Roadways, including access roads
- Air photo (optional)
- Any other pertinent information related to the confined feeding operation

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GENERAL WATER INFORMATION – EXISTING <i>Barn #1</i> Use the existing manure storage facility that is closest to a common body of water or water well			NRCB USE ONLY	
			Comments	Meets regulations
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?	<i>14</i> (m)	<input checked="" type="checkbox"/> Estimated <input type="checkbox"/> From records		<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption
Springs, wells, and surface water information				
a. How many springs are within 100 m of manure storage facilities or manure collection areas?		<i>0</i>		<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption
b. How many water wells are within 100 m of the manure storage facilities or manure collection areas?		<i>1</i> <i>ID 115735</i>		<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption
c. What is the shortest distance from an manure collection or storage facility to a surface water body? (ie, lake, creek, slough, seasonal, etc.)		<i>1.34m</i> <i>irrigation canal</i>		<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption
Groundwater information				
a. What is the depth to bedrock?	<i>29</i> (m)	<input type="checkbox"/> Estimated <input type="checkbox"/> Measured <input checked="" type="checkbox"/> Drilling reports	N/A	
c. What is the shallowest depth to the uppermost groundwater resource?	<i>74</i> (m)	<input checked="" type="checkbox"/> Estimated <input type="checkbox"/> Measured <input type="checkbox"/> Drilling reports		<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption

Additional information: (attach borehole logs and records, as required)

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GENERAL WATER INFORMATION – PROPOSED Use the proposed manure storage facility that is closest to a common body of water or water well			NRCB USE ONLY	
			Comments	Meets regulations
Proposed facility name <u>Arie & Willemiek Mulder</u> <u>Corrals + Covered Shelter</u>				
Flood plain information What is the elevation of the floor of the lowest proposed manure storage or collection facility above the 1:25 year flood plain or the highest known flood level?	<u>+1</u> (m)	<input checked="" type="checkbox"/> Estimated <input type="checkbox"/> From records		<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption
Springs, wells, and surface water information				
a. How many springs are within 100 m of proposed manure storage facilities or manure collection areas?		<u>0</u>		<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption
b. How many water wells are within 100 m of proposed manure storage facilities or manure collection areas?		<u>1</u>		<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption
c. What is the shortest distance from a proposed manure collection or storage facility to a surface water body? (ie, lake, creek, slough, seasonal, etc.)		<u>1.2 km</u>		<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption
Groundwater information				
a. What is the depth to bedrock?	<u>29</u> (m)	<input type="checkbox"/> Estimated <input type="checkbox"/> Measured <input checked="" type="checkbox"/> Drilling reports	N/A	
b. What is the depth to the water table?	<u>14</u> (m)	<input checked="" type="checkbox"/> Estimated <input type="checkbox"/> Measured <input type="checkbox"/> Drilling reports		<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption
c. What is the shallowest depth to the uppermost groundwater resource?	<u>14</u> (m)	<input checked="" type="checkbox"/> Estimated <input type="checkbox"/> Measured <input type="checkbox"/> Drilling reports		<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption

Additional information: (attach borehole logs and records, as required)

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GENERAL WATER INFORMATION – PROPOSED Use the proposed manure storage facility that is closest to a common body of water or water well			NRCB USE ONLY	
			Comments	Meets regulations
Proposed facility name <u>Catch Basin</u>				
Flood plain information What is the elevation of the floor of the lowest proposed manure storage or collection facility above the 1:25 year flood plain or the highest known flood level?	<u>71</u> (m)	<input checked="" type="checkbox"/> Estimated <input type="checkbox"/> From records		<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption
Springs, wells, and surface water information				
a. How many springs are within 100 m of proposed manure storage facilities or manure collection areas?		<u>0</u>		<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption
b. How many water wells are within 100 m of proposed manure storage facilities or manure collection areas?		<u>1</u>		<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption
c. What is the shortest distance from a proposed manure collection or storage facility to a surface water body? (ie, lake, creek, slough, seasonal, etc.)		<u>1.3 km</u>		<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption
Groundwater information				
a. What is the depth to bedrock?	<u>29</u> (m)	<input type="checkbox"/> Estimated <input type="checkbox"/> Measured <input checked="" type="checkbox"/> Drilling reports	N/A	
b. What is the depth to the water table?	<u>14</u> (m)	<input checked="" type="checkbox"/> Estimated <input type="checkbox"/> Measured <input type="checkbox"/> Drilling reports		<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption
c. What is the shallowest depth to the uppermost groundwater resource?	<u>4</u> (m)	<input checked="" type="checkbox"/> Estimated <input type="checkbox"/> Measured <input type="checkbox"/> Drilling reports		<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption

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

Name	Legal Land Description	Distance (m)	Zoning (LUB) Category	MDS Cat (1-4)	Distance (m)	Meets Regulations
Nico & Corien De Wit	SE-15-9-27 W4	900 m				
Gerald & Jennifer Maljkan	SW-14-9-27 W4	900 m				
Dirk & Maria Maulwijk	SE-10-9-27-W4	500 m				
Trailer to west	NW-10-9-27-W4	900 m				
John Van Herk	SW-10-9-27-W4	1200 m				
Hendrik & Elaine De Wit	NE-15-9-27 W4	900 m				

Methods used/margins of error to determine distance:

Additional information:

NRCB USE ONLY

Methods used to determine distance (if applicable): _____

Margin of error (if applicable): _____

Requirements: Category 1: _____ Category 2: _____ Category 3: _____ Category 4: _____

Technology factor: YES NO

Expansion factor: YES NO

Waivers required: YES NO # _____

Waivers attached: Waivers in file:

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

Comments:

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		-
	Feeder Calves (<550 lbs)	0.700	0.700	0.275	0.135	3,200	404.3
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)	0.800	0.700	0.875	0.490		-
	Replacements - Bred Heifers (Breeding to Calving)	0.800	0.700	0.525	0.294		-
	Replacements - Growing Heifers (350 lbs to breeding)	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							404.3

For New Operations

Dispersion Factor 1

Category	Odour Objective	Distance	
		Feet	Metres
1	41.04	1,204	367
2	54.72	1,605	489
3	68.4	2,007	612
4	109.44	3,211	979

For Expanding Operations

Dispersion Factor 1
Expansion Factor 0.77

Category	Odour Objective	Distance	
		Feet	Metres
1	41.04	927	283
2	54.72	1,236	377
3	68.40	1,545	471
4	109.44	2,472	754

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LAND BASE FOR MANURE AND COMPOST APPLICATION (for approvals and registrations only)

Name of landowner(s)*	Legal Land Description	Area ** (usable hectares)	Soil Zone	NRCB USE ONLY Area unsuitable:
Arie & Willemien Marckhijh	NE-10-9-27-W4	55	Dark Brown	
Nico & Conien de Wit	SE-15-9-27-W4	60	Irrigated Dark Brown	
TOTAL				

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

** Available manure spreading area (do not include required setback areas from residences, common bodies of water, water wells, etc.) (to convert from acres to hectares divide acres by 2.47)

Additional information: (attach copies of all signed land use agreements)

See attached

NRCB USE ONLY

Land base required: _____

Land base listed: _____

Area not suitable: _____

Available area: _____ Requirement Met: YES NO

Land spreading agreements required: YES NO If yes, Agreements in file: Agreements attached:

Manure Management Plan: YES NO Plan attached: Plan in file:

Manure Spreading Agreement

Nico De Wit agree to allow Arie Mulwigh (applicant) to spread manure on the following fields during 2020 (calendar year).

Land location	Acres	Suitable for spreading	Soil zone
SE-15-9-27-W4	155	155	Irrigated Dark Brown

Signed: N. C. de Wit

Date: _____

Name 0
 Address 0
 Legal Land 0
 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)	0	0	0	0	0
	Feeder Calves (<550 lbs)	3000	93.000	78.000	57.000	45.000
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 (Brooding to Calving)	0	-	-	-	-
	Replacements - Growing Heifers (350 lbs to breeding)	0	-	-	-	-
	Calves (< 350 lbs)	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	-	-	-	-
Swine Solid (*Count sows only)	Farrow to finish *	0	-	-	-	-
	Farrow to wean *	0	-	-	-	-
	Farrow only *	0	-	-	-	-
	Feeders/Boars	0	-	-	-	-
	Growers/Roasters	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	PMU	0	0	0	0	0
	Feeders > 750 lbs	0	-	0	-	-
	Foals < 750 lbs	0	-	-	-	-
	Mules	0	-	-	-	-
	Donkeys	0	-	-	-	-
Sheep	Ewes/Rams	0	-	0	0	0
	Ewes with lambs	0	-	-	-	-
	Lambs	0	-	-	-	-
	Feeders	0	-	-	-	-
Goats	Meat/Milk (per Ewe)	0	0	0	0	0
	Nannies/Billies	0	-	-	-	-
	Feeders	0	-	-	-	-
Bison	Bison	0	0	0	0	0
		0				
Cervid	Elk	0	0	0	0	0
	Deer	0	0	0	0	0
Wild Boar		0				
	Feeders	0	-	0	0	0
	Sow (farrowing)	0	-	-	-	-
		0				
Total Hectares			93.0	78.0	57.0	45.0
Total Acres			229.8	192.7	140.8	111.2

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SOLID MANURE, COMPOST & COMPOSTING MATERIALS: Barns, feedlots & storage facilities - Alternative liner

(complete a copy of this section for EACH barn, feedlot and storage facility for solid manure, composting materials or compost with a alternative liner)

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

1. Calf pens (corrals)

2. Covered Shelter

Manure storage capacity

	Length (m)	Width (m)	Estimated storage capacity (m ³)	Depth below grade to the bottom of the liner (m)
1.	92m	37m	NA	0
2.	82m	15m	NA	0

NRCB USE ONLY

Depth to water table: _____ Requirements met: YES NO

Depth to UGR: _____ Requirements met: YES NO

ERST completed: YES NO

Groundwater risk level: _____ Surface Water risk level: _____

UGR: Uppermost Groundwater Resource as defined under AOPA's *Standards and Administration Regulation*.

Surface water control systems

- Under roof: Surface water will be controlled by the walls and roof of the building and by the finished landscaping.
- Outdoor: Describe the run-on and runoff control system proposed for feedlots and outdoor manure storage facilities:
Covered shelter will have a roof

NRCB USE ONLY

Requirements met: YES NO

Details/comments:

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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)

SOLID MANURE, COMPOST & COMPOSTING MATERIALS: Barns, feedlots & storage facilities - Alternative liner (cont.)

Alternative liner details

a. Describe the proposed alternative liner <i>roller compacted concrete liner</i>	Provide details: <i>6" - 7" of roller compacted concrete to make a durable liner, professionally installed</i>
b. Information and calculations used to show equivalency	Provide details:

Additional information:

NRCB USE ONLY	
Liner requirements met: <input type="checkbox"/> YES <input type="checkbox"/> NO	Condition required: <input type="checkbox"/> YES <input type="checkbox"/> NO
Comments:	

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 BASINS: Synthetic liner

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

Facility description / name (as indicated on site plan) **1. Catch basin**
 Run-off catch basin **2.** _____
3. _____

Determination of minimum required catch basin volume

Show your calculations for determining the minimum required catch basin volume	Provide details: <i>see attached</i>
--	---

Catch basin capacity

	Length (m)	Width (m)	Depth (m)	Slope run:rise			Estimated storage capacity (excl. freeboard) (m ³)	Depth below grade of the bottom of the synthetic liner (m)
				Inside end walls	Inside side walls	Outside walls		
1.	25	17	1.5	3	3		212	
2.								
3.								
TOTAL CAPACITY								

NRCB USE ONLY

Catch basin calculator (calculation attached). Total volume @ freeboard level _____ Requirements met: YES NO

Depth to water table: _____ Requirements met: YES NO

Depth to UGR: _____ Requirements met: YES NO

ERST completed: YES NO

Groundwater risk level: _____ Surface Water risk level: _____

UGR: Uppermost Groundwater Resource as defined under AOPA's Standards and Administration Regulation.

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 BASINS: Synthetic liner (cont.)

Synthetic liner details

a. Synthetic liner <i>HOPE 40</i>	Thickness and type of liner material : <i>4/0 mil</i>	Provide liner material details: <i>See attached</i>
--	--	--

Additional information:

NRCB USE ONLY

Liner requirements met: YES NO Condition required: YES NO
 Comments:

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

Comments:

Construction plans approved by professional engineer: YES NO

Installed by approved contractor: YES NO
 Preparation of liner bed (comments):

Catch Basin Dimensions Calculator

Construction Dimensions of Catch Basin

Metric	
Size of Catch Basin	
Length* ₄	25.0 m
Width* ₄	17.0 m
Total Depth* ₄	1.5 m
Water Depth	1.00 m
End Slope* ₄	3 run:rise
Side Slope* ₄	3 run:rise
Length of Bottom	16.0
Width of Bottom	8.0
Total Capacity @ top of Bank	395 m³

* Only cells in blue can be changed.

English Units

Capacity of Catch Basin	
	82.02 Feet
	55.77 Feet
	4.92 Feet
	3.28 Feet
	3 run:rise
	3 run:rise
	3 run:rise
Total Capacity @ top of Bank	13,932 ft³
	86,778 Imp. Gal.

Name ₁	Test		
Land Location ₁	1-1-4-W5		
Area ₂	Length (m)	Width (m)	Area (m ²)
1	92	37	3,349
2			0
3			0
4			0
5			0
Total Area			3,349

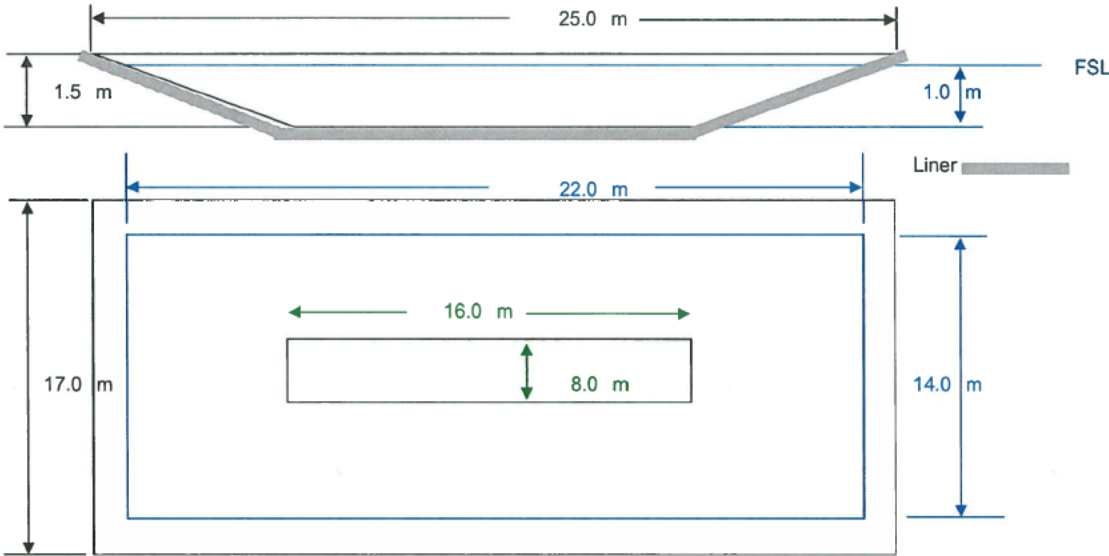
Select Town ₃	
Lethbridge 90	90 mm
Design Rainfall	

Storage Volume of Catch Basin at Design Capacity (without freeboard)	
Length (Top of liquid level)	22.0 m
Width (Top of liquid level)	14.0 m
Depth	1.5 m
Water Depth	1.00 m
End Slope	3 run:rise
Side Slope	3 run:rise
Total Volume@ freeboard depth	212 m³
Surface Area of Liquid Manure	308 m²

Volume at Freeboard	
	72.18 Feet
	45.93 Feet
	4.92 Feet
	3.28 Feet
	3 run:rise
	3 run:rise
	3 run:rise
Total Volume@ freeboard depth	7,487 ft³
	46,633 Imp. Gal.
	3,315 ft²

Catch Basin Design Volume	
196 m³	6,919 ft³
	43,094 Imp. Gal.

** Storage volume should be same or slightly greater than design storage volume.



— Lines in Black - Catch basin dimension
 — Lines in Blue - full level

NTS - Not Drawn To Scale



Geomembrane [HDPE 40 Textured (SS) Black]

Our HDPE 40 geomembranes are designed in accordance with the Geomembrane Research Institute GM 13 standard. It is manufactured to meet the properties of GRI GM13 textured High Density Polyethylene and has been extensively used in a variety of containment applications. HDPE geomembranes have low permeability, good ultra violet resistance properties and excellent chemical resistance. HDPE 40 is a field assembled lining material that must be installed by trained installers. HDPE is used in a multitude of applications as a landfill liner, pond linings, and water containment projects.

Property	ASTM	HDPE 40 Textured ¹ Black Single Sided (SS)
Thickness nom. (min.avg)	D5994	40 mil (36 mil) 1.00 mm (0.915 mm)
Thickness	D5994	
	Lowest Individual for 8 out of 10 values Lowest individual for any of the 10 values	36 mil/0.93 mm 34 mil/0.88 mm
Asperity Height (min.ave)	D 7466	16 mil 0.4 mm
Sheet Density (minimum)	D792	≥0.940 g/cc
Dimensional Stability	D 1204	±2%
Tensile Properties (min. avg) ASTM D 6693; Modified Type IV Die Gage length break: 2" (50 mm) Gage length yield: 1.3" (33 mm)	Tensile Strength @ Break	60 ppi 10 kN/m
	Tensile Strength @ Yield	84 ppi 15 kN/m
	Tensile Elongation @ Break	100%
	Tensile Elongation @ Yield	12%
Tear Resistance (min. avg)	D1004	28 lbs 125 N
Puncture Resistance (min. avg)	D4833	60 lbs 267 N
High Pressure Oxidative Induction Time (HPOIT)	D5885	400 mins
Stress Cracking	D5397	500 hrs
Carbon Black Content ¹	D1603	2.0-3.0 %
Carbon Black Dispersion ²	D5596	CAT 1 or 2
Oven Aging 85° C, HPOIT retained after 90 days	D5721 D D5885	80%
UV Resistance- % HPOIT retained after 1600 hrs	D7238 D5885	50%
Typical Roll Dimensions (Rolls dimensions may vary ± 1%)		
Roll Width	-	22.5 feet 6.86 mtrs
Roll Length	-	780 feet 237.8 mtrs

¹This product is designed and manufactured to meet the GRI GM13 specification

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Geomembrane [HDPE 60 Textured (SS) Black]

Our HDPE 60 geomembranes are designed in accordance with the Geomembrane Research Institute GM 13 standard. It is manufactured to meet the properties of GRI GM13 and has been extensively used in a variety of containment applications. HDPE geomembranes have low permeability, good ultra violet resistance properties and excellent chemical resistance. HDPE 60 is a field assembled lining material that must be installed by trained installers. HDPE is used in a multitude of applications as a landfill liner, pond linings, and water containment projects.

Property	ASTM	HDPE 60 Textured ¹ Black Single Sided(SS)
Thickness nom. (min.avg)	D5199	60 mil (57 mil) 1.5 mm (1.45 mm)
Thickness	D5199 Lowest Individual for 8 out of 10 values Lowest individual for any of the 10 values	54 mil/1.4 mm 51 mil/1.3 mm
Asperity Height (min.ave)	D 7466	16 mil 0.4 mm
Sheet Density (minimum)	D792	≥0.940 g/cc
Dimensional Stability	D 1204	±2%
Tensile Properties (min. avg) ASTM D 638; Modified Type IV Die Gage length break: 2" (50 mm) Gage length yield: 1.3" (33 mm)	Tensile Strength @ Break Tensile Strength @ Yield Tensile Elongation @ Break Tensile Elongation @ Yield	90 ppi 16 kN/m 126 ppi 22 kN/m 100% 12%
Tear Resistance (min. avg)	D1004	42 lbs 187 N
Puncture Resistance (min. avg)	D4833	90 lbs 400 N
High Pressure Oxidative Induction Time (HPOIT)	D5885	400 mins
Stress Cracking	D5397	500 hrs
Carbon Black Content ¹	D1603	2.0-3.0 %
Carbon Black Dispersion ²	D5596	CAT 1 or 2
Oven Aging 85° C, HPOIT retained after 90 days	D5721 D D5885	80%
UV Resistance- % HPOIT retained after 1600 hrs	D7238 D5885	50%
Typical Roll Dimensions (Rolls dimensions may vary ± 1%)		
Roll Width	-	22.5 feet 6.86 mtrs
Roll Length	-	560 feet 170.7 mtrs

¹This product is designed and manufactured to meet the GRI GM13 specification

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AT File Reference: RSDP027438
Our Reference: 2511-NE 10-9-27-W4M (785)
Permit No. 5548-19

September 26, 2019

Arie and Willemiek Muilwijk

Box 1628
Fort Macleod, AB T0L 0Z0

Dear Mr. and Mrs. Muilwijk:

RE: PROPOSED CALF SHELTER AND GRAIN SHED

Attached is a permit issued under the Highways Development and Protection Regulation, being Alberta Regulation 326/2009 and amendments thereto, authorizing the above noted development. This permit is subject to the conditions listed on page 2.

In consideration of Permit No. 5548-19, the applicant shall indemnify and hold harmless Alberta Transportation, its employees and agents, from any and all claims, demands, actions, and costs whatsoever that may arise, directly or indirectly, from anything done or omitted to be done in the construction, maintenance, alteration, or operation of the works authorized.

Issuance of this permit by Alberta Transportation does not relieve the holder of the responsibility of complying with relevant municipal bylaws, and this permit once issued does not excuse violation of any regulation, bylaw, or act that may affect this project.

Upon completion of the project, we ask that you notify Darren Davis, Assistant Development/Planning Technologist, or Leah Olsen, Development/Planning Technologist, at Lethbridge, 403-381-5426, who will inspect the conditions of the permit. Your cooperation in this matter is appreciated.

Yours truly,



Darren Davis
Assistant Development/Planning Technologist

DD/jb

cc: Municipal District of Willow Creek No. 26 – chisholm@mdwillowcreek.com;
brenda@mdwillowcreek.com

Volker Stevin – fortmacleod.admin@volkerstevin.ca


Rick Lemire – e-mailed

Darren Davis – e-mailed

(To be completed by Alberta Transportation)

**ROADSIDE DEVELOPMENT APPLICATION APPROVAL
FOR DEVELOPMENT NEAR A PRIMARY HIGHWAY**

PERMIT

Permission is hereby granted to <u>Arie and Willemiek Muilwijk</u> to carry out the development in accordance with the plan(s) and specifications attached hereto and subject to the conditions shown below.	
If the development has not been carried out by the <u>26th</u> day of <u>September</u> <u>2020</u> this permit lapses and the applicant must reapply for a new permit if they wish to proceed.	
SIGNED <u></u>	PERMIT NO. <u>5548-19</u>
TITLE <u>Assistant Development/Planning Technologist</u>	FILE NO. <u>2511-NE 10-9-27-W4M (785)</u>
	DATE <u>September 26, 2019</u>

PERMIT CONDITIONS: (Note: This permit is subject to the provisions of Section 11 – 19 inclusive of the Highways Development and Protection Act, Chapter H-8.5 2004, amendments thereto, and Highways Development and Protection Regulation (Alberta Regulation 326/2009) and amendments thereto).

A. ACCESS CONDITIONS: (Note: All highway accesses are to be considered temporary. No compensation shall be payable to the applicant or his assigns or successors when the Department removes or relocates the temporary access or if highway access is removed and access provided via service road).

1. ~~(a) No direct highway access will be permitted. Access shall be via the local municipal road.~~
 (b) Use of the existing highway access may continue on a temporary basis.
~~(c) Permit authorizes construction of proposed access at the location shown and to the attached specifications. (Figure D-3.3b)~~
2. No additional highway access will be permitted.
3. The applicant shall construct and maintain any highway access to the Alberta Transportation's satisfaction.
4. Approval of companies having buried utilities shall be obtained prior to access construction or upgrading.

B. SETBACK CONDITIONS (Note: Minimum setbacks usually allow for anticipated highway widening and construction of a service road parallel and adjacent to the highway).

1. The proposed calf shelter and grain shed is to be set back 77 meters (28 feet) from the highway property line as shown on attached approved site plan.
2. The department accepts no responsibility for the noise impact of highway traffic upon any development or occupants thereof.

C. OTHER CONDITIONS:

1. This permit is issued subject to the approval of the Municipal District of Willow Creek No. 26.
2. This permit approves only the development contained herein, and a further application is required for any changes or additions.
3. The department is under no obligation to reissue a permit if the development is not completed before expiry of this permit.
4. Darren Davis, Assistant Development/Planning Technologist, or Leah Olsen, Development/Planning Technologist, in Lethbridge, telephone 403-381-5426, shall be notified before construction commencement.
5. The applicant shall not place any signs contrary to Alberta Regulation 326/2009. A separate "SIGN APPLICATION" form shall be submitted for any proposed sign.

D. ADDITIONAL CONDITIONS and/or ADVISEMENTS:

See attached Schedule "A"

SCHEDULE "A"
Permit 5548-19

D: ADDITIONAL CONDITIONS and/or ADVISEMENTS:

1. This permit is approval for development of a calf shelter and grain shed only. Any additional development will be expressly subject to Condition C.2.
2. The applicant shall ensure that all on-site development, including ancillary development, is setback from the highway right-of-way boundary as shown on the attached approved site plan. Under no circumstance shall a different setback be implemented without the written permission of Alberta Transportation.
3. Further to condition A.1.(b), the department will not accept any responsibility for compensation requests/claims dealing with loss of business, inconvenient access, or any other disruption that may arise as result of the possible revision to the existing access arrangement. The possible revision to the existing access arrangement may be due to access management/operational, construction, or planning activities carried out by the department or its consultants.
4. Further to Condition B.2, noise impact and the need for attenuation should be thoroughly assessed. The applicant is advised that provisions for noise attenuation are the sole responsibility of the developer and should be incorporated as required into the development of the property.
5. Any peripheral lighting (yard lights/area lighting) that may be considered a distraction to the motoring public or deemed to create a traffic hazard will not be permitted.

ROADSIDE DEVELOPMENT APPLICATION FOR DEVELOPMENT NEAR A PROVINCIAL HIGHWAY

(print please)

Alberta Transportation Permit # 5548-19

Applicant's Name Arie & Willemiek Mulwijk RSDP 027438

Mailing Address Box 1628

City/Town/Village Fort Macleod Province Alberta Postal Code T0L 0Z0

Phone # [redacted] Fax # _____ e-mail [redacted]

Landowner's Name (if different from above) _____

Mailing Address _____

City/Town/Village _____ Province _____ Postal Code _____

Phone # _____ Fax # _____ e-mail _____

APPLICATION IS HEREBY MADE TO: (Please provide a description of the proposed development including all proposed above and below ground installations. Attach a detailed report if necessary.)

Build covered calf shelter 260' x 48' with attached commodity shed
Water lines will be underground. 0.5m gap having each individual
pen being 16' x 48'. 16 pens + grain shed.

Also attach a plan showing in detail the location of all existing and proposed development and access.

Property Information

NE 10 9 27 604
(NE, NW, SE, SW) 1/4 Section Township Range West of Meridian

156
Lot Block Plan Number Parcel size (acres or hectares)

Highway No. 785 14 kilometres west of Fort Macleod
(north, south, etc.) (City, Town or Village)

Distance of the proposed development to the highway right-of-way boundary 77 metres

MO of Willow Creek Agriculture \$775000
Name of Municipality Existing / Proposed Land Use Estimated cost of proposed development

It is understood that all works will be constructed, altered, maintained or operated at the sole expense of the undersigned, and that any work must not begin before a permit has been issued by Alberta Transportation.

In consideration of any permit issued in respect to this application, the Applicant shall indemnify and hold harmless Alberta Transportation, its employees and agents from any and all claims, demands, actions and costs whatsoever that may arise, directly or indirectly from anything done or omitted to be done in the construction, maintenance, alteration or operation of the works authorized. The Applicant also consents to a person designated by Alberta Transportation to enter upon land for the purpose of inspection during the processing of this application.

The issuance of a permit by Alberta Transportation does not relieve the holder of the responsibility of complying with relevant municipal bylaws and this permit once issued does not excuse violation of any regulation, bylaw or act which may affect this project

I Arie Mulwijk hereby certify that Van am the registered owner [Signature]
(print full name) Signature

I _____ hereby certify that _____ I am authorized to act on the owner's behalf _____
(print full name) Signature

and that the information given on this form is full and complete and is, to the best of my knowledge, a true statement of facts relating to this application for roadside development.

RECEIVED

(Date) September 25 / 2019

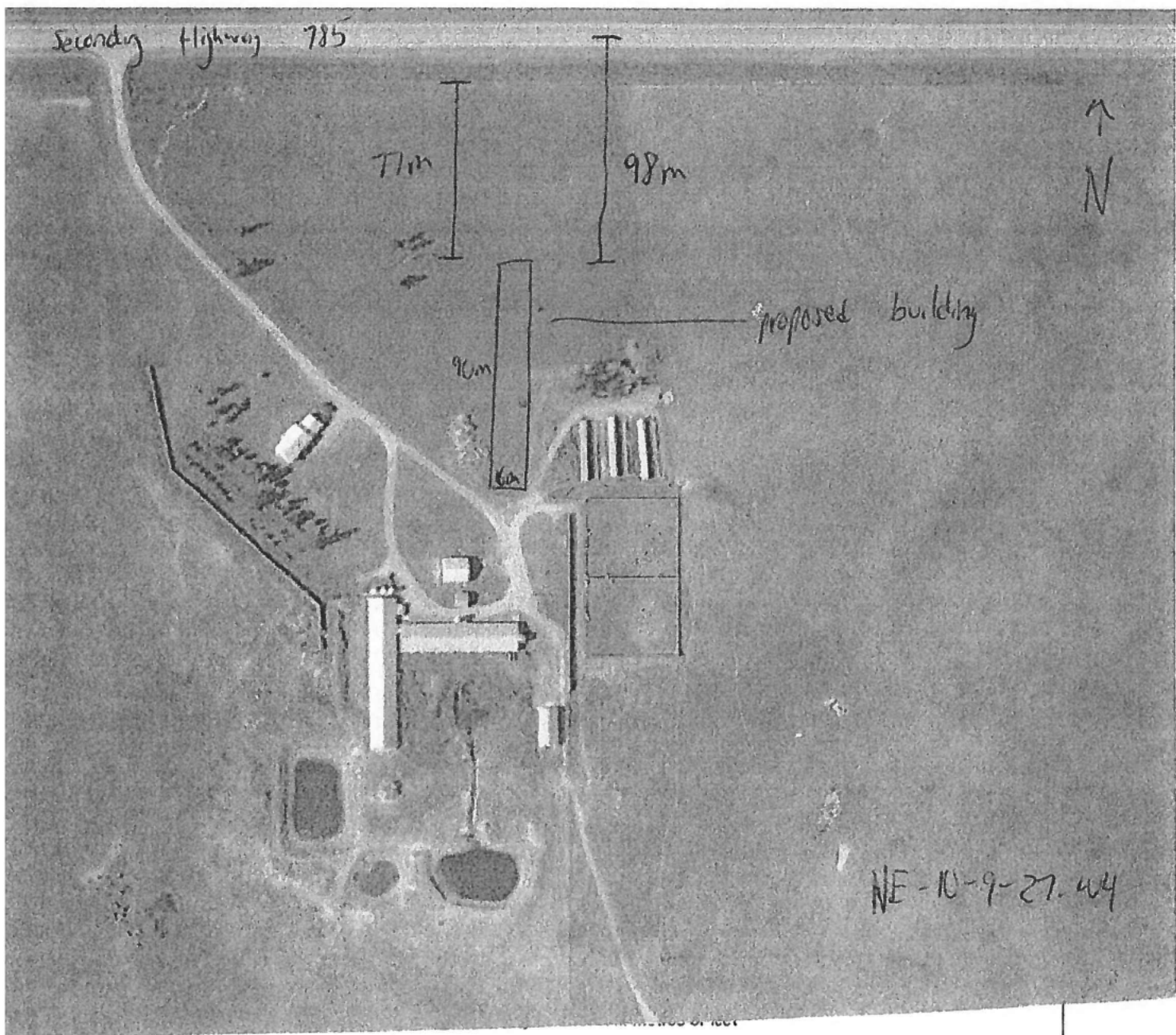
SEP 26 2019

Sep. 26/19
JB

Southern Region TRANSPORTATION

ROADSIDE DEVELOPMENT APPLICATION FOR DEVELOPMENT NEAR A PROVINCIAL HIGHWAY

Alberta Transportation Permit # _____



SITE PLAN

Alberta
TRANSPORTATION
APPROVED

DM DM

Assistant Development/Planning Technologist

AM

Signature of Registered Owner or Authorized Agent

Permit No. 5548-19