

# Technical Document RA24010

## 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)

<b>NRCB USE ONLY</b> <input type="checkbox"/> Approval <input type="checkbox"/> Registration <input checked="" type="checkbox"/> Authorization <input type="checkbox"/> Amendment	Application number <u>RA24010</u>	Legal land description <u>NE 20-32-28 W4M</u>
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### 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.

March 1 2024.  
 Date of signing  
Bertens Holsteins Ltd.  
 Corporate name (if applicable)

Signature  
Ad Bertens.  
 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)
<u>Calbarn Expansion</u>	<u>21.5m x 43m.</u> (total final dimensions 57 m x 43 m)

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

Existing facilities	Dimensions (m) (length, width, and depth)	NRCB USE ONLY
<u>See permit RA 14027A.</u> <u>or previous permits.</u>		All verified - see next page

**NRCB USE ONLY**

# Part 2 – Technical Requirements



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Existing facilities continued	Dimensions (m) (length, width, and depth)	NRCB USE ONLY
- Calving barn/loafing area addition (22.8m x 20.4m)		
- Maternity pen addition (27.9m x 7.2m)		
- Vet room (3.6m x 4.8m)		
- freestall barn (north barn)		
- hospital barn (south barn)		
- calf barn 1		
- solid manure storage		
- deep liquid manure storage (EMS)		
- calf barn 2		



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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 Dec. 2025.

**Additional information**

**Livestock numbers:** Complete only if livestock numbers are different from what was identified in the Part 1 application. Note: if livestock numbers increase in your Part 2 application, a new Part 1 application must be submitted which may result in a loss of priority for minimum distance separation (MDS).

Livestock category and type (Available in the Schedule 2 of the Part 2 Matters Regulation)	Permitted number	Proposed increase or decrease in number (if applicable)	Total
No increase in animal numbers			

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### **DECLARATION AND ACKNOWLEDGMENT OF APPLICANT CONCERNING WATER ACT LICENCE**

issued by Alberta Environment and Protected Areas (EPA) for a confined feeding operation (CFO)

*Date and sign one of the following four options*

#### **OPTION 1: Applying through the NRCB for both the AOPA permit and the Water Act licence**

I **DO** want my water licence application coupled to my AOPA permit application.

Signed this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
*Signature of Applicant or Agent*

#### **OPTION 2: Processing the AOPA permit and Water Act licence separately**

1. I (we) acknowledge that the CFO will need a new water licence from EPA under the *Water Act* for the development or activity proposed in this AOPA application.
2. I (we) request that the NRCB process the AOPA application **independently** of EPA's processing of the CFO's application for a water licence.
3. In making this request, I (we) recognize that, if this AOPA application is granted by the NRCB, the NRCB's decision will not be considered by EPA as improving or enhancing the CFO's eligibility for a water licence under the *Water Act*.
4. I (we) acknowledge that any construction or actions to populate the CFO with livestock pursuant to an AOPA permit in the absence of a *Water Act* licence will **not** be relevant to EPA's consideration of whether to grant the *Water Act* licence application.
5. I (we) acknowledge that any such construction or livestock populating will be at the CFO's sole risk if the *Water Act* licence application is denied or if the operation of the CFO is otherwise deemed to be in violation of the *Water Act*. This risk includes being required to depopulate the CFO and/or to cease further construction, or to remove "works" or "undertakings" (as defined in the *Water Act*).
6. **AS RELEVANT:** I (we) acknowledge that the CFO is located in the South Saskatchewan River Basin and that, pursuant to the *Bow, Oldman and South Saskatchewan River Basin Water Allocation Order* [Alta. Reg. 171/2007], this basin is currently closed to new surface water allocations.
7. **Provide:** Water licence application number(s) \_\_\_\_\_

Signed this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
*Signature of Applicant or Agent*

#### **OPTION 3: Additional water licence not required**

1. I (we) declare that the CFO will not need a new licence from EPA under the *Water Act* for the development or activity proposed in this AOPA application.
2. **Provide:** Water license number(s) or water conveyance agreement details \_\_\_\_\_

Signed this 1. day of March, 2024.

\_\_\_\_\_  
*Signature of Applicant or Agent*



## 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)

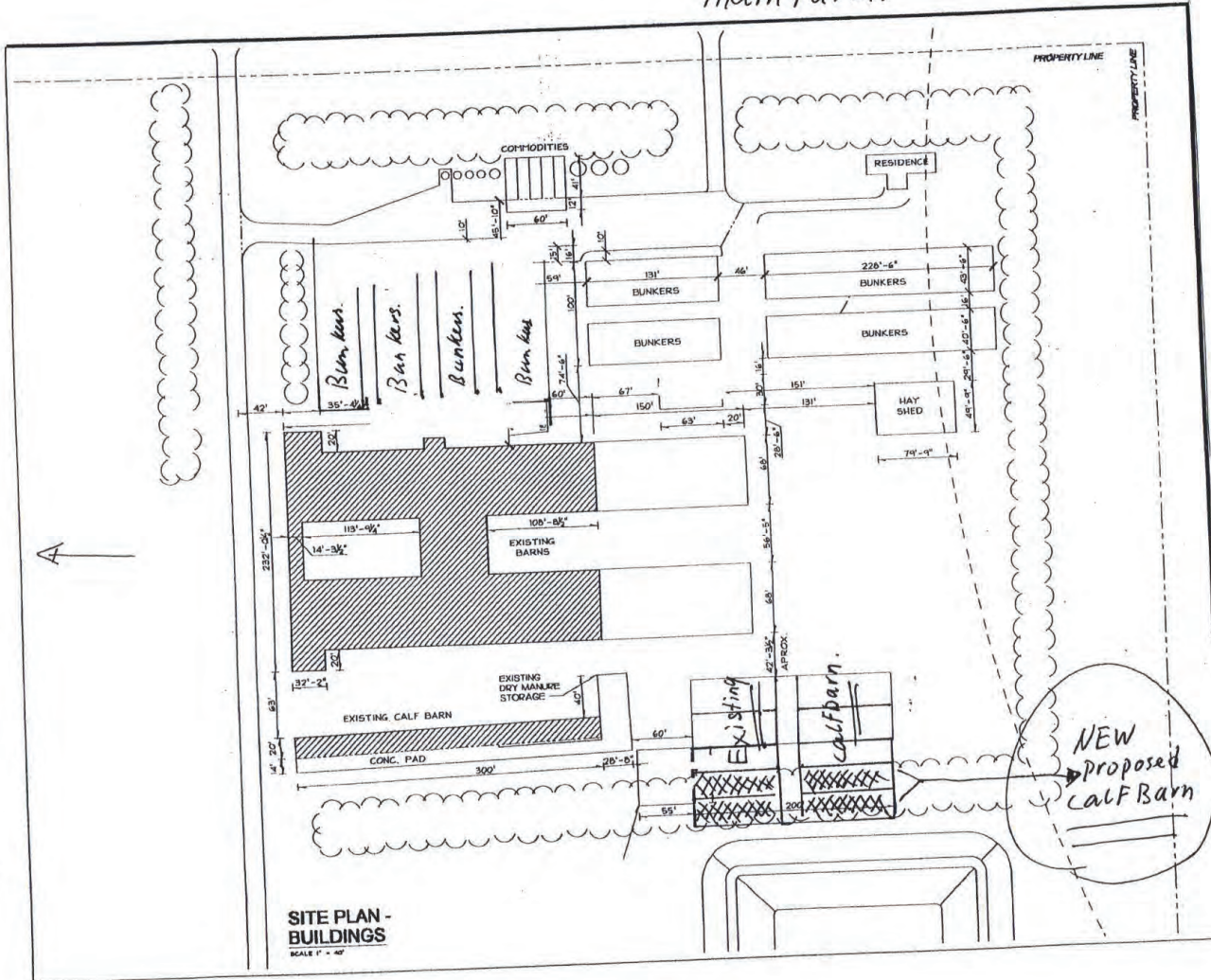
### **OPTION 4: Uncertain if *Water Act* licence is needed; acknowledgement of risk (for existing CFOs only)**

1. At this time, I (we) do not know whether a new water licence is needed from EPA under the *Water Act* for the development or activity proposed in this AOPA application.
2. If a new *Water Act* licence is needed, I (we) request that the NRCB process the AOPA application **independently of** EPA's processing of the CFO's application for a water licence.
3. In making this request, I (we) recognize that, if this AOPA application is granted by the NRCB, the NRCB's decision will not be considered by EPA as improving or enhancing the CFO's eligibility for a water licence under the *Water Act*.
4. I (we) acknowledge that any construction or actions to populate the CFO with additional livestock pursuant to an AOPA permit in the absence of a *Water Act* licence will **not** be relevant to EPA's consideration of whether to grant my *Water Act* licence application, if a new water licence is needed.
5. I (we) acknowledge that any such construction or livestock increase will be at the CFO's sole risk if the *Water Act* licence application is denied or if the operation of the CFO is otherwise deemed to be in violation of the *Water Act*. This risk includes being required to depopulate the CFO and/or to cease further construction, or to remove "works" or "undertakings" (as defined in the *Water Act*).
6. **AS RELEVANT:** I (we) acknowledge that the CFO is located in the South Saskatchewan River Basin and that, pursuant to the *Bow, Oldman and South Saskatchewan River Basin Water Allocation Order* [Alta. Reg. 171/2007], this basin is currently closed to new surface water allocations.
7. **Provide:** Water license number(s) or water conveyance agreement details \_\_\_\_\_

Signed this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
*Signature of Applicant or Agent*

A N. Bertens Holsteins Ltd. # 1.  
Main Farm.



SITE PLAN -  
BUILDINGS  
SCALE 1" = 40'



## 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)



### 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: dairy barn

Proposed 1: Calf barn expansion

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 elevation of the floor of the lowest manure storage or collection facility above the 1:25 year flood plain or the highest known flood level?	<input checked="" type="checkbox"/> >1 m <input type="checkbox"/> ≤ 1 m	<input checked="" type="checkbox"/> >1 m <input type="checkbox"/> ≤ 1 m	<input type="checkbox"/> >1 m <input type="checkbox"/> ≤ 1 m	<input type="checkbox"/> > 1 m <input type="checkbox"/> ≤ 1 m	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption	>1 above flood plain
	How many springs are within 100 m of the manure storage facility or manure collection area?	0	0			<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption	None observed during a site visit
Surface water information	How many water wells are within 100 m of the manure storage facility or manure collection area?	1	0			<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption	One WW located w/i 100 of an existing barn
	What is the shortest distance from the manure collection or storage facility to a surface water body? (e.g., lake, creek, slough, seasonal)	>30	>30			<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption	Verified
Groundwater information	What is the depth to the water table?		>7.5m			<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption	Measured at 5 m
	What is the depth to the groundwater resource/aquifer you draw water from?	30m	30m			<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption	UGR identified at 24.1 m in WW ID# 253891

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

# Part 2 – Technical Requirements

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**NRCB USE ONLY**  
**ENVIRONMENTAL RISK SCREENING INFORMATION**

ERST for **proposed** facilities

Facility	Groundwater score	Surface water score	File number
Expansion of calf barn	Low	Low	RA24010

ERST for **existing** facilities

Facility	Groundwater score	Surface water score	File number
EMS	Low	Low	RA14027
Maternity pen	Low	Low	RA14027
Dairy barn	Low	Low	RA14027

ERST related comments:



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**NRCB USE ONLY**  
**WATER WELL AND SURFACE WATER INFORMATION**

Well IDs:        253891        \_\_\_\_\_      \_\_\_\_\_

\_\_\_\_\_

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

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

**Water wells**       N/A

If applicable, exemption for 100 m distance requirements applied:     YES    NO      Condition required:     YES    NO

**Surface water**       N/A

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

**Water Well Exemption Screening Tool**       N/A

Water Well ID	Preliminary Screening Score	Secondary Screening Score	Facility

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**Groundwater or surface water related comments:**

## Part 2 – Technical Requirements

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

Neighbour name(s)	Legal land description	Distance (m)	NRCB USE ONLY				
			Zoning (LUB) category	MDS category (1-4)	Distance (m)	Waiver attached (if required)	Meets regulations
			All nearby land and residences within 800 m are owned by the applicant				Yes
<i>N/A.</i>							
<i>We own all neighbours.</i>							

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

Name of land owner(s)*	Legal land description	Usable area** (ha)	Soil zone ***	NRCB USE ONLY	
				Usable area (ha)	Agreement attached (if required)
	<i>N/A.</i>				
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)**



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## NRCB USE ONLY

### MINIMUM DISTANCE SEPARATION

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

Margin of error (if applicable): \_\_\_\_\_

Requirements (m): Category 1: 487 Category 2: 650 Category 3: 812 Category 4: 1,300

Technology factor:  YES  NO

Expansion factor:  YES  NO

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

### LAND BASE FOR MANURE AND COMPOST APPLICATION

Land base required: N/A for authorizations

Land base listed: \_\_\_\_\_

Area not suitable: \_\_\_\_\_

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 RA02030

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**NRCB USE ONLY**

**ALL SIGNATURES IN FILE**

YES  NO

**DATES OF APPROVAL OFFICER SITE VISITS**

April 9, 2024	

**CORRESPONDENCE WITH MUNICIPALITIES AND REFERRAL AGENCIES**

Date deeming letters sent: March 5, 2024

Municipality: Mountain View County

letter sent       response received       written/email       verbal       no comments received

Alberta Health Services: N/A

letter sent       response received       written/email       verbal       no comments received

Alberta Environment and Parks:  N/A

letter sent       response received       written/email       verbal       no comments received

Alberta Transportation:  N/A

letter sent       response received       written/email       verbal       no comments received

Alberta Regulatory Services:  N/A

letter sent       response received       written/email       verbal       no comments received

Other: Crossroad Gas Coop  N/A

letter sent       response received       written/email       verbal       no comments received

Other: \_\_\_\_\_  N/A

letter sent       response received       written/email       verbal       no comments received



# 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)

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

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

Facility description / name (as indicated on site plan) 1. Calfbarn.  
2. \_\_\_\_\_

### Manure storage capacity

	Length (m)	Width (m)	Depth below grade to the bottom of the liner (m)	<b>NRCB USE ONLY</b> Estimated storage capacity (m <sup>3</sup> )
1.	22.5 m.	43 m.	0	6 months
2.				
TOTAL CAPACITY				

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

### Surface water control systems

Describe the run-on and runoff control system

Under roof.  
Surface water will be controlled by walls and roof.

### Liner protection

Describe how the physical integrity of the liner will be maintained

Concrete liner 6" thick.

### NRCB USE ONLY

Requirements met:  YES  NO

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

### Concrete liner details

Concrete thickness <b>6"</b>	Method of sulphate protection: <b>type 50</b>
Concrete strength <b>32 MPA. @ 56 days.</b>	Concrete reinforcement size and spacing <b>10 mm rebar. max spacing 18"</b>

Concrete requirements can be found in Technical Guideline Agdex 096-93

Guideline minimums:  
Solid manure: 25MPa (D)  
Solid manure (wet): 30MPa (C)  
Method of sulphate protection:  
Type 50 or Type 10 with fly ash or equivalent

### NRCB USE ONLY

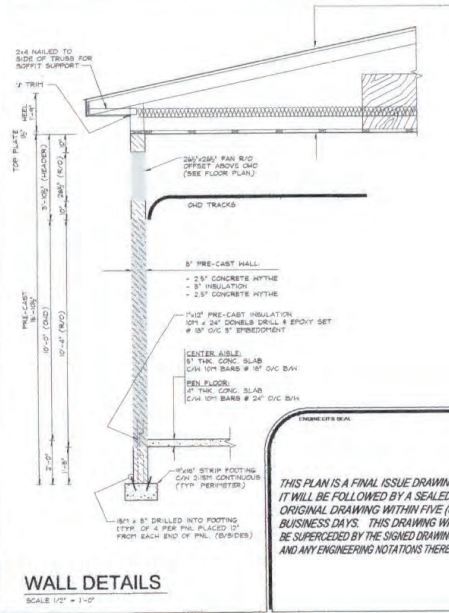
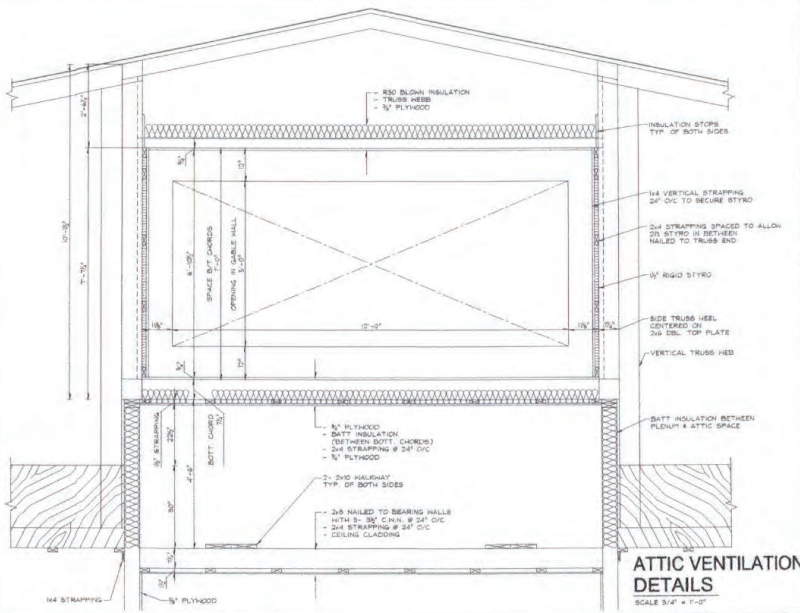
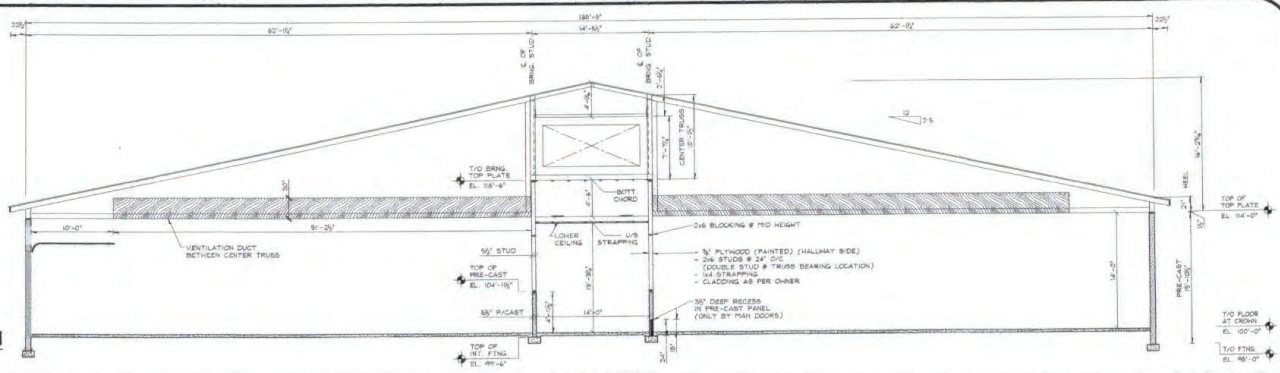
Requirements met:  YES  NO  
Condition required:  YES  NO  
Report attached:  YES  NO

### Additional information (attach as required)

<b>NRCB USE ONLY</b>	
Nine month manure storage volume requirements met <input checked="" type="checkbox"/> YES	<input checked="" type="checkbox"/> YES With STMS <input type="checkbox"/> NO
Depth to water table: <u>5 m</u>	Requirements met: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
Depth to Uppermost groundwater resource: <u>21.4 m</u>	Requirements met: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
ERST completed: <input checked="" type="checkbox"/> see ERST page for details	
<b>Surface water control systems</b>	
Requirements met: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Details/comments:
<b>Concrete liner details</b>	
A condition will be included in the authorization requiring the permit holder to provide proof that the constructed liner meets the regulations	
Leakage detection system required: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO If yes, please explain why.	



**CROSS SECTION**  
 3'-0" = 1'-0"



**TYPICAL ROOF**

- 2x6 PRE-FINISHED STEEL
- 2x4 PURLIN # 24" x 24" (R/2' SPT)
- ENGINEER TRUSSER POSITIONED @ 48" O/C
- R10 BLOWN INSULATION
- 2x4 CEILING STRAPPING # 2x4" O/C
- 6x60 POLY VAPOR BARRIER
- VENT. CLADDING
- NOTE: FRAMING ANCHORS REQUIRED AT ALL TRUSS TO WALL CONNECTIONS AND BEARING LOCATIONS

**CLIENT**  
 BERTENS HOLSTEINS LTD.  
 OLEB, AL

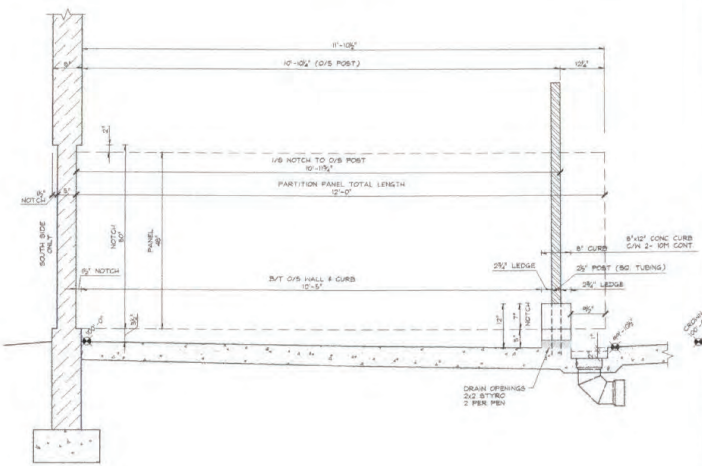
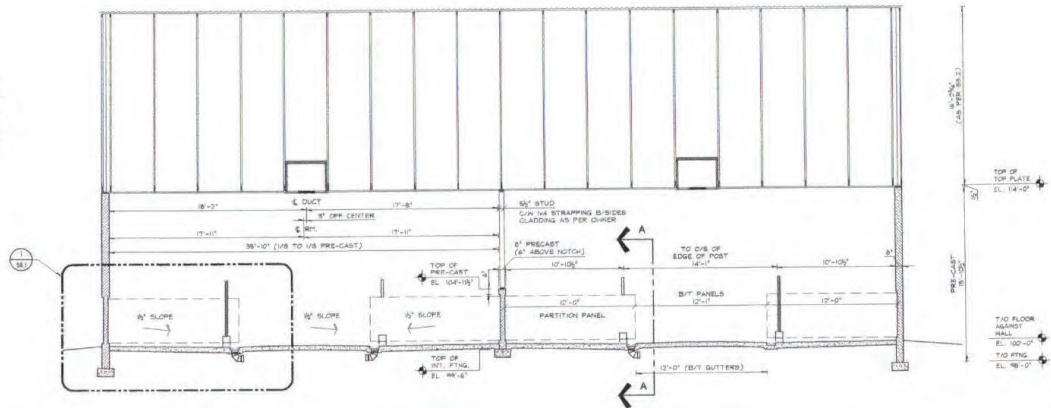
**PROJECT TITLE**  
 CALF BARN

**BUILDING SECTION CORRESPONDING DETAILS**  
**S3.2**

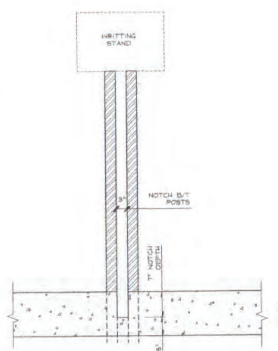
*THIS PLAN IS A FINAL ISSUE DRAWING. IT WILL BE FOLLOWED BY A SEALED ORIGINAL DRAWING WITHIN FIVE (5) BUSINESS DAYS. THIS DRAWING WILL BE SUPERCEDED BY THE SIGNED DRAWINGS AND ANY ENGINEERING NOTATIONS THEREIN.*

TRUSS NOTE:

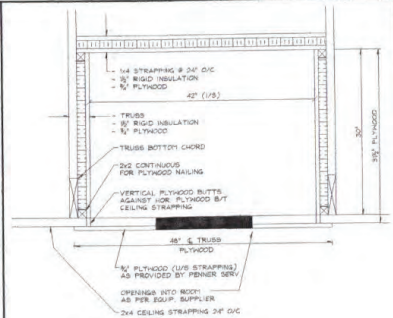
**CROSS SECTION**  
SCALE: 1/4" = 1'-0"



**PEN / CURB / POST DETAIL**  
SCALE: 1/4" = 1'-0"

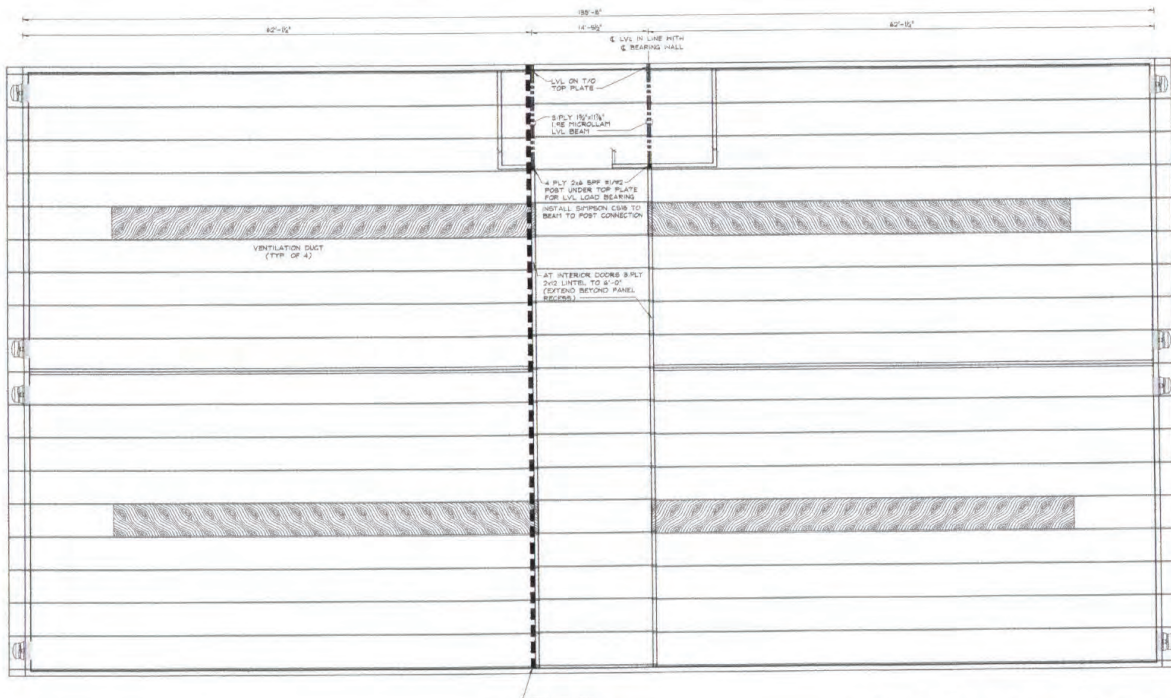


**POST FRONT VIEW**  
SCALE: 1/4" = 1'-0"



**DUCT DETAIL**  
SCALE: 1/2" = 1'-0"

<p><i>THIS PLAN IS A FINAL ISSUE DRAWING. IT WILL BE FOLLOWED BY A SEALED ORIGINAL DRAWING WITHIN FIVE (5) BUSINESS DAYS. THIS DRAWING WILL BE SUPERSEDED BY THE SIGNED DRAWINGS AND ANY ENGINEERING NOTATIONS THEREIN.</i></p>	<p><b>CLIENT</b> BERTENS HOLSTEINS LTD. DL06, AB.</p>
	<p><b>PROJECT TITLE</b> CALF BARN</p>
	<p><b>BUILDING SECTION CORRESPONDING DETAILS</b> <b>S3.1</b></p>



**ROOF FRAMING PLAN - OVERALL**  
SCALE 3/8" = 1'-0"

**ROOF FRAMING GENERAL NOTES:**

- BUILDING LOADS  
GROUND SNOW LOAD 33.4 PSF  
RAIN LOAD 2.1 PSF  
TOP GLOID LIVE LOAD 38.2 PSF  
DEAD LOAD 11.0 PSF  
WIND LOAD 87 PSF  
ROOF PITCH 5.5 TO 12

LOADS REFERENCED FROM ALBERTA BUILDING CODE 1997 FOR CLDS, AB

- INSTALL ALL BRACING SPECIFIED BY TRUSS MANUFACTURER AND/OR SPECIFIED ON TRUSS SHOP DRAWINGS
- ALL TRUSSES TO BE ATTACHED TO TOP PLATE WITH SHIPSON 1/2" ANCHOR (OR EQUIVALENT) FOR INTERIOR BEARING, AND IS 1/4" FOR EXTERIOR SUPPORTS
- PLACE CPL-6 CRUSH PLATES BETWEEN TOP PLATE AND TRUSS FOR ALL TRUSSES ON INTERIOR BEARING

**THIS PLAN IS A FINAL ISSUE DRAWING. IT WILL BE FOLLOWED BY A SEALED ORIGINAL DRAWING WITHIN FIVE (5) BUSINESS DAYS. THIS DRAWING WILL BE SUPERCEDED BY THE SIGNED DRAWINGS AND ANY ENGINEERING NOTATIONS THEREIN.**

**ISSUED FOR CONSTRUCTION**

NO.	DATE	DESCRIPTION	BY
01	08/06/18	ADDENDUM (NON STR. DETAILS)	DJ
02	08/06/18	ISSUED FOR CONSTRUCTION	DJ
03	08/06/18	ISSUED FOR CONSTRUCTION	DJ
04	08/06/18	FOR TRUSS MANUFACTURING	DJ
05	08/06/18	ISSUED FOR PLANNING PITCH	DJ
06	08/06/18	ISSUED FOR CLIENT'S REVIEW	DJ
07	08/06/18	CONCEPT #2 CLIENT'S REVIEW	DJ
08	08/06/18	ISSUED FOR CLIENT'S REVIEW	DJ
09	08/06/18	ISSUED FOR CLIENT'S REVIEW	DJ

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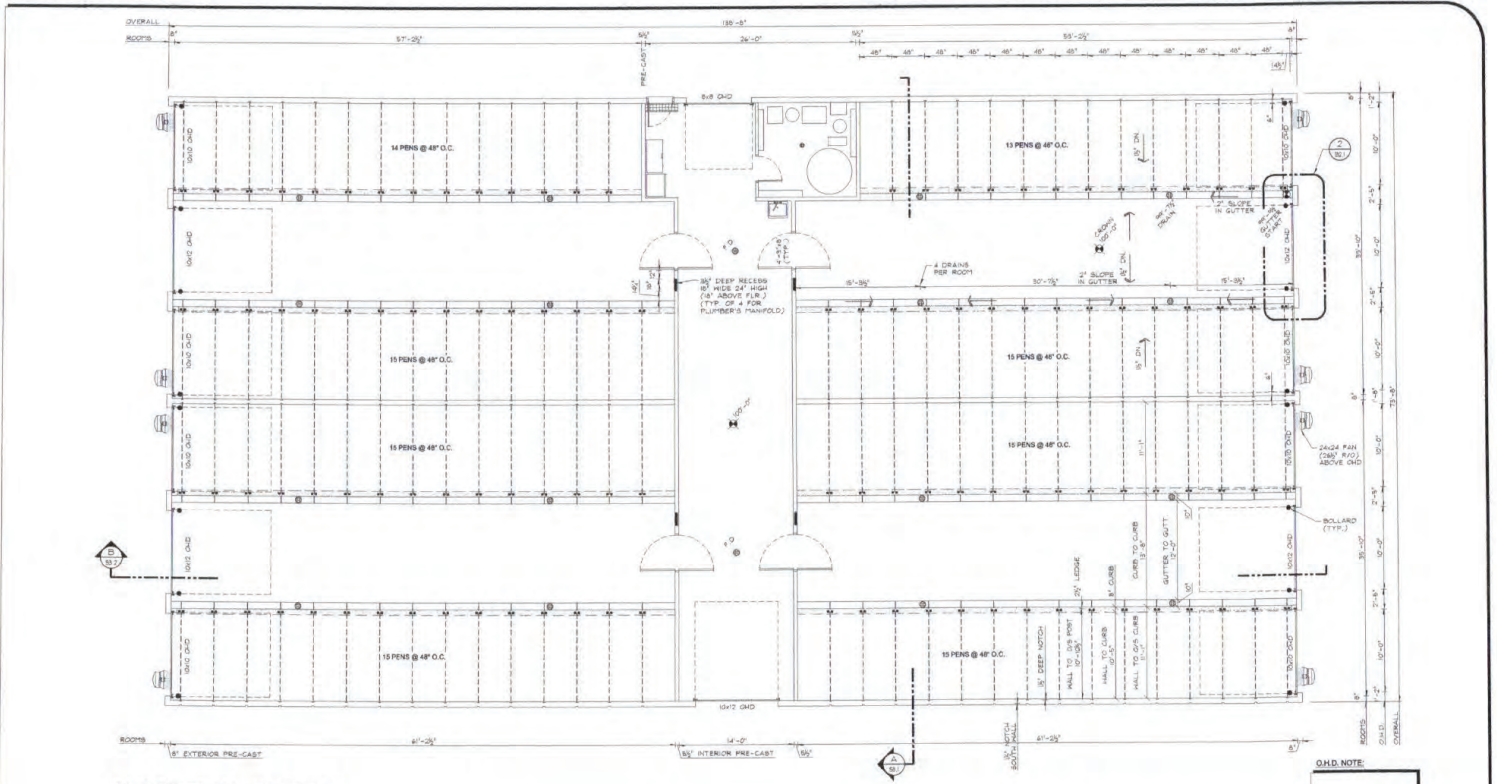
**112 ALEXANDER BLVD. ST. ANDREW, AB T8A 2M5  
PHONE: (403) 398-0624**

**CLIENT:**  
PROJECT TITLE: **BERTENS HOLSTEINS LTD. CALF BARN**  
P.O. BOX 105

**ROOF FRAMING PLAN - OVERALL**

**S2.0**





**FLOOR PLAN - OVERALL**  
SCALE 3/8" = 1'-0"

- GENERAL NOTES:**
1. BUILDING USE: LIVESTOCK HOUSING FACILITY.
  2. BUILDING AND FOUNDATION DESIGNED IN ACCORDANCE WITH THE NFBC LATEST EDITION.
  3. ALL NEW GRADE WORK TO BE SLOPED AWAY FROM BUILDING.
  4. STRIP TOPSOIL ENSURE ALL ORGANIC MATERIAL IS REMOVED.

**THIS PLAN IS A FINAL ISSUE DRAWING. IT WILL BE FOLLOWED BY A SEALED ORIGINAL DRAWING WITHIN FIVE (5) BUSINESS DAYS. THIS DRAWING WILL BE SUPERSEDED BY THE SIGNED DRAWINGS AND ANY ENGINEERING NOTATIONS THEREIN.**

**ISSUED FOR CONSTRUCTION**

NO.	DATE	DESCRIPTION	INITIALS
01	08/04/18	ADDDDDDD (NOV. STR. DETAILS) DU	
02	08/04/18	ISSUED FOR CONSTRUCTION DU	
03	08/05/18	ISSUED FOR ENGINEERING DU	
04	08/06/18	FOR TRUSS MANUFACTURING DU	
05	08/06/18	ISSUED FOR PLANNING REVIEW DU	
06	08/06/18	ISSUED FOR CLIENT'S REVIEW DU	
07	08/06/18	CONCEPT #2 CLIENT'S REVIEW DU	
08	08/02/18	ISSUED FOR CLIENT'S REVIEW DU	
09	08/02/17	ISSUED FOR CLIENT'S REVIEW DU	

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**CLIENT:**  
BERTENS HOLSTEINS LTD.  
CALF BARN  
OLD8, AB.

**PROJECT TITLE:**  
FLOOR PLAN - OVERALL

**Scale:**  
B2.0

**BUILDING CLASSIFICATION:**

Low Hazard Occupancy Farm Building  
Building design conforming to National Farm Building Code of Canada

**BUILDING AREA:**

Building floor area conforms to 3.1.1.2  
Building total area 10,215 SQ. FT.

**OCCUPANT LOAD:**

By definition the maximum occupancy is 24 persons

**SPATIAL SEPARATION AND EXPOSURE PROTECTION:**

Conforms to 3.1.2  
Limiting distance for 100% unprotected openings: All Sides: 100'-0"  
Limiting distance to the property line, center line of public thoroughfare or street, or an assumed line between two buildings or two fire compartments on the same property:

**NOTES :**

**FIRE STOPS:**

Conforms to 3.1.3

**CONCEALED SPACE:**

Conforms to 3.1.3.2 for walls and 3.1.3.3 for ceilings, roofs, and attic.  
Maximum dimension of a concealed space in a wall of combustible construction shall not exceed 9'-0" vertically or 16'-0" horizontally.

Concealed spaces in a ceiling, roof or attic shall be separated by fire stops so that no dimension exceeds 60'-0"

**MATERIAL:**

Fire rated material conforms to 3.1.3.4 and shall be:  
- 2"galv. Sheet Steel  
- 2" Drywall  
- 3" Plywood or D.S.B. header boards with joints backed with similar material  
- 2 Layers of 1/2" Lumber with joints staggered, or  
- 3" Lumber  
- Refer to Roof Framing Plan for location

**FIRE SEPARATION:**

Fire separation within building shall conform to 3.1.1.2  
A one storey floor area shall be separated into fire compartments by a minimum fire separation when the floor area exceeds 5,447 sq. ft.

**MECHANICAL/ELECTRICAL ROOMS:**

Provide fire rating in mechanical/electrical rooms. All ceilings and walls to be finished with 1/2" type X drywall, refer to room use details in architectural frames for specific details. Ceilings to be finished with two (2) layers of 1/2" type X drywall. Doors to be type rated with automatic door closers.

Within all fire rated areas, provide fire dampers on all ducts penetrating fire rated walls. Install fire stop targets on all combustible piping penetrating fire rated walls, and do not install combustible piping within fire rated walls.

**BUILDING EXITS:**

Conforms to 3.2.1

Travel distance (max) of 150'-0" to any one exit as per 3.2.1.5(2)

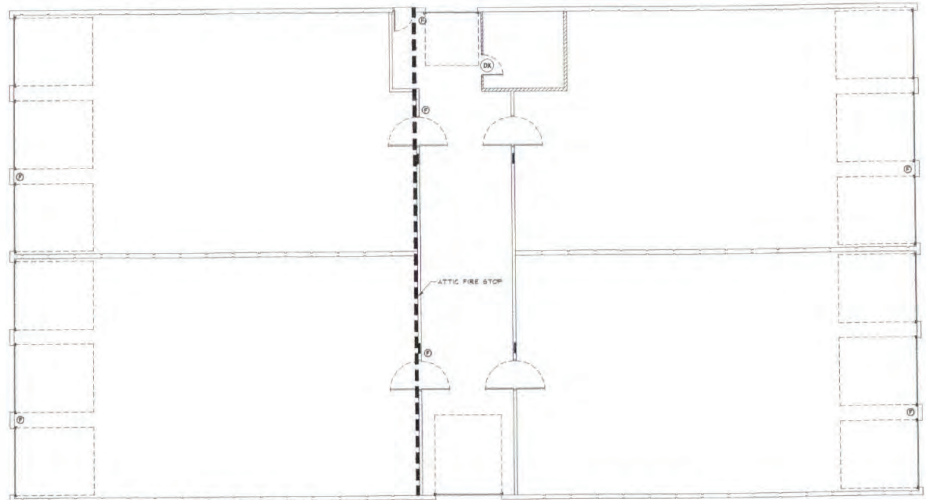
Interior travel distance need not apply provided exits are provided at not more than 200'-0" along the perimeter.

Building exits shall be:

- An exterior doorway, and/or
- An overhead window or panel (Emergency Exit)
- Clear marked to indicated location. Provide emergency exits at appropriate locations throughout, based on spacing that meets minimum requirements

**PORTABLE FIRE EXTINGUISHER NOTE:**

Install 1 fire extinguishers at locations indicated on this sheet. All fire extinguishers are to be model type ABC-100 or equivalent. Provide wall mounting brackets and plastic hoods to protect extinguishers from dust and moisture.  
Minimum requirements for placement of fire extinguishers to be as follows for every 1,640 square feet of building area or max travel distance of 50 ft.



**FLOOR PLAN - OVERALL**

NOT TO SCALE

TYPE	SYMBOL
FIRE EXTINGUISHER	(E)
3/4" x 6" FIRE RATED DOOR	(DR)
FIRE STOP	(---)
1/2" TYPE FIRE SEPARATION	(---)
EMERGENCY LIGHTING	(---)
EMERGENCY EXIT	(---)

**THIS PLAN IS A FINAL ISSUE DRAWING. IT WILL BE FOLLOWED BY A SEALED ORIGINAL DRAWING WITHIN FIVE (5) BUSINESS DAYS. THIS DRAWING WILL BE SUPERSEDED BY THE SIGNED DRAWINGS AND ANY ENGINEERING NOTATIONS THEREIN.**

DATE	DESCRIPTION	INITIALS
01/04/18	ISSUED FOR CONSTRUCTION	DU
02/05/18	FOR TRUSS MANUFACTURING	DU
03/06/18	ISSUED FOR CLIENT'S REVIEW	DU
04/07/18	CONCEPT FOR CLIENT'S REVIEW	DU
05/08/18	ISSUED FOR CLIENT'S REVIEW	DU
06/09/18	ISSUED FOR CLIENT'S REVIEW	DU

**ISSUED FOR CONSTRUCTION**

**DGH ENGINEERING INC.**  
PROFESSIONAL SERVICE - PRACTICAL SOLUTIONS

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**BERTENS HOLSTEINS LTD.**  
CALF BARN  
OLD S. AB.

PROJECT TITLE

DATE: ANALYSIS & SUMMARY NOTES

**BC1**