HARDIN COUNTY
Board of Supervisors

Wednesday, May 6, 2020

NOTICE: County buildings are closed to the public due to COVID-19 concerns and restrictions on public gatherings of no more than 10 people, as set forth by Governor Reynolds in her State of Public Health Emergency Disaster Proclamation. To access and participate in the meetings remotely, please call 641-939-8108 for meeting information.

1. 9:00 A.M. Call To Order
   Courthouse Large Conference Room
2. Pledge Of Allegiance
3. Approval Of Agenda
4. Approval Of Claims For Payment

   Documents:

   VENDOR PUBLICATION REPORT 5-6-20.PDF
5. Utility Permits & Secondary Roads Department

   Documents:

   MIDLAND UTILITY PERMIT 20-020.PDF
6. Approval Of Bridge 3267 Supplemental Agreement No. 1

   Documents:

   BRIDGE 3267 SUPPLEMENTAL AGREEMENT NO. 1.PDF
7. Recommendation To The DNR On Animal Feeding Operation Construction Permit Application: Tri-B Site, Section 8, Alden/Hardin Township
8. Recommendation To The DNR On Animal Feeding Operation Construction Permit Application: Ferris Pork Site, Section 13, Ellis Township

   Documents:

   FERRIS PORK 2020 EXPANSION CONSTRUCTION PACKAGE.PDF
9. Approval Of Dental Insurance Plan
10. COVID-19 Update
11. Public Comments
12. Other Business

13. Adjournment/Recess

14. 9:30 A.M. Drainage
Courthouse Large Conference Room

Claims Payable - May 6, 2020

Ackley Public Library	**$686.08**
Advanced Drainage Systems, Inc.	**$1,736.99**
Airgas North Central	**$324.41**
Alden Public Library	**$1,326.42**
Alliant Energy	**$333.16**
Angela De La Riva	**$96.30**
Beth Shanks	**$22.50**
Black Hawk County Treasurer	**$250.00**
Calhoun Burns and Associates Inc	**$3,041.76**
Campbell Supply Co	**$531.46**
Cedar Valley Medical Specialists, PC	**$24.00**
Center Associates	**$168.00**
Central Iowa Distr Inc	**$303.00**
City of Ackley	**$101.78**
City of Eldora	**$1,715.50**
City of Hubbard	**$59.03**
City of Iowa Falls	**$2,164.50**
City of New Providence	**$28.88**
ElectionSource	**$4,180.00**
Fastenal	**$85.91**
GATR of Des Moines, Inc	**$790.60**
GECRB/AMAZON	**$9,733.51**
Greenbelt Home Care	**$16,008.33**
Hardin Co Agriculture Soc	**$2,000.00**
Hardin Co Tire & Service Inc	**$47.67**
Hardin County Office Supplies	**$36.72**
Hardin County Sheriff	**$9,083.33**
Hubbard Public Library	**$1,290.17**
Iowa Law Enforcement Academy	**$1,125.00**
Iowa Regional Utilities Assoc.	**$137.20**
Jessica A Lara	**$26.64**
John Deere Financial	**$130.95**
Kirk Ridout	**$625.00**
Marla Kay Williams	**$532.50**
Martin Marietta Aggregate	**$445.22**
McDowell & Sons Contractors	**$330.00**
Mid-Iowa Community Action Inc.	**$187.50**
Midwest Card & ID Solutions	**$361.58**
Murphy Tractor & Equipment	**$17.66**
Office Depot	**$296.52**
Piper Sandler & Co.	**$1,000.00**
Pitney Bowes Purchase Power	**$140.44**
Polk County Treasurer	**$184.77**
Quaker Security LLC	**$3,825.00**
Quality Automotive Inc	**$36.30**
R Comm Wireless	**$1,697.00**
Radcliffe Public Library	**$1,546.50**
RC Systems- Waterloo Office	**$23.02**
Reliable1	**$858.67**
Safety-Kleen Corporation	**$490.00**
Scott's Sales Co	**$90.00**
Seat Treasurer	**$150.00**
Short Circuit Electric	**$5,000.00**
Speck Electric	**$189.48**
Steamboat Rock Library	**$949.50**
Storey Kenworthy	**$260.13**
Summit Food Service LLC	**$3,178.92**
Terry's Cemetery Restoration & Repair	**$495.00**
Theresa A. Ritland	**$539.85**
Thomas Craighton	**$600.00**
Thomson Reuters - West	**$54.56**
Times Citizen	**$345.12**
U.S. Cellular	**$1,151.88**
U.S. Post Office	**$825.00**
Union Public Library	**$1,431.33**
University of Northern Iowa	**$4,859.92**
Verizon Wireless	**$2,628.95**
VISA	**$4,335.14**
Walmart Community	**$55.62**
Windstream	**$212.89**
Wright County Sheriff	**$59.90**

Ziegler Incorporated	**$2,136.95**
Grand Total	**$99,737.62**

Lance Granzow, Chair
Board of Supervisors

Jessica Lara
Hardin County Auditor

HARDIN COUNTY UTILITY PERMIT APPLICATION

Permit No: UT-20-020

☐ Underground
☒ Aerial
☒ Permanent Installation
☐ Temporary Installation

This is a Utility Permit Application for telecommunications, electric, gas, water and sewer utilities. The applicant agrees to comply with the following permit requirements. Compliance shall be determined by the sole discretion of the County Engineer as deemed necessary to promote public health, safety, and general welfare. These requirements shall apply unless waived in writing by the County Engineer prior to installation.

APPLICANT NAME: Midland Power Cooperative

STREET ADDRESS: 1005 E Lincolnway

CITY: Jefferson STATE: Iowa ZIP: 50129

PHONE: 5153864111 FAX: _____ CONTACT PERSON: Casey Huff

TYPE OF WORK: Rebuilding 1.5 miles of overhead electrical distribution along H Ave south of Alden. Alden Township sections 29 and 32.

1. LOCATION PLAN
An applicant shall file a completed location plan as an attachment to this Utility Permit Application. The location plan shall set forth the location of the proposed line on the secondary road system and include a description of the proposed installation.

2. WRITTEN NOTICE
At least five (5) working days prior to the proposed installation, an applicant shall file with the County Engineer a written notice stating the time, date, location, and nature of the proposed installation.

3. INSPECTION
The County Engineer may provide a full-time inspector during the installation of all lines to ensure compliance with this Utility Permit. The inspector shall have the right, during reasonable hours and after showing proper identification, to enter any installation site in the discharge of the inspector's official duties, and to make any inspection or test that is reasonably necessary to protect the public health, safety, and welfare.

4. INSPECTION FEES
The applicant shall pay actual costs directly attributable to the installation inspection conducted by the County Engineer. Within thirty (30) days after completion of the installation, the County Engineer shall submit a statement for inspection services rendered. The applicant agrees to reimburse the county within thirty (30) days of billing.

5. REQUIREMENTS
The installation inspector shall assure that the following requirements have been met:

A. Construction signing shall comply with the Manual on Uniform Traffic Control Devices
B. Depth – (Add additional depth if ditch has silted to the thickness of the deposited silt.) The minimum depth of cover shall be as follows:

Telecommunications….	36”	Electric……	48”
Gas……..	48”	Water……...	60”
Sewer……..	60”		

C. Minimum roadway overhead clearance for utility lines shall be 20 feet.
D. The applicant shall use reference markers in the right-of-way (ROW) boundary to locate line and changes in alignment as required by the County Engineer. A permanent warning tape shall be placed one (1) foot above all underground utility lines.
E. All tile line locations shall be marked with references located in the ROW line.
F. No underground utility lines shall cross over a crossroad drainage structure without approval from the County Engineer.
G. Residents along the utility route shall have uninterrupted access to the public roads. An all weather access shall be maintained for residents adjacent to the project.
H. After construction, granular surfacing shall be added to the road by the applicant to restore the road to its original condition. After surfacing has been applied, the road surface shall be reviewed by the County Engineer once the road has been saturated, to determine if additional surfacing on the roadway by the applicant is necessary.
I. All damaged areas within the ROW shall be repaired and restored to at least their former condition by the applicant or the cost of any repair work caused to be performed by the county will be assessed against the applicant.
J. Areas disturbed during construction which present an erosion problem shall be solved by the applicant in a manner approved by the County Engineer.
K. All trenches, excavations, and utilities that are knifed shall be properly tamped.
L. All utilities shall be located between the bottom of the backslope and the bottom of the foreslope, unless otherwise approved in writing by the County Engineer prior to installation.
M. Road crossing shall be bored. The depth below the road surface shall match the minimum depth of cover for the respective utility.

6. NON-CONFORMING WORK
The County Engineer may halt the installation at any time if the applicant's work does not meet the requirements set forth in this Utility Permit Application.

7. COUNTY INFRACTION
Violation of this permit is a county infraction under Iowa Code Section 331.307, punishable by a civil penalty of $100 for each violation. Each day that a violation occurs or is permitted to exist by the applicant constitutes a separate offense.

8. HOLD HARMLESS
The utility company shall save this county harmless of any damages resulting from the applicant's operations. A copy of a certificate of insurance naming this county as an additional insured for the permit work shall be filed in the County Engineer's Office prior to installation. The minimum limits of liability under the insurance policy shall be $1,000,000.

9. PERMIT REQUIRED
No applicant shall install any lines unless such applicant has obtained a Utility Permit from the County Engineer and has agreed in writing that said installation will comply with all ordinances and requirements of the county for such work. Applicants agree to hold the county free from liability for all damage to applicant's property which occurs proximately as a result of the applicant's failure to comply with said ordinances or requirements.

10. RELOCATION
The applicant shall, at any time subsequent to installation of utility lines, at the applicant's own expense, relocate or remove such lines as may become necessary to conform to new grades, alignment or widening of ROW resulting from maintenance or construction operations for highway improvements.

DATE: 5/1/2020 COMPANY: Midland Power Cooperative

SIGNATURE: Filled out online

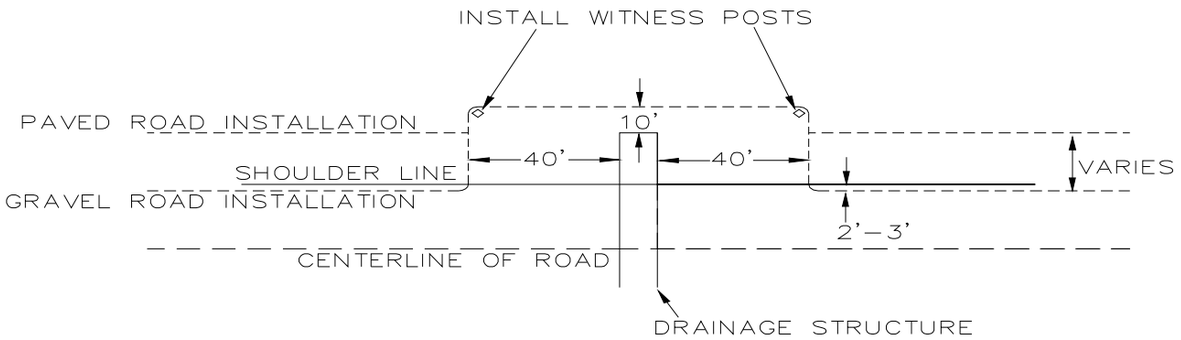
RECOMMENDED FOR APPROVAL:

DATE: _____ _____
COUNTY ENGINEER

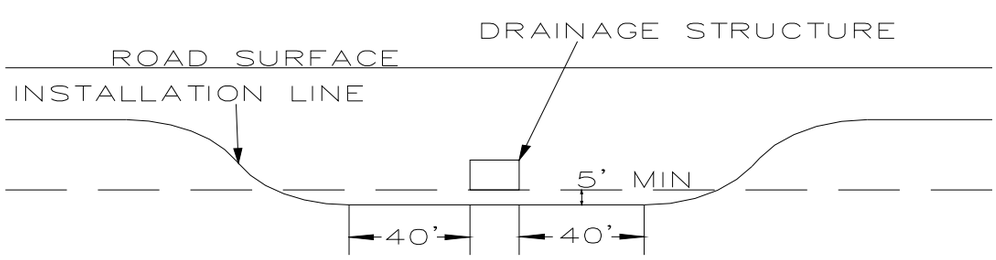
APPROVAL:

DATE: _____ _____
CHAIRMAN, BOARD OF SUPERVISORS

NON-BORED INSTALLATION DETAIL



BORED INSTALLATION DETAIL



Name:

Midland Power Cooperative

WO No.: 13395

740c#: 316-1

STAKING SHEET

LOCATION: 1272--7329,32
ADDRESS: H Ave
Phone:

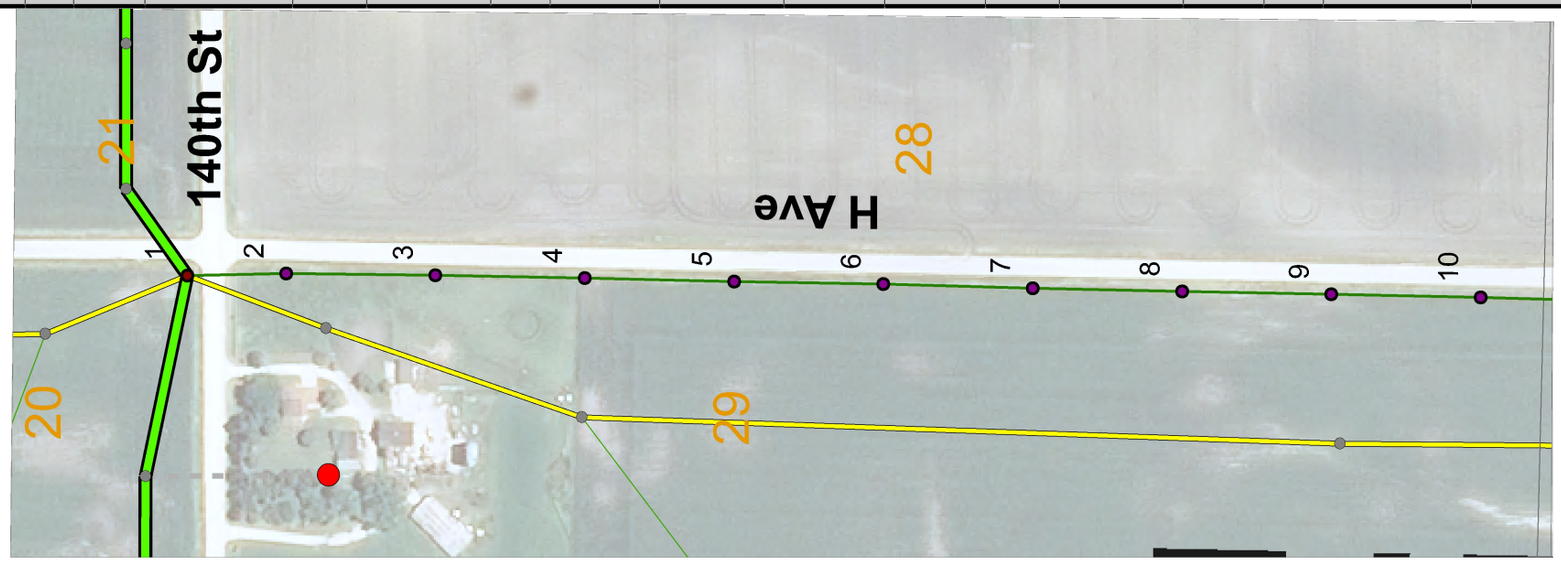
Substation: 12 - Alden
Feeder: 1270
Phase: A
Line Section:

County: Hardin
Township: T89N
Range: R21W
School Dist:

Staked By: CASSANDRA **DATE:** 04/23/2020
SHEET NO.: 1 **OF:** 4
Completed By: **DATE:**
Work Order Type: System Improvement

Primary Wire Size: 1/0-ACSR **Ruling Span:** 219 **Phase:** A

		PRIMARY								GUY & ANCHOR			SECONDARY				
POLE NUMBER	E R OR C	BACK SPAN (FT.)	WIRE SIZE	POLE HEIGHT & CLASS	PRIMARY UNIT	LINE ANG	MISC UNIT	XFMR UNIT	GRND UNIT	GUY UNIT	LEAD	ANCHOR UNIT	UNIT "J OR K"	SPAN FEET	WIRE SIZE	METER OR LOOP	MISCELLANEOUS AND REMARKS
1	E			40-3	C1PL				M2-12								Change south tap to A phase
	E				(2) A5-2												
	C									E1.1		F1.12					
2	C	148	(296) 1/0-ACSR	40-5	A6.1-1/0	0	H1.1-1/0										
	C						R1.1-1/0										
3	C	224	(448) 1/0-ACSR	35-5	A1.1-1/0	3											
4	C	224	(448) 1/0-ACSR	35-5	A1.1-1/0	0											
5	C	224	(448) 1/0-ACSR	35-5	A1.1-1/0	0											
6	C	224	(448) 1/0-ACSR	35-5	A1.1-1/0	0											
7	C	224	(448) 1/0-ACSR	35-5	A1.1-1/0	0	H1.1-1/0										
	C			P1.1-1/0													
8	C	224	(448) 1/0-ACSR	35-5	A1.1-1/0	0											
9	C	224	(448) 1/0-ACSR	35-5	A1.1-1/0	0											
10	C	224	(448) 1/0-ACSR	35-5	A1.1-1/0	0											



Action	Conductor	Wire Feet	No. of Wires	Pole Line
C	1/0-ACSR	3880	2	1940

*	UNITS	REQ.
C	1/0-ACSR	3880
C	35-5	8
C	40-5	1
C	A1.1-1/0	8
C	A6.1-1/0	1
C	E1.1	1
C	F1.12	1
C	H1.1-1/0	2
C	P1.1-1/0	1
C	R1.1-1/0	1

Name:

Midland Power Cooperative

WO No.: 13395

740c#: 316-1

STAKING SHEET

LOCATION: 1272--7329,32
ADDRESS: H Ave
Phone:

Substation: 12 - Alden
Feeder: 1270
Phase: A
Line Section:

County: Hardin
Township: T89N
Range: R21W
School Dist:

Staked By: CASSANDRA **DATE:** 04/23/2020
SHEET NO.: 2 **OF:** 4
Completed By: **DATE:**
Work Order Type: System Improvement

Primary Wire Size: 1/0-ACSR **Ruling Span:** 232 **Phase:** A

		PRIMARY								GUY & ANCHOR			SECONDARY				
POLE NUMBER	E R OR C	BACK SPAN (FT.)	WIRE SIZE	POLE HEIGHT & CLASS	PRIMARY UNIT	LINE ANG	MISC UNIT	XFMR UNIT	GRND UNIT	GUY UNIT	LEAD	ANCHOR UNIT	UNIT "J OR K"	SPAN FEET	WIRE SIZE	METER OR LOOP	MISCELLANEOUS AND REMARKS
11	C	224	(448) 1/0-ACSR	35-5	A1.1-1/0	0											
12	C	224	(448) 1/0-ACSR	35-5	A1.1-1/0	0	H1.1-1/0										
	C			P1.1-1/0													
13	C	224	(448) 1/0-ACSR	35-5	A1.1-1/0	0											
14	C	224	(448) 1/0-ACSR	35-5	A1.1-1/0	0											
15	C	224	(448) 1/0-ACSR	35-5	A6.1-1/0	1	H1.1-1/0			E1.1		F1.12					1272-004
	C				A5.1-1/0												
16	C	245	(490) 1/0-ACSR	35-5	A1.1-1/0	-1											
17	C	245	(490) 1/0-ACSR	35-5	A1.1-1/0	0	H1.1-1/0										
	C			P1.1-1/0													
18	C	245	(490) 1/0-ACSR	35-5	A1.1-1/0	1											
19	C	245	(490) 1/0-ACSR	35-5	A1.1-1/0	0											
20	C	208	(416) 1/0-ACSR	35-5	A1.1-1/0	0											

Action	Conductor	Wire Feet	No. of Wires	Pole Line
C	1/0-ACSR	4616	2	2308

*	UNITS	REQ.
C	1/0-ACSR	4616
C	35-5	10
C	A1.1-1/0	9
C	A5.1-1/0	1
C	A6.1-1/0	1
C	E1.1	1
C	F1.12	1
C	H1.1-1/0	3
C	P1.1-1/0	2

Name:

Midland Power Cooperative

WO No.: 13395

740c#: 316-1

STAKING SHEET

LOCATION: 1272--7329,32
ADDRESS: H Ave
Phone:

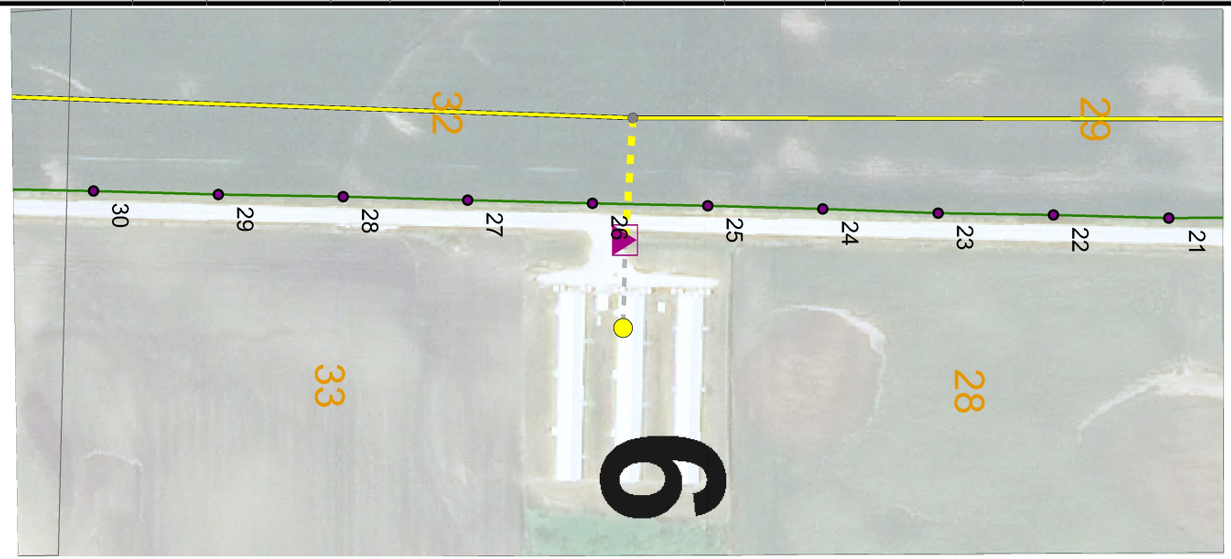
Substation: 12 - Alden
Feeder: 1270
Phase: A
Line Section:

County: Hardin
Township: T89N
Range: R21W
School Dist:

Staked By: CASSANDRA **DATE:** 04/23/2020
SHEET NO.: 3 **OF: 4**
Completed By: **DATE:**
Work Order Type: System Improvement

Primary Wire Size: 1/0-ACSR **Ruling Span:** 215 **Phase:** A

		PRIMARY							GUY & ANCHOR			SECONDARY				
POLE NUMBER	E R OR C	BACK SPAN (FT.)	WIRE SIZE	POLE HEIGHT & CLASS	PRIMARY UNIT	LINE ANG	MISC UNIT	XFMR UNIT	GRND UNIT	GUY UNIT	LEAD	ANCHOR UNIT	UNIT "J OR K"	SPAN FEET	WIRE SIZE	METER OR LOOP	MISCELLANEOUS AND REMARKS
21	C	208	(416) 1/0-ACSR	35-5	A1.1-1/0	-2											
22	C	208	(416) 1/0-ACSR	35-5	A1.1-1/0	2	H1.1-1/0										
	C			P1.1-1/0													
23	C	208	(416) 1/0-ACSR	35-5	A1.1-1/0	-1											
24	C	208	(416) 1/0-ACSR	35-5	A1.1-1/0	1											
25	C	208	(416) 1/0-ACSR	35-5	A1.1-1/0	0											
26	E			35-5	A1.1-1/0		H1.1-1/0										1272-006
	E				UA1												
	C	208	(416) 1/0-ACSR			-1											
27	C	225	(450) 1/0-ACSR	35-5	A1.1-1/0	1											
28	C	225	(450) 1/0-ACSR	35-5	A1.1-1/0	0											
29	C	225	(450) 1/0-ACSR	35-5	A1.1-1/0	-1											
30	C	225	(450) 1/0-ACSR	35-5	A1.1-1/0	1											



Action	Conductor	Wire Feet	No. of Wires	Pole Line
C	1/0-ACSR	4296	2	2148

*	UNITS	REQ.
C	1/0-ACSR	4296
C	35-5	9
C	A1.1-1/0	9
C	H1.1-1/0	1
C	P1.1-1/0	1

Name:

Midland Power Cooperative

WO No.: 13395

740c#: 316-1

STAKING SHEET

LOCATION: 1272--7329,32
ADDRESS: H Ave
Phone:

Substation: 12 - Alden
Feeder: 1270
Phase: A
Line Section:

County: Hardin
Township: T89N
Range: R21W
School Dist:

Staked By: CASSANDRA **DATE:** 04/23/2020
SHEET NO.: 4 **OF: 4**
Completed By: **DATE:**
Work Order Type: System Improvement

Primary Wire Size: 1/0-ACSR **Ruling Span:** 219 **Phase:** A

		PRIMARY								GUY & ANCHOR			SECONDARY				
POLE NUMBER	E R OR C	BACK SPAN (FT.)	WIRE SIZE	POLE HEIGHT & CLASS	PRIMARY UNIT	LINE ANG	MISC UNIT	XFMR UNIT	GRND UNIT	GUY UNIT	LEAD	ANCHOR UNIT	UNIT "J OR K"	SPAN FEET	WIRE SIZE	METER OR LOOP	MISCELLANEOUS AND REMARKS
31	C	225	(450) 1/0-ACSR	35-5	A1.1-1/0	-1	H1.1-1/0										
	C			P1.1-1/0													
32	C	225	(450) 1/0-ACSR	35-5	A1.1-1/0	1											
33	C	225	(450) 1/0-ACSR	35-5	A1.1-1/0	0											
34	C	225	(450) 1/0-ACSR	35-5	A1.1-1/0	0											
35	C	225	(450) 1/0-ACSR	35-5	A1.1-1/0	0											
36	C	225	(450) 1/0-ACSR	35-3	A1.1-1/0	-1	H1.1-1/0										1272-008
	C				UA1												
37	E			Unknow gs_supp													
	C	158	(316) 1/0-ACSR		A5.1-1/0	0				E1.1		F1.12					

Action	Conductor	Wire Feet	No. of Wires	Pole Line
C	1/0-ACSR	3016	2	1508

*	UNITS	REQ.
C	1/0-ACSR	3016
C	35-3	1
C	35-5	5
C	A1.1-1/0	6
C	A5.1-1/0	1
C	E1.1	1
C	F1.12	1
C	H1.1-1/0	2
C	P1.1-1/0	1
C	UA1	1

CALHOUN-BURNS AND ASSOCIATES, INC.
BRIDGES ◆ STRUCTURES ◆ TRANSPORTATION

April 30, 2020

Taylor Roll, P.E.
Hardin County Engineer
708 6th Street
Eldora, IA 50627-0534

RE: SUPPLEMENTAL AGREEMENT NO. 1 – PRELIMINARY DESIGN
BRIDGE NO. ALDEN 3267 / FHWA 001100
PROJECT NO. BHS-SWAP-0077(601)--FC-42
CB&A PROJECT NO. 2018210.00

Dear Mr. Roll:

This Supplemental Agreement No. 1 is submitted in accordance with our current Consulting Engineering Contract (Contract) dated July 9, 2018 for bridge engineering services concerning the Main St. Bridge over the Iowa River in the city of Alden This project is the subject of our feasibility study recently submitted concerning rehabilitation versus replacement of the existing structure.

The report of the feasibility study dated July 26,2019 considered five (5) different alternatives. Conclusions of the report ultimately recommended replacement of the existing bridge with a new structure that meets present day loading requirements and geometric standards.

Evaluation of the existing bridge plans and biennial inspection records indicate that the rock foundation material is somewhat variable at both abutment locations. That being the case we recommend the geotechnical investigation be done during preliminary design rather than waiting for the final design as typically done. This step will enable us to better define the scope of abutment design early in the design process.

In order to proceed with replacement of the existing bridge, we propose to perform the preliminary design (TS&L) work for the following additional fees:

1500 30th Street ◆ West Des Moines, IA 50266
WATS 877/241-8003 ◆ Phone 515/224-4344 ◆ FAX 515-224-1385 ◆ email: email@calhounburns.com

V.B. ROAD PLANS

Preliminary Design:	Lump Sum = $1,220.00
Preliminary Detailing:	Lump Sum = $ 950.00
Preliminary Design:	Lump Sum = $1,050.00

V.C. BRIDGE PLANS

Preliminary Design:	Lump Sum = $5,240.00
Preliminary Detailing:	Lump Sum = $4,500.00
Preliminary Design:	Lump Sum = $4,240.00
Administration, Coordination, Submittals, etc.:	Hourly Billing Rates at About: $2,250.00

At this time, it is presumed a typical hydraulic analysis will be satisfactory to obtain an Iowa Department of Natural Resources (DNR) flood plain permit for the replacement bridge. If HEC-RAS hydraulic modeling of the Iowa River is requested by the DNR, prior authorization from the County will be required.

V.E. WETLANDS, ENDANGERED SPECIES INVESTIGATIONS – EOR IOWA

Confirmation of Nationwide Permit: Lump Sum = $ 150.00

If wetland delineation or additional assessments are requested by the United States Army Corps of Engineers, prior authorization from the County will be required.

V.H. SUBSURFACE INVESTIGATIONS – ALLENDER-BUTZKE ENGINEERS

Five (5) - Borings, Geotechnical Design and Report: Lump Sum = $ 21,000.00

All provisions of the Contract remain in place except as modified by this Supplemental Agreement No. 1.

Enclosed are five (5) copies of Supplemental Agreement No. 1. Please review this submittal and, if it is acceptable, obtain the required County signatures and return one signed copy to me. Then forward the remaining four (4) copies to Brian Catus, Central Region Local Systems Field Engineer.

Calhoun-Burns and Associates is prepared to proceed with the TS&L work on this project upon your notice to proceed. We will continue to do a good job for you and Hardin County.

CONSULTING ENGINEER
CALHOUN-BURNS AND ASSOCIATES, INC.

MICHAEL A. VANDER WERT, P.E.
PRESIDENT

APPROVED FOR HARDIN COUNTY:

BOARD OF SUPERVISORS - CHAIR

IOWA DEPARTMENT OF TRANSPORTATION
ELIGIBLE FOR PAYMENT (FM FUNDS)

BRIAN CATUS, P.E.
CENTRAL REGION LOCAL SYSTEMS FIELD ENGINEER

DATE: _____

ATTESTED BY:

TAYLOR ROLL, P.E.
HARDIN COUNTY ENGINEER

CALHOUN-BURNS AND ASSOCIATES, INC.

BRIDGES ◆ STRUCTURES ◆ TRANSPORTATION

HOURLY BILLING RATES (EFFECTIVE JULY, 2019)

PRINCIPAL OF FIRM IV	$ 210.00	/ HOUR
PRINCIPAL OF FIRM III	$ 202.00	/ HOUR
PRINCIPAL OF FIRM II	$ 194.00	/ HOUR
PRINCIPAL OF FIRM I	$ 185.00	/ HOUR
SENIOR PROJECT MANAGER IV	$ 170.00	/ HOUR
SENIOR PROJECT MANAGER III	$ 166.00	/ HOUR
SENIOR PROJECT MANAGER II	$ 162.00	/ HOUR
SENIOR PROJECT MANAGER I	$ 158.00	/ HOUR
PROJECT MANAGER IV	$ 160.00	/ HOUR
PROJECT MANAGER III	$ 156.00	/ HOUR
PROJECT MANAGER II	$ 152.00	/ HOUR
PROJECT MANAGER I	$ 148.00	/ HOUR
SENIOR PROJECT ENGINEER IV	$ 147.00	/ HOUR
SENIOR PROJECT ENGINEER III	$ 139.00	/ HOUR
SENIOR PROJECT ENGINEER II	$ 130.00	/ HOUR
SENIOR PROJECT ENGINEER I	$ 121.00	/ HOUR
PROJECT ENGINEER IV	$ 136.00	/ HOUR
PROJECT ENGINEER III	$ 126.00	/ HOUR
PROJECT ENGINEER II	$ 116.00	/ HOUR
PROJECT ENGINEER I	$ 106.00	/ HOUR
SENIOR DESIGN ENGINEER IV	$ 123.00	/ HOUR
SENIOR DESIGN ENGINEER III	$ 113.00	/ HOUR
SENIOR DESIGN ENGINEER II	$ 103.00	/ HOUR
SENIOR DESIGN ENGINEER I	$ 93.00	/ HOUR
DESIGN ENGINEER IV	$ 113.00	/ HOUR
DESIGN ENGINEER III	$ 107.00	/ HOUR
DESIGN ENGINEER II	$ 101.00	/ HOUR
DESIGN ENGINEER I	$ 95.00	/ HOUR
ENGINEER INTERN	$ 80.00	/ HOUR
SENIOR TECHNICIAN IV	$ 122.00	/ HOUR
SENIOR TECHNICIAN III	$ 117.00	/ HOUR
SENIOR TECHNICIAN II	$ 112.00	/ HOUR
SENIOR TECHNICIAN I	$ 107.00	/ HOUR
TECHNICIAN IV	$ 108.00	/ HOUR
TECHNICIAN III	$ 104.00	/ HOUR
TECHNICIAN II	$ 100.00	/ HOUR
TECHNICIAN I	$ 96.00	/ HOUR
OFFICE MANAGER	$ 136.00	/ HOUR
ADMINISTRATIVE ASSISTANT IV	$ 92.00	/ HOUR
ADMINISTRATIVE ASSISTANT III	$ 88.00	/ HOUR
ADMINISTRATIVE ASSISTANT II	$ 84.00	/ HOUR
ADMINISTRATIVE ASSISTANT I	$ 80.00	/ HOUR
MILEAGE:	CURRENT IRS STANDARD RATE	
EXPENSES:	ACTUAL COST	

HOURLY RATES SHALL BE ADJUSTED ANNUALLY IN ACCORDANCE WITH CONSULTING ENGINEERS' NORMAL BUSINESS PRACTICE.

1500 30th Street ◆ West Des Moines, IA 50266

WATS 877/241-8003 ◆ Phone 515/224-4344 ◆ FAX 515-224-1385 ◆ email: email@calhounburns.com

Please staple check here

Iowa Department of Natural Resources

Construction Permit Application Form
Confinement Feeding Operations

INSTRUCTIONS:
Prior to constructing, installing, modifying or expanding a confinement feeding operation structure[1], answer questions 1-8 on Item 3, Section A (page 2), to determine if a construction permit is required. To calculate the animal unit capacity (AUC) of the operation, complete Table 1 (page 4.) If a construction permit is required, complete the rest of the form, have the applicant(s) sign it on pages 5 and 6. Mail to the DNR (see address on page 5) this application form, documents and fees requested in Checklist No. 1 or 2 (pages 10-15). See item 5 (page 5), to determine which checklist to use.

If a construction permit is not needed, some pre-construction requirements may still apply prior to the construction of a formed manure storage structure[2]. See page 5 for additional DNR contact information.

THIS APPLICATION IS FOR:

1. ☐ A new confinement feeding operation
2. ☒ An existing confinement feeding operation *(answer all of the following questions):*
   a) Facility ID No. (5 digit number): 68724
   b) Date when the operation was first constructed: Jan 2015
   c) Date when the last construction, expansion or modification was completed: Jan 2015

(Not needed if the confinement operation has previously received a construction permit from DNR.)

d) Is this also an ownership change? ☐ Yes ☒ No If yes box is checked additional fees apply. See page 8

ITEM 1 – LOCATION AND CONTACT INFORMATION (*See page 17 for instructions and an example*):

A) Name of operation: Ferris Pork

Location:

SW	NE	16	T88-R21	Ellis	Hardin
(¼ ¼)	(¼)	(Section)	(Tier & Range)	(Name of Township)	(County)

B) Applicant information:

Name: Brock Ferris on behalf of Ferris Pork, LLC Title: Owner

Address: 21828 J Ave, Iowa Falls, IA 50126

Telephone: 641-640-0226 Fax: Email:

C) Person to contact with questions about this application (if different than applicant):

Name: Del Johnston, 5J Farms and Services, LLC Title: Consultant

Address: 827 Lafayette Ave, Story City, IA 50248

Telephone: 515-450-4871 Fax: Email: del@5jfarms.net

☒ Enclose aerial photo or engineering drawing showing the proposed location of the confinement feeding operation structure[1] and all applicable separation distances, as requested in Attachment 1 (pages 11-12 or 14-15). See example of aerial photo on pages 18 to 19, at the end of this form.

☐ I manage or am the majority owner of another confinement feeding operation located within 2,500 feet of the proposed site. Please contact the DNR AFO Program staff at (712) 262-4177 to verify site adjacency requirements.

[1] Confinement feeding operation structure = animal feeding operation structure (confinement building, manure storage structure or egg washwater storage structure) that is part of a confinement feeding operation. Manure storage structures include formed and unformed manure storage structures.
[2] Formed manure storage structure = covered or uncovered concrete or steel tanks, and concrete pits below the building.

ITEM 2 – SITING INFORMATION:

A) Karst Determination: Go to DNR AFO Siting Atlas at http://programs.iowadnr.gov/maps/afo/. Agree to the disclaimer, then search for your site by either scrolling into your location or entering an address or legal description in the bottom search bar. Left click on the location of your proposed structure. Make sure the karst layer box is checked on the map layers. If you cannot access the map, or if you have questions about this issue, contact the AFO Engineer at (712) 262-4177. Check one of the following:

- ☒ The site is not in karst or potential karst. Print and enclose the map with the name and location of the site clearly marked.
- ☐ The site is in karst. The upgraded concrete standards of 567 IAC 65.15(14)"c" must be used. Refer to "Applicant's submittal checklist" on page 10 for karst documentation.
- ☐ The site is within 1,000 feet of a known sinkhole, Secondary Containment Barrier is required in accordance with 567 IAC 65.15(17).

B) Alluvial Soils Determination: Go to the AFO Siting Atlas as described above. Make sure the alluvial layer box is checked on the map legend. If you cannot access the map, or if you have questions about this issue, contact DNR Flood Plain at (866) 849-0321. Check one of the following:

- ☐ The site is not in alluvial soils. Print and enclose the map with the name and location of the site clearly marked.
- ☒ The site is in alluvial soils. You will need to submit a request for a flood plain determination from DNR Flood Plain (866) 849-0321. After receiving determination submit one of the following:
- ☒ Not in 100-year floodplain or does not require a flood plain permit. Include correspondence from the DNR Flood Plain Section.
- ☐ Requires flood plain permit. Include flood plain permit.
- ☒ Documentation has been submitted to determine site is not in alluvial soils. Refer to "Applicant's Submittal Checklist" on page 10 for alluvial soils documentation.

ITEM 3 – OPERATION INFORMATION:

A) A construction permit is required prior to any of the following:

1. ☐ Constructing or modifying any unformed manure storage structure[3], or constructing or modifying a confinement building that uses an unformed manure storage structure[3].
2. ☒ Constructing, installing or modifying a confinement building or a formed manure storage structure[2] at a confinement feeding operation if, after construction, installation or expansion, the AUC of the operation is 1,000 animal units (AU) or more. This also applies to confinement feeding operations that store manure exclusively in a dry form.
3. ☐ Initiating a change that would result in an increase in the volume of manure or a modification in the manner in which manure is stored in any unformed manure storage structure[3], even if no construction or physical alteration is necessary. Increases in the volume of manure due to an increase in animal capacity, animal weight capacity or AUC up to the limits specified in a previously issued construction permit do not require a new construction permit.
4. ☐ Initiating a change, even if no construction or physical alteration is necessary, that would result in an increase in the volume of manure or a modification in the manner in which manure is stored in a formed manure storage structure[2] if, after the change, the AUC of the operation is 1,000 AU or more. Increases in the volume of manure due to an increase in animal capacity, animal weight capacity or AUC up to the limits specified in a previously issued construction permit do not require a new construction permit.
5. ☐ Constructing or modifying any egg washwater storage structure or a confinement building at a confinement feeding operation that includes an egg washwater storage structure.
6. ☐ Initiating a change that would result in an increase in the volume of egg washwater or a modification in the manner in which egg washwater is stored, even if no construction or physical alteration is necessary. Increases in the volume of egg washwater due to an increase in animal capacity, animal weight capacity or AUC up to the limits specified in a previously issued construction permit do not require a new construction permit.
7. ☐ Repopulating a confinement feeding operation if it was closed for 24 months or more and if any of the following apply:
   1. ☐ The confinement feeding operation uses an unformed manure storage structure[3] or egg washwater storage structure;
   2. ☐ The confinement feeding operation includes only confinement buildings and formed manure storage structures[2] and has an AUC of 1,000 AU or more.
8. ☐ Installing a permanent manure transfer piping system, unless the department determines that a construction permit is not required.

[3] Unformed manure storage structure = covered or uncovered anaerobic lagoon, earthen manure storage basin, aerobic earthen structure.

B) In your own words, describe in detail, the proposed construction, expansion, installation, modification or repair being proposed in this project.(Must be completed) Attach additional pages if necessary:

One additional swine finishing barn, with dimensions of 101' 2" x 193' with 8' deep, under-building formed concrete manure storage pit, is proposed to be built 100' north of the current barn of identical dimensions.

No water lines will enter through the concrete manure storage walls and all pit fans will be mounted on pump outs.

C) Master Matrix *(must check one)***.** If any of boxes 1 to 3 are checked, the operation is required to be evaluated with the master matrix if the county, where the confinement feeding operation structure[1] is or would be located, has adopted a 'Construction Evaluation Resolution' (CER). Select the one that best describes your confinement feeding operation:

1. ☐ A new confinement feeding operation proposed in a county that has adopted a CER.
2. ☒ An existing operation constructed on or after April 1, 2002, in a county that has adopted a CER.
3. ☐ An existing operation constructed prior to April 1, 2002, with a current or proposed AUC of 1,667 AU or more, in a county that has adopted a CER.
4. ☐ None of the above. Therefore, the master matrix evaluation is not required.

D) Qualified Operation *(must check one)***.** If any of boxes 1 to 4 are checked, the operation is also a 'qualified operation'. A qualified operation is required to use a manure storage structure that employs bacterial action which is maintained by the utilization of air or oxygen, and which shall include aeration equipment. However, this requirement does not apply if box 5 is checked. Select the one that best describes your confinement feeding operation:

1. ☐ A swine farrowing and gestating operation with an AUC of 2,500 AU or more. If the replacement breeding swine are raised and used at the operation, the animal units for those replacement animals do not count in the operations total AUC.
2. ☐ A swine farrow-to-finish operation with an AUC of 5,400 AU or more.
3. ☐ A cattle confinement feeding operation (including dairies) with an AUC of 8,500 AU or more.
4. ☐ Other confinement feeding operations with an AUC of 5,333 AU or more.
5. ☒ This is not a qualified operation because:
   a. ☒ It is below the limits shown on boxes 1 to 4.
   b. ☐ It includes a confinement feeding operation structure[1] constructed prior to May 31, 1995.
   c. ☐ It handles manure exclusively in a dry form (poultry).

ITEM 4 – ANIMAL UNIT CAPACITY (AUC) and, if applicable, ANIMAL WEIGHT CAPACITY (AWC):

A) Calculating AUC – Required for all operations

For each animal species, multiply the maximum number of animals that you would ever confine at one time by the appropriate factor, then add all AU together on Table 1 (page 4). Use the maximum market weight for the appropriate animal species to select the AU factor.

You must complete all applicable columns in Table 1. Use column a) to calculate the existing AUC, before permit for existing operations only. Use column b) to calculate the 'Total proposed AUC' (after a permit is issued) including new operations. The number obtained in column b) is the AUC of the operation and must be used to determine permit requirements. Use column c) to calculate the 'New AU' to be added to an existing operation. To calculate the indemnity fee (see page 7), also use column c), however, if the "Existing AUC" (column a) is 500 AU or less, enter the "Total proposed AUC" (column b) in the "New AU" (column c).

In calculating the AUC of a confinement feeding operation, you must include the AUC of all confinement buildings which are part of the confinement feeding operation, unless a confinement building has been abandoned. A confinement feeding operation structure[1] is abandoned if the confinement feeding operation structure[1] has been razed, removed from the site of a confinement feeding operation, filled in with earth, or converted to uses other than a confinement feeding operation structure[1] so that it cannot be used as a confinement feeding operation structure[1] without significant reconstruction. Therefore, in Table 1, enter the animal unit capacity of all the confinement buildings, including those that are from an "adjacent" operation located within 2,500 feet. For more information, contact the AFO Program at (712) 262-4177.

Table 1. Animal Unit Capacity (AUC): (No. HEAD) x (FACTOR) = AUC

Animal Species	a) Existing AUC (Before permit)			b) Total Proposed AUC (After permit)		
	(No. Head)	x (Factor)	= AUC	(No. Head)	x (Factor)	= AUC
Slaughter or feeder cattle		1.0			1.0	
Immature dairy cattle		1.0			1.0	
Mature dairy cattle		1.4			1.4	
Gestating sows		0.4			0.4	
Farrowing sows & litter		0.4			0.4	
Boars		0.4			0.4	
Gilts		0.4			0.4	
Finished (Market) hogs	2496	0.4	998	4992	0.4	1996
Nursery pigs 15 lbs to 55 lbs		0.1			0.1	
Sheep and lambs		0.1			0.1	
Horses		2.0			2.0	
Turkeys 7 lbs or more		0.018			0.018	
Turkeys less than 7 lbs		0.0085			0.0085	
Broiler/Layer chickens 3 lbs or more		0.01			0.01	
Broiler/Layer chickens less than 3 lbs		0.0025			0.0025	
Fish		0.001			0.001	
TOTALS:	a) Existing AUC:		998	b) Total proposed AUC:		1996

Note: If the "Existing AUC" (column a) is 500 AU or less, enter the "Total proposed AUC" (column b) in the "New AU" (column c)

c) New AU = b) - a):

d) 998

(*This is the AUC of the operation*)

B) Calculating AWC - Only for operations first constructed prior to March 1, 2003

The AWC is needed for an operation that was first constructed prior to March 1, 2003, to determine some of the minimum separation distance requirements for construction or expansion.

The AWC is the product of multiplying the maximum number of animals that you would ever confine at any one time by their average weight (lbs) during the production cycle. Then add the AWC if more than one animal species is present (examples on how to determine the AWC are provided in 567 IAC 65.1(455B).)

If the operation was first constructed prior to March 1, 2003, you must complete all applicable columns in Table 2:

Table 2. Animal Weight Capacity (AWC): (No. head) * (Avg. weight, lbs) = AWC, lbs

Animal Species	a) Existing AWC (Before Permit)			b) Proposed AWC (After permit)		
	(No. head) x	avg weight	= AWC	(No. head) x	avg weight	= AWC
Slaughter or feeder cattle						
Immature dairy cattle						
Mature dairy cattle						
Gestating sows						
Farrowing sows & litter						
Boars						
Gilts						
Finished (Market) hogs						
Nursery pigs 15 lbs to 55 lbs						
Sheep and lambs						
Horses						
Turkeys 7lbs or more						
Turkeys less than 7 lbs						
Broiler/Layer chickens 3 lbs or more						
Broiler/Layer chickens less than 3 lbs						
Fish						
TOTALS:	a) Existing AWC:			b) Total proposed AWC:		

c) New AWC = b) - a):

(*This is the AUC of the operation*)

ITEM 5 – SUBMITTAL REQUIREMENTS Checklists No. 1 or 2 (pages 10-15) describe the submittal requirements, which are based on the type of confinement feeding operation structure[1] and AUC proposed. To determine which checklist to use, choose the option that best describes your confinement feeding operation:

A) ☒ **Formed manure storage structures[2]**: The proposed confinement feeding operation structure[1] will be or will use a formed manure storage structure[2]. Check one of the following boxes:

1. ☐ A swine farrowing and gestating operation with an AUC of 1,250 AU or more. Use Submittal Checklist No. 2 (page 13).
2. ☐ A swine farrow-to-finish operation with an AUC of 2,750 AU or more. Use Submittal Checklist No. 2 (page 13).
3. ☐ A cattle confinement feeding operation (including dairies) with an AUC of 4,000 AU or more. Use Submittal Checklist No. 2 (page 13).
4. ☐ Other confinement feeding operations with an AUC of 3,000 AU or more. Use Submittal Checklist No. 2 (page 13).
5. ☒ None of the above. Use Submittal Checklist No. 1 (page 10).

If any of boxes 1 to 4 are checked, the operation meets the threshold requirements for an engineer[4] and a Professional Engineer (PE), licensed in Iowa, is required. For these cases, use Submittal Checklist No. 2 (page 13).

If you checked box 5, your operation is below threshold requirements for an engineer[4] and a Professional Engineer (PE) is not required. Use Submittal Checklist No. 1 (page 10).

B) ☐ **Unformed manure storage structure[3]**: The proposed confinement feeding operation structure[1], will be or will use an unformed manure storage structure[3] or an egg washwater storage structure. A Professional Engineer (PE) licensed in Iowa must design and sign the engineering documents for any size of operation. Use Submittal Checklist No. 2 (page 13) and Addendum "A" (page 16).

ITEM 6 – SIGNATURE:

I hereby certify that the information contained in this application is complete and accurate.

Signature of Applicant(s): _____ Date: 26-March-2020

MAILING INSTRUCTIONS:

To expedite the application process, follow the submittal requirements explained in Checklist No. 1 or 2 (pages 10 to 16), whichever applies. Page 1 of this form should be the first page of the package. Mail all documents and fees to:

Iowa DNR
AFO Program
1900 N Grand Ave
Gateway North, Ste E17
Spencer, IA 51301

(Note: Incomplete applications will be returned to the sender.)

Questions

Questions about construction permit requirements or regarding this form should be directed to an engineer of the animal feeding operations (AFO) Program at (712) 262-4177 To contact the appropriate DNR Field Office, go to http://www.iowadnr.gov/fieldoffice.

[4] Threshold requirements for an engineer apply to the construction of a formed manure storage structure[2]. Operations that meet or exceed the threshold requirements for an engineer are required to submit engineering documents signed by a professional engineer licensed in the state of Iowa. Please refer to Checklist No. 2 (pages 13-15).

ITEM 7

Interested Parties Form
Confinement Feeding Operation

Interest means ownership of a confinement feeding operation as a sole proprietor or a 10 percent or more ownership interest held by a person in a confinement feeding operation as a joint tenant, tenant in common, shareholder, partner, member, beneficiary or other equity interest holder. Ownership interest is an interest when it is held either directly or indirectly through a spouse or dependent child, or both.

INSTRUCTIONS:

Please list all persons (including corporations, partnerships, etc.) who have an interest in any part of the confinement feeding operation covered by this permit application.

Full Name	Address	City/State	Zip
Brock Ferris	21828 J Ave	Iowa Falls, IA	50126
Ben Ferris	19706 JJ Ave	Iowa Falls, IA	50126

For each name above, please list below all other confinement feeding operations in Iowa in which that person has an interest. Check box "**None**", below, if there are no other confinement feeding operations in Iowa in which the above listed person(s) has or have an interest.

Operation Name	Location (¼ ¼, ¼, Section, Tier, Range, Township, County)	City
☒ **None** [There are no other confinements in Iowa in which the above listed person(s) has or have an interest].		

I hereby certify that the information provided on this form is complete and accurate.

Signature of Applicant(s): Brock Ferris Date: 26-March-2020

ITEM 8

Manure Storage Indemnity Fee Form for Construction Permits

CASHIER'S USE ONLY
0474-542-474A-0431
Facility ID #
County

Credit fees to: Ferris Pork, LLC

Name of operation: Ferris Pork

INSTRUCTIONS:

1) Use the 'Total Proposed AUC' from column b), Table 1 (page 4), to select the appropriate fee line in the table below. The 'Total Proposed AUC' is the AUC of the operation.
2) Select the animal specie and row number (see examples). Enter the 'New AU' from column c), Table 1 (page 4). The 'New AU' is the number of AU to be added to an existing operation or being proposed with a new operation. **Note**: If the "Existing AUC" (column a) is 500 AU or less, enter the "Total proposed AUC" (column b) in "New AU" (column c).
3) Multiply the 'New AU' by the appropriate 'Fee per AU'. The resulting number is the indemnity fee due.

- **Example 1**: An existing swine operation is expanding from an 'Existing AUC' of 1,000 AU to a 'Total Proposed AUC' of 1,800 AU, and has previously paid an indemnity fee for the existing 1,000 AU. Calculate the indemnity fee as follows: The 'Total Proposed AUC' is between 1,000 AU and 3,000 AU; the animal specie is other than poultry; enter 800 AU in the 'New AU' column, row 4, and multiply it by $ 0.15:
  (800 AU) x ($ 0.15 per AU) = $ 120.00
- **Example 2**: An existing poultry operation is expanding from an 'Existing AUC' of 250 AU to a 'Total Proposed AUC' of 2,000 AU and has not paid the indemnity fee for animals housed in the existing buildings. Calculate the indemnity fee as follows: The 'Total Proposed AUC' is between 1,000 AU and 3,000 AU; the animal specie is poultry and the indemnity fee has not previously been paid, enter 2,000 AU in the 'New AU' column on row 3, and multiply it by $0.06:
  (2,000 AU) x ($ 0.06 per AU) = $ 120.00
- **Example 3**: If you are proposing a new swine confinement feeding operation with a 'Total Proposed AUC' of 3,500 AU, enter 3,500 AU in the 'New AU' column, row 6 and multiply it by $ 0.20:
  (3,500 AU) x ($ 0.20 per AU) = $ 700.00
- **Example 4**: If you are applying for a construction permit but you are not increasing the AUC of the operation, and has previously paid the applicable indemnity for the animals housed in the existing buildings, there is no indemnity fee due ($ 0.00). If no indemnity fee is due, do not submit this page.

Indemnity Fee Table:

Total Proposed AUC (After Permit (from column B, Table 1)	Row	Animal species	New AU (from column C Table 1)	x	Fee per AU	Indemnity Fee
Less than 1,000 AU	1	Poultry		x	$ 0.04 =	
	2	Other		x	$ 0.10 =	
1,000 AU or more to less than 3,000 AU	3	Poultry		x	$ 0.06 =	
	4	Other	996	x	$ 0.15 =	$149.40
3,000 AU or more	5	Poultry		x	$ 0.08 =	
	6	Other		x	$ 0.20 =	

ITEM 8 (Cont.)

Filing Fees Form for Construction Permits

CASHIER'S USE ONLY
0473-542-473A-0431
0474-542-474A-0431
Facility ID #
County

Credit fees to: Ferris Pork, LLC

Name of operation: Ferris Pork

INSTRUCTIONS:

1. If the operation is applying for a construction permit enclose a payment for the following:
   ☒ Construction application fee $250.00.
   (Note: This fee is non-refundable)
2. A manure management plan must be submitted with a filing fee.
   ☒ Manure management plan filing fee $250.00
   (Note: This fee is non-refundable)
3. If this is a change in ownership then indemnity fees must also be paid on the current (existing) total AUC at the appropriate rate on page 7.
   ☐ Indemnity fee due to ownership change $ _____
4. Total filing fees: Add the fees paid in items 1, 2 and 3 (above): $ $500.00

SUMMARY:

- Manure Storage Indemnity Fee (see previous page) to be deposited in the Manure Storage Indemnity Fee Fund (474)	$	149.40
- Total filing fees (see item 4 on this page) to be deposited in the Animal Agriculture Compliance Fund (473)	$	500.00
TOTAL DUE:	$	649.40

Make check payable to: Iowa Department of Natural Resources or Iowa DNR; and send it along with the construction application documents (See Submittal Checklist No. 1 or 2, pages 10-15.) Note: Do not send this fee to the county.

ITEM 9

COUNTY VERIFICATION RECEIPT
OF DNR CONSTRUCTION PERMIT APPLICATION

This form provides proof that the County Board of Supervisors has been provided with a complete copy of the construction permit application documents (everything except the fees) for the confinement feeding operation or a complete MMP has been provided to the County because manure will be applied in that county:

Applicant: Brock Ferris on behalf of Ferris Pork, LLC Telephone: 641-640-0226

Name of operation: Ferris Pork

Location:	SW	NE	16	T88-R21	Ellis	Hardin
	(¼ ¼)	(¼)	(Section)	(Tier & Range)	(Name of Township)	(County)

Documents being submitted to the county:

- ☒ Construction permit application form: submit items 1 to 9 (see Submittal Checklist No. 1 or 2)
- ☒ Attachment 1 - Aerial photos: Must clearly show the location of the proposed confinement feeding operation structure[1] and that all the separation distances are met, including those claimed for points in the master matrix (if applicable).
- ☒ Attachment 2 - Statement of design certification, submit any of the following (see Checklist No. 1 or 2):
  - ☒ Construction Design Statement form
  - ☐ Professional Engineer (PE) Design Certification form
  - ☐ Engineering report, construction plans and technical specifications
  - ☐ In addition, if proposing an unformed manure storage structure[3] or an egg washwater storage structure submit documentation required in Addemdum "A" of this construction application form.
- ☒ Attachment 3 - Manure management plan.
- ☒ Attachment 4 - Master Matrix (if required). You must include supporting documents (see Checklist No. 1 or 2)

THIS SECTION IS RESERVED FOR THE COUNTY

As soon as DNR receives a construction permit application, the DNR will fax your County Auditor a "Courtesy reminder letter" explaining what actions your County Board of Supervisors must complete and the deadlines.

Public Notice is required for **all** construction permit applications, including those applications not required to be evaluated with the master matrix and applications in counties not participating in the Master matrix.

Counties participating in the master matrix: the county's master matrix evaluation and county's recommendation is required for the following cases:

- A new confinement feeding operation that is applying for a construction permit
- An existing confinement feeding operation that was first constructed on or after April 1, 2002 that is applying for a construction permit.
- An existing confinement feeding operation that was first constructed prior to April 1, 2002 that is applying for a construction permit with an animal unit capacity (AUC) is 1,667 animal units (AU) or more.

I have read and acknowledge the county's duty with this construction permit application, as specified in 567 IAC 65.10 and Iowa Code 459.304. On behalf of the Board of Supervisors for:

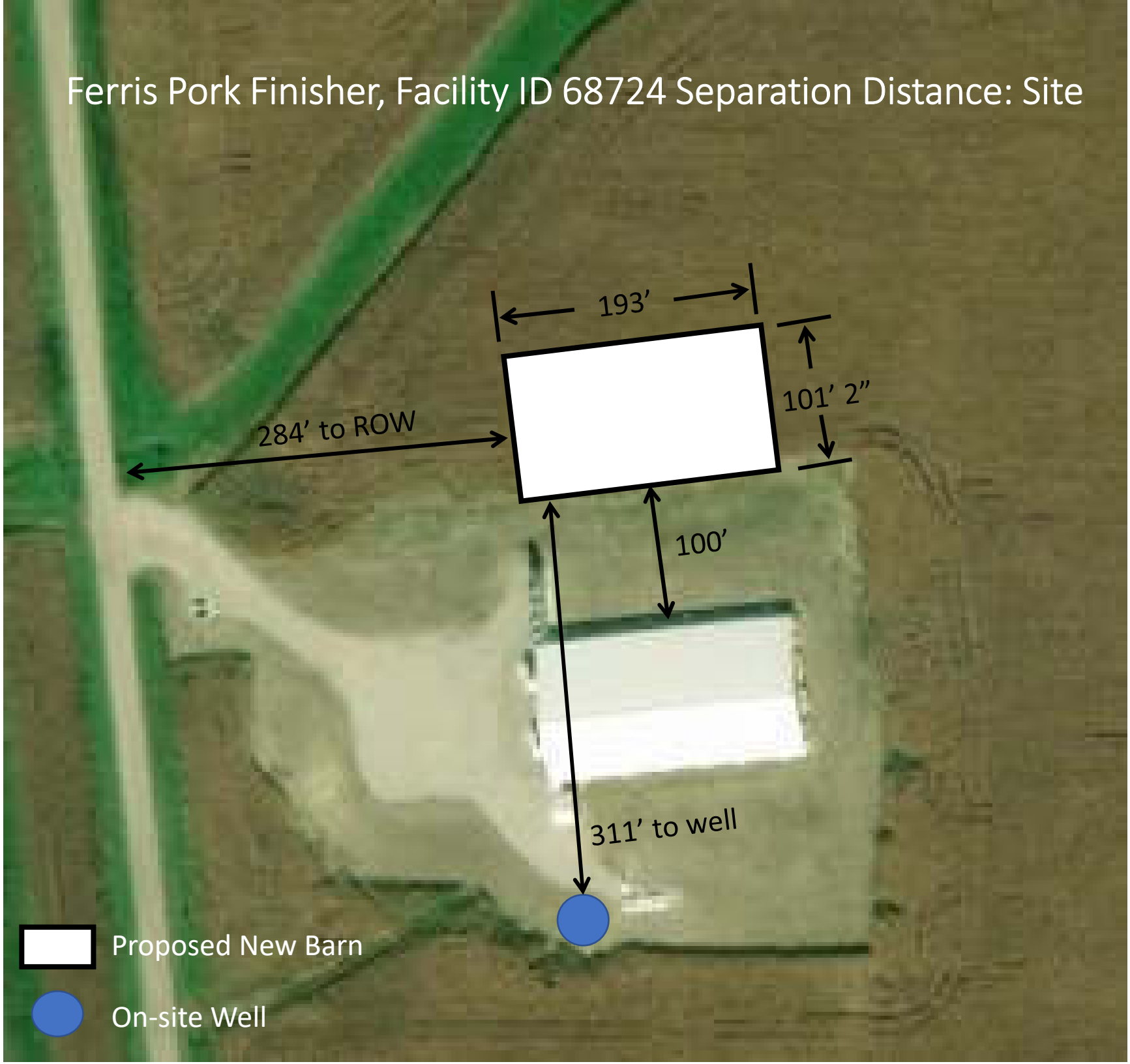
COUNTY: _____

NAME: _____

TITLE: _____
(Member of the County Board of Supervisors or its designated official/employee)

Date: _____ , 20 _____ .

If you do not receive the courtesy reminder letter within a reasonable time, or if you have any questions, please contact the animal feeding operations (AFO) Program at (712) 262-4177 or visit www.IowaDNR.gov


Ferris Pork Finisher, Facility ID 68724 Separation Distance: Site
193’
101’ 2”
284’ to ROW
100’
311’ to well
Proposed New Barn
On-site Well

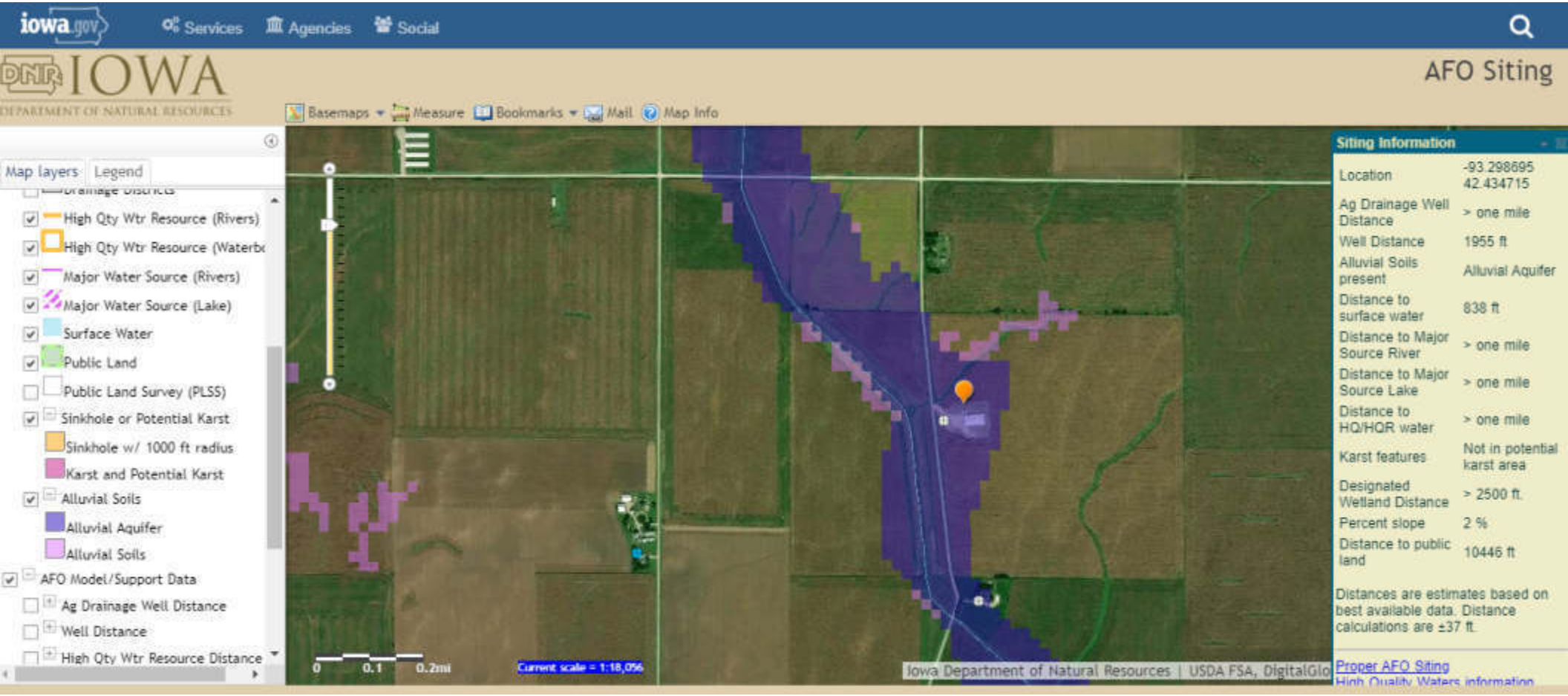

Ferris Pork Finisher, Facility ID 68724 Separation Distance: Surface Water
544’ to Surface Water

Ferris Pork Finisher, Facility ID 68724 Separation Distance: Residences

None of the following located within 1 mile

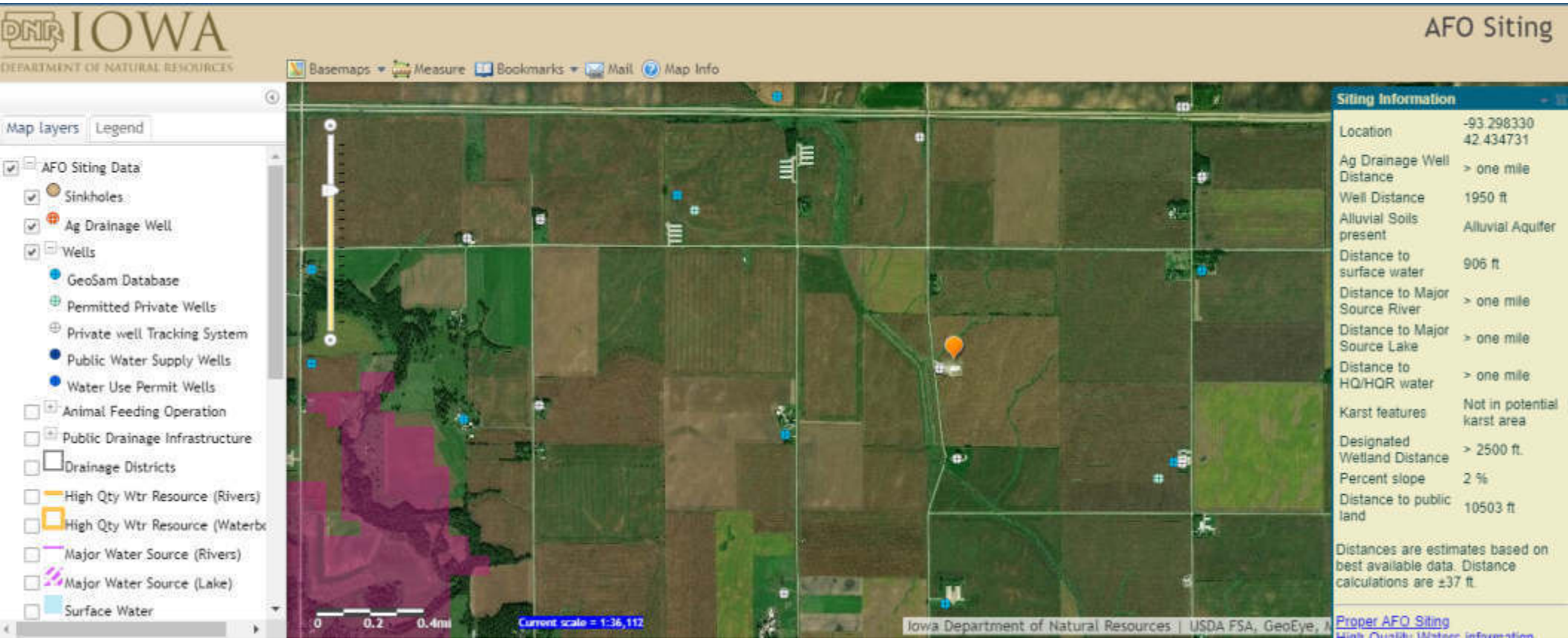
- **Major Water Sources**
- **Public Use Areas**
- **School, Church, or Business**
- **Agricultural Drainage Wells or known Sinkholes**
- **HQ, HQR, or PWA**

Ferris Pork Finisher, Facility ID 68724 Karst and Alluvial* Determination



*See enclosed supporting DNR documentation regarding Alluvial determination

Ferris Pork Finisher, Facility ID 68724 Sinkholes, Ag Drainage Wells, Etc




Ferris Pork Finisher, Facility ID 68724
Master Matrix Additional Separation Distance: Well
200’ + 111’ = 311’
Proposed New Barn
On-site Well

Ferris Pork Finisher, Facility ID 68724
Master Matrix Additional Separation Distance: CAFO

MASTER MATRIX POINTS

- **No Public Use Area within 4,001'**
- **No School, Church, or Business within 3,376'**
- **No Critical Public Use Area within 3,000'**
- **No Ag Drainage Well, Sinkhole, or Major Water Source within 3,501'**
- **No Major Water Source within 2,001'**
- **No CAFO (MMP site) within 3,960'**
- **No HQ, HQR, or PWA within 2,000'**


Ferris Pork Finisher, Facility ID 68724
Master Matrix Truck Turnaround
300’ x 145’
Proposed New Barn
Truck Turnaround

IOWA DEPARTMENT OF NATURAL RESOURCES

TO SATISFY THE PETITION OF:	DECLARATORY ORDER Number CI 2015-42-DO01
Jon Hager; Pinnacle for Proposed Ferris Pork Facility **HARDIN COUNTY, IOWA** **LOCATION OF A PROPOSED CONFINEMENT FEEDING OPERATION STRUCTURE WITH RESPECT TO THE "ONE HUNDRED YEAR FLOOD PLAIN"**	

FACTS AND RELEVANT LAW

The Department has received a Petition for Declaratory Order from Jon Hager (Petitioner), concerning the Proposed Ferris Pork Facility in the SW¼ of the NE¼ of Section 16, T88N, R21W; Hardin County, Iowa. A 2496 head (998.4 AU) swine confinement feeding operation structure as proposed by the Petitioner is to be located on land that contains a soil type classified as alluvial. The Petition requests the Department to determine whether the above site is located on a "one hundred year flood plain" according to 567 Iowa Administrative Code (IAC) 65.7(9). The "one hundred year flood plain", as defined in 567 IAC 65.1, is the land adjacent to a "major water source" that has at least a one percent chance of being inundated in any one year.

ORDER

According to 567 IAC Chapter 65, Table 1, the stream of concern is not a "major water source". Therefore, pursuant to 567 IAC 65.7(9), the Department has determined that the proposed confinement feeding operation structure is not located on a "one hundred year flood plain". The issuance of this declaratory order constitutes final agency action on the petition and is effective on the date of issuance.

For the Director of the Iowa Department of Natural Resources:

_____ Issuance Date: 12 - 14 , 2015.

Jeff Simmons
Environmental Engineer, Flood Plain Management and Dam Safety Section

CERTIFICATION OF MAILING

I hereby certify that I have this 15th day of December, 2015 mailed Declaratory Order Number CI 2015-42-DO01 to the Petitioner.

By CD

Gmail

Del Johnston <greenlantern.1967@gmail.com>

Alluvial Floodplain permit

3 messages

Del Johnston <del@5jfarms.net> Thu, Mar 19, 2020 at 4:18 PM
To: "Petitti, Paul" <paul.petitti@dnr.iowa.gov>

Paul, I've been trying to reach the DNR floodplain dept in DSM but not having luck. Assuming everyone is working remote.

I'm working on an expansion for Ferris Pork, Facility ID 68724. They'll be adding a barn, doubling AU from 996 to 1,992.

The site is in alluvial floodplain area. When the current barn was originally constructed the attached permit was issued. I would assume that the designation hasn't changed in 5 years and that I will be able to submit the attached as a valid permit with the CDS, Construction Permit, MM, and etc.

Thanks

--

****

Del Johnston
515-450-4871
www.SmartNPK.com

5J Farms and Services, LLC
Nutrient Management. Soil Fertility.
www.SmartNPK.com
827 Lafayette Ave
Story City, IA 50248

Ferris 68724 Alluvial Floodplain Approved 2015 petition.pdf

1124K

Petitti, Paul <paul.petitti@dnr.iowa.gov> Thu, Mar 19, 2020 at 4:31 PM
To: Del Johnston <del@5jfarms.net>

Del, the first barn is not on a floodplain of a Major water source and if the second barn is within 100' or so of the first then it also would not be in the flood plain of a major water source. When you submit the application put a note or email with it that the second barn will be within so many feet of the first and at the same slat elevation as the first barn. That will be sufficient to not require another determination

Paul Petitti P.E. | Environmental Engineer Senior
Iowa Department of Natural Resources
P 712-262-4177 | 1900 Grand Ave., Spencer, IA 51301
www.iowadnr.gov

[Quoted text hidden]

Del Johnston <del@5jfarms.net> Thu, Mar 19, 2020 at 4:56 PM
To: "Petitti, Paul" <paul.petitti@dnr.iowa.gov>

Sounds good. New barn will be same level and 80’ from current. Thanks
[Quoted text hidden]
--
Del Johnston 515-450-4871

Instrument #: 20200699
Year: 2020 Number: 0699
03/26/2020 10:52:43 AM Pages: 1
Recording Fee: $ 7.00
Lori Kadner, Recorder, Hardin County IA

Prepared by: Del Johnston, 827 Lafayette Ave, Story City, IA, 50248, 515-450-4871
Return to: Del Johnston, 827 Lafayette Ave, Story City, IA, 50248

Waiver of Separation Distance

Steve Oberender (Grantor) resides at: 18134 JJ Ave, Iowa City, IA, 50126 (Property #1). Ferris Pork, LLC – Brock Ferris (Grantee) is planning to add a barn to the existing livestock confinement facility with formed manure storage, a capacity of 1,992 animal units, and legal description of: Part of SW ¼ of NE ¼ Sec 16 T88N-R21W, Ellis Township, Hardin County, Iowa (Property #2). Pursuant to Iowa Code §459.202(1), a separation distance of 1875 feet is required between Property #1 and Property #2. Pursuant to Iowa Code §459.206(2), I, the undersigned Grantor, hereby waive the enforcement of this separation distance requirement. This waiver shall apply only to the properties and facilities described in this agreement, shall be perpetual and shall run with the land.

Granted this 21 day of March, 2020

Grantor, Signed: Steve Oberender

Printed Name: Steve Oberender

Grantee, Signed: Brock Ferris

Printed Name: Brock Ferris

State of Iowa, County of Hardin

On this 21 day of March, 2020, before me, a Notary Public, personally appeared Steve Oberender, to me known to be the person named in and who executed the foregoing instrument, and acknowledged that they executed the same as their voluntary act and deed.

Notary Public Signature: Del Johnston
Printed Name: Del Johnston
My Commission Expires: 17-August-2021

DEL JOHNSTON
Commission Number 774390
My Commission Expires
17-Aug-2021

State of Iowa, County of Hardin

On this 21 day of March, 2020, before me, a Notary Public, personally appeared Brock Ferris, to me known to be the person named in and who executed the foregoing instrument, and acknowledged that they executed the same as their voluntary act and deed.

Notary Public Signature: Del Johnston
Printed Name: Del Johnston
My Commission Expires: 17-August-2021

DEL JOHNSTON
Commission Number 774390
My Commission Expires
17-Aug-2021

Instrument #: 20200698
Year: 2020 Number: 0698
03/26/2020 10:52:43 AM Pages: 1
Recording Fee: $ 7.00
Lori Kadner, Recorder, Hardin County IA

Prepared by: Del Johnston, 827 Lafayette Ave, Story City, IA, 50248, 515-450-4871
Return to: Del Johnston, 827 Lafayette Ave, Story City, IA, 50248

Waiver of Separation Distance

Michael Carpenter (Grantor) resides at: 18798 JJ Ave, Iowa City, IA, 50126 (Property #1). Ferris Pork, LLC - Brock Ferris (Grantee) is planning to add a barn to the existing livestock confinement facility with formed manure storage, a capacity of 1,992 animal units, and legal description of: Part of SW ¼ of NE ¼ Sec 16 T88N-R21W, Ellis Township, Hardin County, Iowa (Property #2). Pursuant to Iowa Code §459.202(1), a separation distance of 1875 feet is required between Property #1 and Property #2. Pursuant to Iowa Code §459.305(2), I, the undersigned Grantor, hereby waive the enforcement of this separation distance requirement. This waiver shall apply only to the properties and facilities described in this agreement, shall be perpetual and shall run with the land.

Granted this 21 day of March, 2020

Grantor, Signed: _____

Printed Name: Michael Carpenter

Grantee, Signed: _____

Printed Name: Brock Ferris

State of Iowa, County of Hardin

On this 21 day of March, 2020, before me, a Notary Public, personally appeared Michael Carpenter, to me known to be the person named in and who executed the foregoing instrument, and acknowledged that they executed the same as their voluntary act and deed.

Notary Public Signature: _____
Printed Name: Del Johnston
My Commission Expires: 17-August-2021

DEL JOHNSTON
Commission Number 774390
My Commission Expires
17-Aug-2021

State of Iowa, County of Hardin

On this 21 day of March, 2020, before me, a Notary Public, personally appeared Brock Ferris, to me known to be the person named in and who executed the foregoing instrument, and acknowledged that they executed the same as their voluntary act and deed.

Notary Public Signature: _____
Printed Name: Del Johnston
My Commission Expires: 17-August-2021

DEL JOHNSTON
Commission Number 774390
My Commission Expires
17-Aug-2021

Construction Design Statement (CDS)

Instructions:

1. This form is for new or expanding confinement feeding operations with an AUC[1] of more than 500 AU, not required to have a professional engineer (PE)[2], that are proposing to construct a formed manure storage structure[3].
2. Complete and submit Sections 1, 2 and 3 (pages 1 to 6).
3. Complete and submit Section 4 (page 6) only if you are applying for a construction permit and are constructing three or more confinement feeding operation structures[4].
4. Mail only pages 1 to 6, as instructed on page 6 and 7. Do not mail the remainder of this form.
5. If the site-specific design is sealed by a PE[2], do not use this CDS instead use DNR Form 542-8122.

Section 1 - Information about the proposed formed manure storage structure[3](s)

A) Information about the operation:

Name of operation: Ferris Pork Facility ID No.: 68724

Location:	SW	NE	16	T88-R21	Ellis	Hardin
	(¼ ¼)	(¼)	(Section)	(Tier & Range)	(Name of Township)	(County)

B) Description of the proposed formed manure storage structure[3]. Include dimensions (length, width, or diameter, depth). Indicate if it is aboveground or belowground; covered or uncovered, made of concrete or steel, address location of pit fans, if applicable, and address water line entry into buildings. If necessary attach more pages:

One 101' 2" x 193' x 8' deep, below ground, covered, formed concrete manure storage tank will be constructed.

No water lines will enter through the concrete manure storage walls and all pit fans will be mounted on pump outs.

C) **Utilizing Rural Water System for Water Supply**

☐ The proposed facility will utilize rural water and the providing rural water system has been notified and is aware of the proposed increase in water use.

D) **Aerial photos:** Aerial photos must be submitted that clearly show the location of all existing and proposed confinement feeding operation structures and show at least a one-mile radius around the structures. The photos must either show roads on the north and south or east and west sides of a section (so that a mile distance is apparent), or include a distance scale.

The photo(s) must show that the proposed structures comply with all statutory minimum required separation distances to the objects listed below:

- Residences (not owned by the permit applicant), churches, businesses, schools, public use areas
- Water wells (depends on type)
- Major water sources, wellhead or cistern of an agricultural drainage well or known sinkholes
- Water sources (other than major water sources) and surface intakes of an agricultural drainage well
- Designated wetlands
- Road right-of-way

The separation distance to each of the above objects must be noted with a straight line between the proposed structure(s) and the object. If any of the above objects is not located within one mile from the proposed structures, note the fact on the photo(s) or use additional pages. (Example: “No agricultural drainage wells within one mile.”)

All separation distances that are not clearly in excess of the required minimum separation distance must be measured according to 567 IAC 65.11(9) using standard survey methods. Go to the DNR fact sheet page at http://www.iowadnr.gov/Environmental-Protection/Land-Quality/Animal-Feeding-Operations/AFO-Resources/AFO-Factsheets and select DNR fact sheet “Distance Requirements for Construction” to find the required separation distances. Or, go directly to: http://www.iowadnr.gov/Portals/idnr/uploads/forms/5421420.pdf. An example aerial photo can be found on pages 18 to 19 of the AFO Construction Permit Application (DNR Form 542-1428). Or, go directly to: http://www.iowadnr.gov/Portals/idnr/uploads/afo/fs_iemap.pdf.

[1] To determine the AUC see the 'Manure Storage Indemnity Fee' (Form 542-4021) or the 'Construction Permit Application' (Form 542-1428), or visit http://www.iowadnr.gov

[2] PE is a professional engineer licensed in the state of Iowa or a NRCS-Engineer working for the USDA-Natural Resources Conservation Service (NRCS).

[3] Formed manure storage structure means a covered or uncovered concrete or steel tank, including concrete pits below the floor.

[4] Confinement feeding operation structure = A confinement building, a formed or unformed manure storage structure, or an egg washwater storage structure.

Note: If a master matrix is required, the photos must also show that the additional separation distances required for any points claimed in matrix criteria one through ten will be met for the objects listed above. Note the additional separation distance by drawing a straight line between the proposed structures and the matrix item.

E) **Karst Determination:** Go to DNR AFO Siting Atlas at http://programs.iowadnr.gov/maps/afo/. Search for your site by either scrolling into your location or entering an address or legal description in the bottom search bar. Left click on the location of your proposed structure. Make sure the karst layer box is checked on the map layers. If you cannot access the map, or if you have questions about this issue, contact the AFO Engineer at 712-262-4177. Check one of the following:

☒ The site is not in karst or potential karst. Print and enclose the map with the name and location of the site clearly marked.

☐ The Siting Atlas has indicated that the site is in karst. The upgraded concrete standards of 567 IAC 65.15(14)"c" must be used. Complete and sign Section 3.H (page 5).

F) **Alluvial Soils Determination:** Go to the AFO Siting Atlas as described above. Make sure the alluvial box is checked on the map layers. If you cannot access the map, or if you have questions about this issue, contact DNR Flood Plain at 866-849-0321. Check one of the following:

☐ The site is not in alluvial soils. Print and enclose the map with the name and location of the site clearly marked.

☒ If the site is in alluvial soils contact DNR Flood Plain at 866-849-0321. You will be required to submit a petition for a declaratory order if less than 1000 AU or request a flood plain determination if 1000 AU or greater. After receiving Flood Plain determination, submit one of the following:

☒ Include correspondence from the DNR showing the site is not in 100-year flood plain or does not require a Flood Plain permit.

☐ Include copy of the Flood Plain permit if a Flood Plain permit is required.

Section 2 - Manure management plan:

☒ An original manure management plan (MMP) is enclosed with this form, even if a MMP was previously filed.

Brock Ferris on behalf of Ferris Pork, LLC	Brock Ferris	26-March-2020
Owner's Name (print)	Owner's Signature	Date

Section 3 - Construction design standards: The person responsible for constructing the formed manure storage structure(s)[3] must complete Section 3.

A) Liquid and semi-liquid manure: The proposed formed manure storage structure[3] will be (check one):

A.1 ☒ A non-circular concrete tank, belowground, with walls laterally braced or below the building concrete pit designed according to 567 IAC Chapter 65, Appendix D.

A.2 ☐ A non-circular concrete tank, belowground, walls designed according to MidWest Plan Service (MWPS), publication MWPS-36. Include design calculations.

A.3 ☐ A circular concrete tank, walls designed according to MidWest Plan Service (MWPS), publication MWPS TR-9. Include design calculations.

A.4 ☐ Will be made of steel, constructed aboveground according to the manufacturer's recommendations.

B) Dry manure: The proposed formed manure storage structure[3] will be (check one):

B.1 ☐ An aboveground concrete tank, with walls designed according to MWPS-36. Include design calculations.

B.2 ☐ Will be made of steel, constructed aboveground according to the manufacturer's recommendations.

B.3 ☐ Will be a belowground or partially belowground concrete tank, with walls laterally braced designed according to 567 IAC Chapter 65, Appendix D or MWPS-36. Include design calculations.

C) Details of the proposed design: Submit an additional completed copy of this page 3 for each formed manure storage structure[3] that have different dimensions. Complete all of the following information:

Number of buildings: one Building name: swine finisher

Dimensions of proposed formed manure storage structure[3]

	Length	Width	Height or depth	Wall thickness	Diameter (circular tanks only)
Feet	193	101	8		
Inches		2	0	8	

To determine the appropriate vertical steel in walls, first check one of the following boxes (must check one):

a. ☐ To use Tables D-1 and D-2 (on pages 7-8), backfilling of walls shall be performed with gravel, sand, silt, and clay mixtures (less than 50 percent fines), with coarse sand with silt or clay (less than 50 percent fines), or cleaner granular material (see page 9 for the unified soils classification). You will need to submit a copy of a USDA soil survey map with the proposed location of the formed manure storage structures[3] clearly marked showing the unified soil classification; or a statement signed by a qualified organization or NRCS staff.

b. ☒ Use Tables D-3 and D-4 (on pages 8-9) if backfilling of walls will be performed with soils that are unknown or with low plasticity silts and clays with some sand or gravel (50 percent or more fines); or fine sands with silt or clay (less than 50 percent fines); or low to medium plasticity silts and clays with little sand or gravel (50 percent or more fines); or high plasticity silts and clays (see page 9 for unified soils classification). You must use Tables D-3 and D-4 if you do not submit the soils information requested in box "a", above.

Maximum spacing of steel, in inches

Description of reinforcing steel in walls	Proposed vertical steel in walls [see boxes "a" and "b", above]				Proposed horizontal steel in walls (use Table D-5)
	Walls where vehicles are **not** allowed within 5 feet (use Table D-1)[a]	All walls with pumpout ports and walls where vehicles are allowed within 5 feet (use Table D-2)[a]	Walls where vehicles are **not** allowed within 5 feet (use Table D-3)[b]	All walls with pumpout ports and walls where vehicles are allowed within 5 feet (use Table D-4)[b]	
Grade 40, No. 4					
Grade 40, No. 5					
Grade 60, No. 4			10	9	12
Grade 60, No. 5					

D) Aboveground tanks or partially aboveground tanks: Liquid and semi-liquid manure (check the following box):

☐ If the proposed tank is to be constructed **aboveground or partially aboveground** and will have an external outlet or inlet below the liquid level, the tank will also be constructed according to the 567 IAC 65.15(20).

E) Steel Tanks: Certification that the tank will be constructed according to the tank manufacturer's specifications:

Name of tank manufacturer company: _____

Address: _____

Telephone: _____ Fax _____

F) Additional construction design standards:

To determine the additional requirements set forth in 567 IAC 65.15(14) that would apply to the proposed formed manure storage structure[3], check any of the following 3 boxes based on the information entered on Sections 3.A or 3.B (page 2):

☒ If you checked boxes A.1, A.2, A.3 or B.3 (on page 2) **all** of the following 15 additional requirements apply. Complete the numbered items 1 to 15 (below).

☐ If you checked box B.1 (on page 2), only the requirements of numbered items 1, 3, 4, 5, 6, 8 and 12 apply and need to check those boxes (below).

☐ If you checked boxes A.4 or B.2 (on page 2) and the steel tank will have a concrete floor, only the requirements of numbered items 1, 2, 3, 4, 5, 8, 9, 12, apply and need to check those boxes (below).

Additional Requirements that will be followed during construction of the formed manure storage structure(s)[3]:

1. Site preparation (check the following box):

☒ The finished subgrade of a formed manure storage structure shall be graded and compacted to provide a uniform and level base and shall be free of vegetation, manure and debris. For the purpose of this subrule, "uniform" means a finished subgrade with similar soils.

2. Groundwater separation requirements (check one of the following boxes):

☒ When the groundwater table, as determined in 65.15(7)"c," is above the bottom of the formed structure, a drain tile shall be installed along the footings to artificially lower the groundwater table pursuant to 65.15(7)"b"(2). The drain tile shall be placed within 3 feet of the footings as indicated in Appendix D, Figure D-1, at the end of this chapter and shall be covered with a minimum of 2 inches of gravel, granular material, fabric or a combination of these materials to prevent plugging the drain tile. A device to allow monitoring of the water in the drainage tile lines installed to lower the groundwater table and a device to allow shutoff of the drainage tile lines shall be installed if the drainage tile lines do not have a surface outlet accessible on the property where the formed manure storage structure is located.

☐ In lieu of the drain tile, a certification signed by a PE[2], a groundwater professional certified pursuant to 567 Chapter 134, or a qualified staff from NRCS, is being submitted indicating that the groundwater elevation, according to 65.15(7)"c", is below the bottom of the formed structure.

3. Minimum as-placed concrete compressive strength (check the following box):
   ☒ All concrete shall have the following minimum as-placed compressive strengths and shall meet American Society for Testing and Materials (ASTM) standard ASTM C 94: 4,000 pounds per square inch (psi) for walls, floors, beams, columns and pumpouts and 3,000 psi for the footings. The average concrete strength by testing shall not be below design strength. No single test result shall be more than 500 psi less than the minimum compressive strength.

4. Cement and aggregates specifications (check the following box):
   ☒ Cementitious materials shall consist of Portland cement conforming to ASTM C 150. Aggregates shall conform to ASTM C 33. Blended cements in conformance with ASTM C 595 are allowed only for concrete placed between March 15 and October 15. Portland-pozzolan cement or Portland blast furnace slag blended cements shall contain at least 75 percent, by mass, of Portland cement.

5. Concrete consolidation and vibration requirements (check the following box):
   ☒ All concrete placed for walls shall be consolidated or vibrated, by manual or mechanical means, or a combination, in a manner which meets ACI 309.

6. Minimum rebar specifications: (check the following box):
   ☒ All rebar used shall be a minimum of grade 40 steel. All rebar, with the exception of rebar dowels connecting the walls to the floor or footings, shall be secured and tied in place prior to the placing of concrete.

7. Wall reinforcement placement specifications (check the following box):
   ☒ All wall reinforcement shall be placed so as to have a rebar cover of 2 inches from the inside face of the wall for a belowground manure storage structure. Vertical wall reinforcement should be placed closest to the inside face. Rebar placement shall not exceed tolerances specified in ACI 318.

8. Minimum floor specifications. Complete part a) and b):
   a) Floor thickness requirements (check the following box):
      ☒ The floor slab shall be a minimum of 5 inches thick. Nondestructive methods to verify the floor slab thickness may be required by the department. The results shall indicate that at least 95 percent of the floor slab area meets the minimum required thickness. In no case shall the floor slab thickness be less than 4½ inches.

   b) The floor slab reinforcement shall be located in the middle of the thickness of the floor slab (check one of the following boxes):
      ☒ Formed manure storage structures with a depth of 4 feet or more shall have primary reinforcement consisting of a minimum of #4 rebar placed a maximum of 18 inches on center in each direction placed in a single mat.
      ☐ Formed manure storage structure with a depth less than 4 feet shall have shrinkage reinforcement consisting of a minimum of 6 × 6-W1.4 × W1.4 welded wire fabric.

9. Minimum footing specifications (check the following box):
   ☒ The footing or the area where the floor comes in contact with the walls and columns shall have a thickness equal to the wall thickness, but in no case be less than 8 inches, and the width shall be at least twice the thickness of the footing. All exterior walls shall have footings below the frostline. Tolerances shall not exceed -½ inch of the minimum footing dimensions.

10. Requirement to connect walls to footings (check one of the following boxes):
    ☐ The vertical steel of all walls shall be extended into the footing, and be bent at 90°, OR
    ☒ A separate dowel shall be installed as a #4 rebar that is bent at 90° with at least 20 inches of rebar in the wall and extended into the footing within 3 inches of the bottom of the footing and extended at least 3 inches horizontally, as indicated in Appendix D, Figure D-1 (page 10). Dowel spacing (bend or extended) shall be the same as the spacing for the vertical rebar.
    ☐ As an alternative to the 90°bend, the dowel may be extended at least 12 inches into the footing, with a minimum concrete cover of 3 inches at the bottom, as indicated in Appendix D, Figure D-1 (page 10). Dowel spacing (bend or extended) shall be the same as the spacing for the vertical rebar.
    ☐ In lieu of dowels, mechanical means or alternate methods may be used as anchorage of interior walls to footings. Please submit structural calculations and details of this proposal.

11. Concrete forms specifications (check the following box):
    ☒ All walls shall be formed with rigid forming systems and shall not be earth-formed. Form ties shall be non-removable.

12. Curing of concrete requirements (check the following box):
☒ All concrete shall be cured for at least seven days after placing, in a manner which meets ACI 308, by maintaining adequate moisture or preventing evaporation. Proper curing shall be done by ponding, spraying or fogging water; or by using a curing compound that meets ASTM C 309; or by using wet burlap, plastic sheets or similar materials.

13. Construction joints and waterstops specifications (check the following box):
☒ All construction joints in exterior walls shall be constructed to prevent discontinuity of steel and have properly spliced rebar placed through the joint. Waterstops shall be installed in all areas where fresh concrete will meet hardened concrete as indicated in Appendix D, Figures D-1 and D-2, at the end of this chapter. The waterstops shall be made of plastic, rolled bentonite or similar materials approved by the department.

14. Backfilling of walls specifications (check the following box):
☒ Backfilling of the walls shall not start until the floor slats or permanent bracing have been installed. Backfilling shall be performed with material free of vegetation, large rocks or debris.

15. Additional design requirements (check the following box, if applicable):
☐ A formed manure storage structure with a depth greater than 12 feet shall be designed by a PE or an NRCS engineer.

G) Construction Certification: The person responsible for constructing the formed manure storage structure[3] must sign this page. Any change(s) to the specifications of the formed manure storage structure must be first approved by DNR:

"I hereby certify that I have read and understand the minimum design and construction standards of Iowa Code chapter 459, Subchapter III, and the 567 Iowa Administrative Code (IAC) 65.15(14) "Minimum concrete standards" or 567 IAC 65 (if other than concrete)." The proposed formed manure storage structure(s)[3] at the operation:

Name of operation: _____ County: _____

Owner's name: _____

will be constructed in accordance with these minimum requirements. Included with this certification are:

☐ Page 3, for each formed manure storage structure[3] that have different dimensions
☐ Pages 4 to 6 (applicable sections)
☐ Other documents (specify): _____

Brent V Rastetter		3-24-2020
(Print name)	(Signature)	(Date)
Quality Ag, Inc.	15481 Highway D20, Alden, IA 50006	515-859-7824, ext. 11
(Company)	(Address)	(Phone No.)
	(See page 6 for mailing instructions)	

H) Upgraded Concrete Standards Certification: If the site is in karst according to Section 1.D (page 2) the person responsible for constructing the formed manure storage structure must also complete this section:
567 IAC 65.15(14)"c". Karst terrain - upgraded standards. If the site of the proposed formed manure storage structure is located in an area that exhibits karst terrain or an area that drains into a known sinkhole, the minimum concrete standards set forth in 65.15(14)"a" or "b" shall apply. In addition, the following requirements apply to all formed manure storage structures that store nondry or dry manure (check all of the following boxes):

☐ (1) A minimum 5-foot vertical separation distance between the bottom of a formed manure storage structure and limestone, dolomite, or other soluble rock is required if the formed manure storage structure is not designed by a PE or an NRCS engineer. (The 5-foot separation must be a continuous profile of low permeability soil directly beneath the bottom of the formed manure storage structure.

☐ (2) If the vertical separation distance between the bottom of the proposed formed manure storage structure and limestone, dolomite, or other soluble rock is less than 5 feet, the structure shall be designed and sealed by a PE or an NRCS engineer who certifies the structural integrity of the structure. A 2-foot-thick layer of compacted clay soil shall be constructed underneath the floor of the formed manure storage structure. However, it is recommended that any formed manure storage structure be constructed aboveground if the vertical separation distance between the bottom of the structure and the limestone, dolomite, or other soluble rock is less than 5 feet.

☐ (3) In addition, in an area that exhibits karst terrain or an area that drains into a known sinkhole, a PE, an NRCS engineer or a qualified organization shall submit a soil exploration study based on the results from soil borings or test pits to determine the vertical separation between the bottom of the formed structure and limestone, dolomite, or other soluble rock. A minimum of two soil borings, equally spaced within each formed structure, or two test pits outside of each formed

structure, are required. After soil exploration is completed, each soil boring and pit shall be properly plugged with concrete grout, bentonite, or similar materials.

☐ (4) Groundwater monitoring shall be performed as specified by the department.

☐ (5) Backfilling shall not start until the floor slats have been placed or permanent bracing has been installed, and shall be performed with material free of vegetation, large rocks, or debris.

"I have read and understand the upgraded concrete standards of IAC 65.15(14)"c", and certify that the proposed formed manure storage structure(s)[3] at the above operation will be constructed according to these standards":

(Print name)	(Signature)	(Date)
(Company)	(Address)	(Phone No.)

Section 4 - Drainage Tile Certification: Required only if applying for a construction permit and constructing three or more confinement feeding operations structures[4]. This section must be completed and signed by the person responsible for excavating the confinement feeding operation structure[4]:

567 IAC 65.15(1) - Drainage tile removal for new construction of a manure storage structure. Prior to constructing a manure storage structure, other than storage of manure in an exclusively dry form, the site for the animal feeding operation structure shall be investigated for drainage tile lines as provided in this subrule. All applicable records of known drainage tiles shall be examined for the existence of drainage tile lines.

c. The applicant for a construction permit for a formed manure storage structure shall investigate for tile lines during excavation for the structure. Drainage tile lines discovered upgrade from the structure shall be rerouted around the formed manure storage structure to continue the flow of drainage. All other drainage tile lines discovered shall be rerouted, capped, plugged with concrete, Portland cement concrete grout or similar materials or reconnected to upgrade tile lines. Drainage tile lines installed at the time of construction to lower a groundwater table may remain where located. A device to allow monitoring of the water in the drainage tile lines and a device to allow shutoff of the drainage tile lines shall be installed if the drainage tile lines do not have a surface outlet accessible on the property where the formed manure storage structure is located.

"I certify that I have read and understand the requirements of 567 IAC 65.15(1)"c" and that to the best of my knowledge, information and belief, the proposed confinement feeding operation structures[4] at:

Name of operation: _____ County: _____

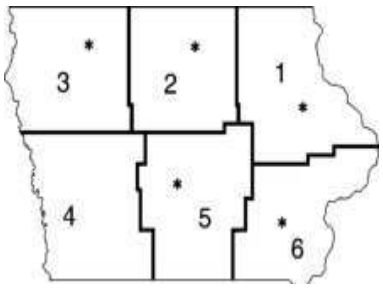
Owner's name: _____

will not impede the drainage of established drainage tile lines which cross their property lines and if construction disturbs drainage tile lines, I will take the necessary measures to reestablish drainage and, upon completion of construction, file a statement that those measures were taken to reestablish drainage."

(Print name)	(Signature)	(Date)
(Company)	(Address)	(Phone No.)

Mailing Instructions: Mail only pages 1 to 6 of this CDS according to the following:

1. Operations not needing a construction permit (AUC[1] between 501 and 999 AU and constructing a formed manure storage structure[3]) but required to submit a manure management plan (MMP), at least **30 days** prior to beginning construction must file this CDS, the required karst and alluvial soils documentation requested in Section 1,C and 1,D (page 1) along with the required MMP documents and fees with the nearest DNR Field Office:



Field Office 1 909 W Main St Ste 4 Manchester, IA 52057 (563) 927-2640	Field Office 3 1900 N Grand Ave Spencer, IA 51301 (712) 262-4177	Field Office 5 7900 Hickman Rd Ste 200 Windsor Heights, IA 50324 (515) 725-0268
Field Office 2 2300 15th St SW Mason City, IA 50401 (641) 424-4073	Field Office 4 1401 Sunnyside Ln Atlantic, IA 50022 (712) 243-1934	Field Office 6 1023 W Madison Washington, IA 52353 (319) 653-2135

Manure Management Plan Form

Animal Feeding Operation Information

Instructions: Complete this form for your animal feeding operation. Footnotes are provided on page 4.

The information within this form, and the attachments, describes my animal feeding operation, my manure storage and handling system, and my planned manure management system. I (we) will manage the manure, and the nutrients it contains, as described within this manure management plan (MMP) and any revisions of the plan, individual field information, and field summary sheet, and in accordance with current rules and regulations. Deviations permitted by Iowa law will be documented and maintained in my records.

Signed: Brock Ferris (Signature) Brock Ferris (Print name) **Date:** 26-March-2020

Name of operation: Ferris Pork **Facility ID No.** 68724

Location of the operation: 18400 JJ Ave (911 address)

Iowa Falls (Town) IA (State) 50126 (Zip)

SW (1/4 1/4) 1/4 of the NE (1/4) 1/4 of Sec 16 (Section) T 88N R 21W (Tier & Range) Ellis (Township Name) Hardin (County)

Owner and contacts of the animal feeding operation:

Owner Ferris Pork, LLC Phone 641-640-0226

Address 21828 J Ave, Iowa Falls, IA 50126

E-mail address (optional) _____ Cell phone (optional) _____

Contact person (if different than owner) Del Johnston Phone 515-450-4871

Address 827 Lafayette Ave, Story City, IA 50248

E-mail address (optional) _____ Cell phone (optional) _____

Contract company (if applicable) _____ Phone _____

Address _____

This manure management plan is for: (check one)

___ existing operation, not expanding ___ existing operation, expanding ___ existing operation, new owner ___ new operation

Construction and Expansion Dates: Jan 2015 date of initial construction and all expansions

Table 1. Information about livestock production and manure management system

1	2	3	4	5	6	7	8
Animal type/ Production phase[a]	Max # of animals confined	Manure Storage Structure[b]	N[c]	P_2O_5[c]	gal/space/dy[d]	Days/yr Facility occupied	Annual Manure Produced[e]
Grow/finish (wet/dry)	4992	Indoor Formed	40.3	22.1	0.9	355	1,594,944
Select production phase			0	0	0.0		000
Select production phase			0	0	0.0		000
						Total Gallons	**1,594,944**

Estimated annual animal production[f]: 11,980 animals/year

Source of Manure Nutrient Content Data (standard tables, manure analysis, other): _____

Manure Management Plan Form

Determining Maximum Allowable Manure Application Rates

Instructions: Complete a worksheet for each unique combination of the following factors (crop rotation, optimum crop yield, manure nutrient concentration, remaining crop N need, method of application) that occurs at this operation. Complete form by filling in blanks, yellow-colored cells, and drop down menus. Gray shaded cells will calculate automatically. Footnotes are given on pages 4, 5 and 6.

Management Identification (Mgt ID)[f]

CCB

(identify this application scenario by letter)

Method to determine optimum crop yield[g] USDA Iowa Ag Statistics County yields

Timing of application Spr/Fall

Method of application[h] Knifed in or soil injection of liquid manure

Application loss factor 0.98

If spray irrigation is used, identify method[i]

Table 2. Manure nutrient concentration

Manure Nutrient Content (lbs/1000gal or lbs/ton)[j]					
Total N	40.3		P_2O_5	22.1	
%TN Available 1st year[k]	100%	2nd year		3rd year	
Available N 1st year[l]	39.5	2nd year[m]	0.0	3rd year[n]	0.0

Table 3. Crop usage rates[o]

lb/bu or lb/ton	N	P_2O_5
Corn	1.2	0.32
Soybean	3.8	0.72
Alfalfa	50	13
Other crop	0	0

*Use blank space above to add crop not listed.

Table 4. Calculations for rate based on nitrogen (always required)

			Corn	Corn	Soybean	Corn
1	Applying Manure For (crop to be grown)[p]					
2	Optimum Crop Yield [g]	bu or ton/acre	220.88	220.88	62.04	220.88
3	P_2O_5 removed with crop by harvest [q]	lb/acre	70.7	70.7	44.7	70.7
4	Crop N utilization [r]	lb/acre	265	265	236	265
5a	Legume N credit [s]	lb/acre	50	0	0	50
5b	Commercial N planned[t]	lb/acre	0	0	135.752	0
5c	Manure N carryover credit [u]	lb/acre		0.0	0.0	0.0
6	Remaining crop N need [v]	lb/acre	215	265	100	215
7	Manure rate to supply remaining N [w]	gal/acre	5445	6711	2532	5445
8	P_2O_5 applied with N-based rate [x]	lb/acre	120	148	56	120

Table 5. Calculations for rate based on phosphorus (fill out only if P-based rates are planned)

9	Commercial P_2O_5 planned [y]	lb/acre				
10	Manure rate to supply P removal [z]	gal/acre	3198	3198	2021	3198
11	Manure rate for P based plan [aa]	gal/acre				
12	Manure N applied with P-based plan [bb]	lb/acree	0	0	0	0

Table 6. Application rates that will be carried over to page 3

13	Planned manure application rate [cc]	gal/acre	5445	6711	2532	5445

When applicable, manure application rates must be based on the P index value as follows:
(0-2) N-based manure management.
(>2-5) N-based manure management but P application rate cannot exceed two times the P removal rate of the crop schedule.
(>5-15) No manure application until practices are adopted to reduce P index to 5 or below.
(>15) No manure application.

Manure Analysis

Submitted By
5J FARMS AND SERVICES
827 LAFAYETTE AVE
STORY CITY, IA 50248

Submitted For
FERRIS PORK

Date Sampled
8/9/2019

Date Received
19-Aug-2019

Laboratory Sample #
BP47237

Account Number
EW50014101

Test Package
Basic

Date Reported
20-Aug-2019

Information Sheet No.
M0816-20

Location BLNK **Sample ID** 1 **Livestock Type** Hog **Handling Type** Liquid

Analysis	Results (as Received)
Total N, (TKN)	0.48 %
Phosphorus, P_2O_5	0.26 %
Potassium, K_2O	0.46 %
Sulfur, S	0.07 %
Dry Matter	5.69 %
Moisture	94.31 %

LIQUID
Est. Available Nutrient Credits (as received, lbs / 1000 gal)

Nutrients as lbs/1000 gal	In 1st Year			In 2nd Year	In 3rd Year
	Injected	Incorporated*	Broadcast**		
40.3	35.5 - 40.3	34.4 - 39.9	27.2 - 36.3	0.0	0.0
22.1	19.9 - 22.1	19.9 - 22.1	19.9 - 22.1	Residual after uptake	
38.0	34.2 - 38.0	34.2 - 38.0	34.2 - 38.0	Residual after uptake	
5.5	3.0 - 5.5	3.0 - 5.5	3.0 - 5.5		

DRY
Est. Available Nutrient Credits (as received, lbs / ton)

Nutrients as lbs/ton		In 1st Year		In 2nd Year	In 3rd Year
		Incorporated*	Broadcast**		
TKN	9.7	8.3 - 9.6	6.1 - 8.2	0.0	0.0
P_2O_5	5.3	4.8 - 5.3	4.8 - 5.3	Residual after uptake	
K_2O	9.1	8.2 - 9.1	8.2 - 9.1	Residual after uptake	
S	1.3	0.7 - 1.3	0.7 - 1.3		

*Surface applied liquid or solid manure incorporated within 1- 4 hours after application.

**Liquid or solid manure left on the surface 4 or more days without incorporation. Wind and high temperature will result in greater loss of available nitrogen.

The Total N (TKN) values are the sum of Ammonium and Organic N. Avaialbility estimates are corrected for ammonia volatilization loss due to each application method.

Available Nutrient Credit ranges are shown for soil and climate conditions prevalent in the Upper Midwest states.

Liquid manure applied as irrigation will lose more nitrogen from volatilization. An additional 15% of the Liquid TKN value should be subtracted off the Liquid Broadcast TKN Range.

1701 Detroit Street, PO Box 247 • Ellsworth, IA 50075 • P: 515.836.4444 • ellsworth@agsource.com

Manure Management Plan Form

Year by Year Manure Management Plan Summary

Instructions: Complete this form for each of the next four growing seasons, to demonstrate sufficient land base to apply manure over multiple crop years. If this page i identical for multiple years (e.g. every other year), submit only once for the identical years, and indicate which years the form represents. Footnotes are given on page

Crop year(s): 2020, 2023

1	2	3	4	5	6	7	8	9	10	11
Field Designation [ee]	Field Location ___1/4 of the___ 1/4 Sec___ T___ R___ Townsip Name_____, County Name _____	Mgt Id [ff]	Planned Crop	Acres receiving manure[gg]	Own, rent, agreement (include length of agreement) [hh]	P index value [ii]	HEL (Y/N)[jj]	Planned Application		Correct Soil Test for P[ll] (Yes or No)
								gal/acre	gal/field [kk]	
68724-01	S 1/2 NE 1/4 and N 1/2 N 1/2 SE 1/4 Sec 16 T88N R21W Ellis, Hardin County	CCB	C	104.8	Own	0.70	N	6711	703344	Yes
68724-02	S 1/2 N 1/2 SE 1/4 Sec 16 T88N R21W Ellis, Hardin County	CCB	C	32.4	Own	0.77	N	5445	176427	Yes
68724-03a	SE 1/4 NW 1/4 and NE 1/4 SW 1/4 Sec 16 T88N R21W Ellis, Hardin County	CCB	C	13.9	Own	3.95	N	5445	75689	Yes
68724-03b	SE 1/4 NW 1/4 and NE 1/4 SW 1/4 Sec 16 T88N R21W Ellis, Hardin County	CCB	C	52.4	Own	0.65	N	5445	285333	Yes
68724-04	Fr SW 1/4 Sec 21 and Fr NW 1/4 of NE 1/4 Sec 28 T88N R21W Ellis, Hardin County	CCB	B	162.8	Own	1.02	N	2532	412215	Yes
68724-05	N 1/2 NE 1/4 Sec 16 T88N R21W Ellis, Hardin County	CCB	B	70.7	Easement	1.57	N	2532	179015	Yes
68724-06	NE 1/4 NW 1/4 Sec 16 T88N R21W Ellis, Hardin County	CCB	B	34.5	Easement	1.27	N	2532	87355	Yes
	Total acres available for manure application			471.5	**Total gallons that could be applied**				1919378	

Manure Management Plan Form

Year by Year Manure Management Plan Summary

Instructions: Complete this form for each of the next four growing seasons, to demonstrate sufficient land base to apply manure over multiple crop years. If this page i
identical for multiple years (e.g. every other year), submit only once for the identical years, and indicate which years the form represents. Footnotes are given on page

Crop year(s): 2021, 2024

1	2	3	4	5	6	7	8	9	10	11
Field Designation [ee]	Field Location ___1/4 of the___ 1/4 Sec___ T___ R___ Townsip Name_____, County Name _____	Mgt Id [ff]	Planned Crop	Acres receiving manure[gg]	Own, rent, agreement (include length of agreement) [hh]	P index value [ii]	HEL (Y/N)[jj]	Planned Application gal/acre	Planned Application gal/field [kk]	Correct Soil Test for P[ll] (Yes or No)
68724-01	S 1/2 NE 1/4 and N 1/2 N 1/2 SE 1/4 Sec 16 T88N R21W Ellis, Hardin County	CCB	B	104.8	Own	0.70	N	2532	265357	Yes
68724-02	S 1/2 N 1/2 SE 1/4 Sec 16 T88N R21W Ellis, Hardin County	CCB	C	32.4	Own	0.77	N	6711	217446	Yes
68724-03a	SE 1/4 NW 1/4 and NE 1/4 SW 1/4 Sec 16 T88N R21W Ellis, Hardin County	CCB	C	13.9	Own	3.95	N	6711	93287	Yes
68724-03b	SE 1/4 NW 1/4 and NE 1/4 SW 1/4 Sec 16 T88N R21W Ellis, Hardin County	CCB	C	52.4	Own	0.65	N	6711	351672	Yes
68724-04	Fr SW 1/4 Sec 21 and Fr NW 1/4 of NE 1/4 Sec 28 T88N R21W Ellis, Hardin County	CCB	C	162.8	Own	1.02	N	5445	886492	Yes
68724-05	N 1/2 NE 1/4 Sec 16 T88N R21W Ellis, Hardin County	CCB	C	70.7	Easement	1.57	N	5445	384981	Yes
68724-06	NE 1/4 NW 1/4 Sec 16 T88N R21W Ellis, Hardin County	CCB	C	34.5	Easement	1.27	N	5445	187862	Yes
	Total acres available for manure application			471.5	**Total gallons that could be applied**				2387098	

Manure Management Plan Form

Year by Year Manure Management Plan Summary

Instructions: Complete this form for each of the next four growing seasons, to demonstrate sufficient land base to apply manure over multiple crop years. If this page i identical for multiple years (e.g. every other year), submit only once for the identical years, and indicate which years the form represents. Footnotes are given on page

Crop year(s): 2022

1	2	3	4	5	6	7	8	9	10	11
Field Designation [ee]	Field Location ___1/4 of the___ 1/4 Sec___ T___ R___ Townsip Name_____, County Name _____	Mgt Id [ff]	Planned Crop	Acres receiving manure[gg]	Own, rent, agreement (include length of agreement) [hh]	P index value [ii]	HEL (Y/N)[jj]	Planned Application gal/acre	Planned Application gal/field [kk]	Correct Soil Test for P[ll] (Yes or No)
68724-01	S 1/2 NE 1/4 and N 1/2 N 1/2 SE 1/4 Sec 16 T88N R21W Ellis, Hardin County	CCB	C	104.8	Own	0.70	N	5445	570666	Yes
68724-02	S 1/2 N 1/2 SE 1/4 Sec 16 T88N R21W Ellis, Hardin County	CCB	B	32.4	Own	0.77	N	2532	82038	Yes
68724-03a	SE 1/4 NW 1/4 and NE 1/4 SW 1/4 Sec 16 T88N R21W Ellis, Hardin County	CCB	B	13.9	Own	3.95	N	2532	35195	Yes
68724-03b	SE 1/4 NW 1/4 and NE 1/4 SW 1/4 Sec 16 T88N R21W Ellis, Hardin County	CCB	B	52.4	Own	0.65	N	2532	132678	Yes
68724-04	Fr SW 1/4 Sec 21 and Fr NW 1/4 of NE 1/4 Sec 28 T88N R21W Ellis, Hardin County	CCB	C	162.8	Own	1.02	N	6711	1092599	Yes
68724-05	N 1/2 NE 1/4 Sec 16 T88N R21W Ellis, Hardin County	CCB	C	70.7	Easement	1.57	N	6711	474489	Yes
68724-06	NE 1/4 NW 1/4 Sec 16 T88N R21W Ellis, Hardin County	CCB	C	34.5	Easement	1.27	N	6711	231540	Yes
	Total acres available for manure application			471.5	**Total gallons that could be applied**				2619205	

HIGHWAY AND TRANSPORTATION MAP

HARDIN COUNTY
IOWA

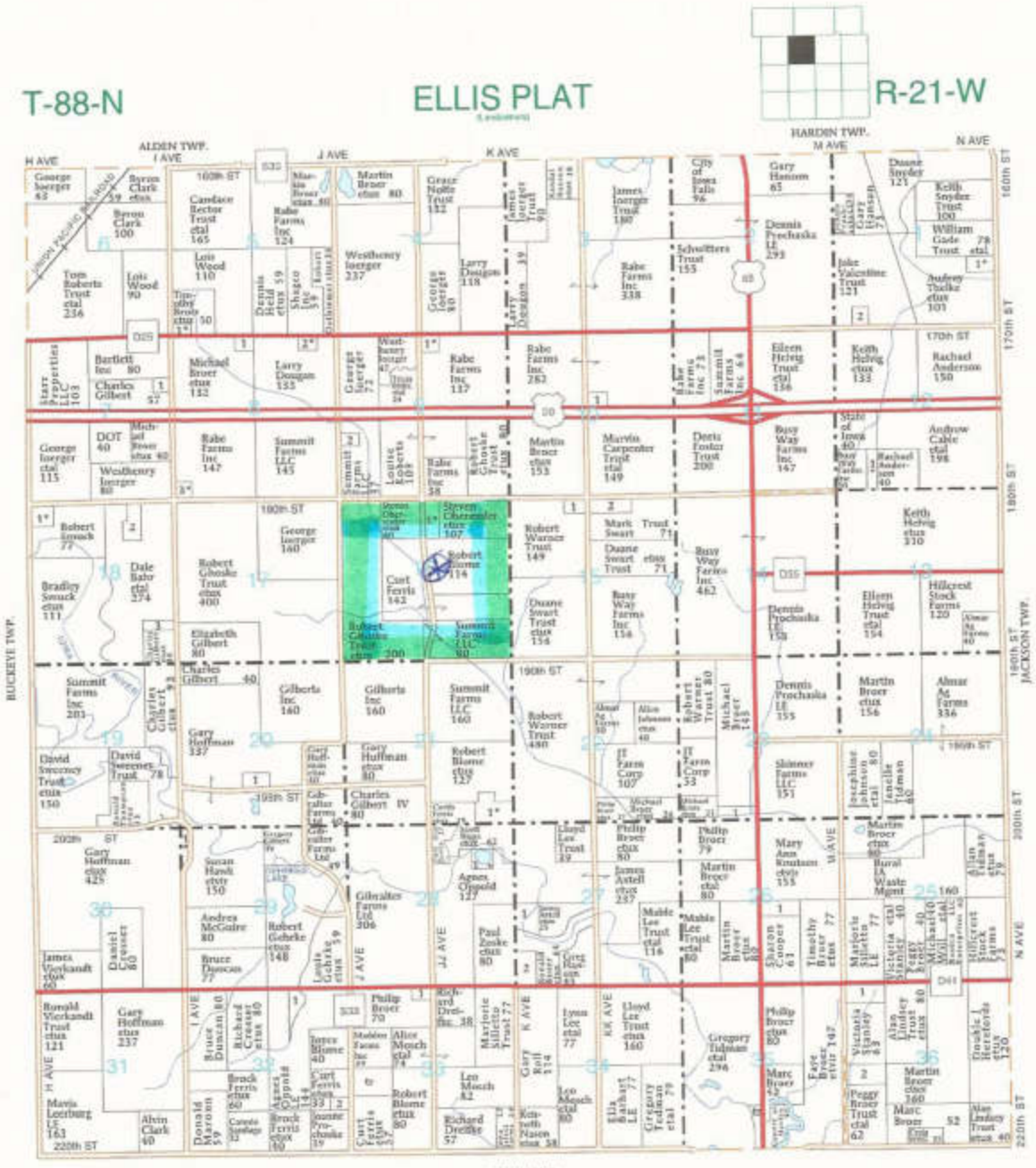
Prepared by
IOWA DOT

In Cooperation With
United States
Department of Transportation

JANUARY 1, 2016

LEGEND

T-88-N ELLIS PLAT R-21-W



ELLIS TOWNSHIP

SECTION 1
1. Reingardt, Merle 8
2. Preper, Bruce 6

SECTION 5
1. Reece, Ronald 10

SECTION 7
1. Eggleston Jr, Steven 8

SECTION 8
1. Christensen Farms Midwest LLC 6
2. Vanderpool, Thomas 6
3. Cooper, Wayne 9

SECTION 9
1. Hoover, Scott 6
2. Christensen Farms Midwest LLC 5

SECTION 10
1. Marchant, Roger 6

SECTION 12
1. Helvig, Keith 10

SECTION 15
1. Spilde, Scott 6
2. Hagen, Jean 14

SECTION 16
1. Fecht, James 9

SECTION 18
1. Thoms, James 12
2. Behr, Paul 11
3. Gilbert, Elizabeth 10

SECTION 20
1. Hoffman Seed Farms Inc 8

SECTION 21
1. Riggs, Scott 14

SECTION 23
1. Broer, Philip 13

SECTION 26
1. Broer, Sharon 14

SECTION 27
1. Zoske, Paul 15
2. Hanson, Gregory 13

SECTION 28
1. McGuire, Sheila 13

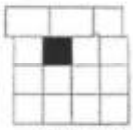
SECTION 29
1. Hoffman, Gary 8

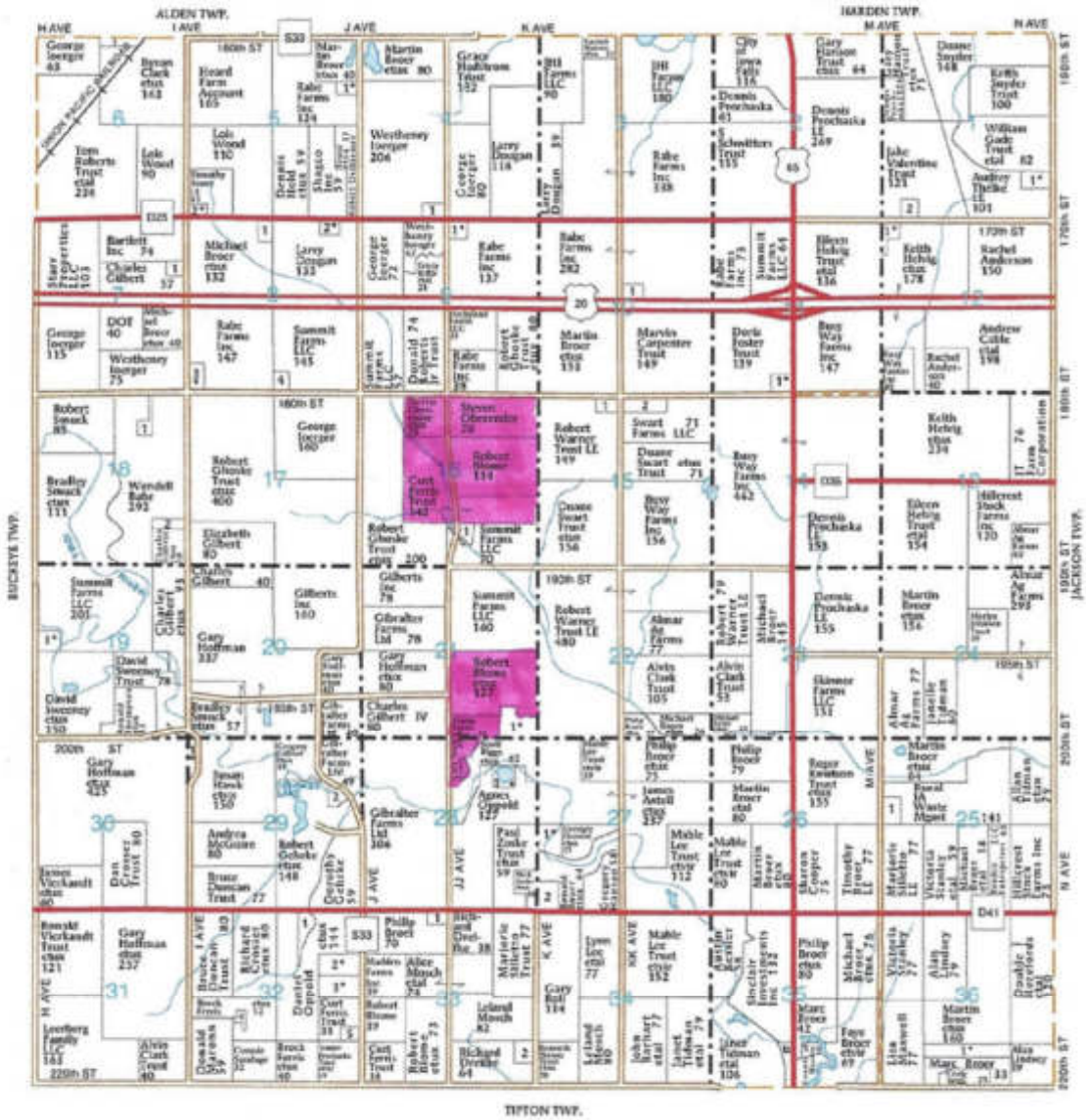
SECTION 32
1. Summit Farms LLC 12
2. Christensen Farms Midwest LLC 6

SECTION 33
1. Vaugn, Betty 10

SECTION 36
1. Broer, Victoria 13
2. Broer, Lisa 13

T-88-N ELLIS PLAT R-21-W





ELLIS TOWNSHIP

SECTION 1
1. Reingardt, Merle etux 8
2. Hinkell, Kendra 6

SECTION 4
1. Statler, Becky 6

SECTION 5
1. Kinnetz Jr, Marvin etux 6
2. Reece, Ronald etux 6

SECTION 6
1. Wood, Mary 5

SECTION 7
1. Eggleston Jr, Steven 8

SECTION 8
1. Woodford Creek Farms LLP 6
2. VanderPool, Thomas etux 6
3. Cooper, Wayne etux 5
4. Woodford Creek Farms LLP 6

SECTION 9
1. Hoover, Scott etux 6

SECTION 10
1. Marchant, Roger 6

SECTION 11
1. Faris, Gary etux 5

SECTION 12
1. Brown, Danielle etal 7

SECTION 15
1. Hartkopp, Timothy 6
2. Swart, Michele 9

SECTION 16
1. Carpenter, Michael 6

SECTION 18
1. Bahr, Paul 6
2. Gilbert, Elizabeth 10

SECTION 19
1. Bahr, Janice etvir 9

SECTION 21
1. Riggs, Scott etux 14

SECTION 23
1. Broer, Philip etux 6
2. Broer, Philip 7

SECTION 25
1. County of Hardin Sanitary Solid Waste Commission 11

SECTION 27
1. Zoske Trust, Paul etux 15
2. Hanson, Gregory 13

SECTION 28
1. McGuire, Sheila etal 13

SECTION 29
1. Hoffman, Gary etux 8
2. County of Hardin 6

SECTION 32
1. Summit Farms LLC 12
2. Prochaska Trust, Joanne etvir 20
3. Blome, Robert etux 20
4. Hagges Inc 7
5. Summit Farms LLC 6

SECTION 33
1. Vaugn LE, Betty 10
2. Iowa Select Farms LP 12

SECTION 36
1. Broer, Philip etux 20

Iowa Phosphorus Index

v. 1/22/2007

Credits: Iowa State University
USDA National Soil Tilth Laboratory
USDA Natural Resource Conservation Service

Field Number	Erosion							+	Runoff					+	Tile / Subsurface Recharge			=	Overall
	Gross Erosion	x	Sediment Trap Factor	x SDR x	Buffer Factor	x Enrichment Factor	x STP Factor	= Erosion PI		RCN Factor	x (STP Factor	+ P App Factor	) = Runoff PI		Flow Factor	x STP Factor	= Tile/Sub PI		P Index
68724-01 --	2.60		1.00	0.10	1.00	1.10	0.89	0.25		1.53	0.27	0.02	0.45		0.00	0.07	0.00		0.70
68724-02 --	2.60		1.00	0.10	1.00	1.10	0.92	0.26		1.53	0.31	0.02	0.51		0.00	0.07	0.00		0.77
68724-03a --	5.70		1.00	0.27	1.00	1.10	1.45	2.47		1.53	0.94	0.02	1.48		0.00	0.15	0.00		3.95
68724-03b --	0.83		1.00	0.14	1.00	1.10	0.93	0.12		1.53	0.33	0.02	0.53		0.00	0.07	0.00		0.65
68724-04 --	2.60		1.00	0.07	1.00	1.10	1.07	0.23		1.53	0.49	0.02	0.79		0.00	0.07	0.00		1.02
68724-05 --	2.60		1.00	0.09	1.00	1.10	1.32	0.33		1.53	0.79	0.02	1.24		0.00	0.15	0.00		1.57
68724-06 --	2.40		1.00	0.09	1.00	1.10	1.19	0.27		1.53	0.63	0.02	1.00		0.00	0.15	0.00		1.27

RUSLE2 Profile Erosion Calculation Record

Info:

File: profiles\Ferris\68724-01

Inputs:
Location: USA\Iowa\Hardin County
Soil: SSURGO\Hardin County, Iowa\L638C2 Clarion-Storden complex, Bemis moraine, 6 to 10 percent slopes, moderately eroded\Clarion Loam Bemis moraine, moderately eroded 45%
Slope length (horiz): 130 ft
Avg. slope steepness: 8.0 %

Management	*Vegetation*	*Yield units*	*# yield units, #/ac*
managements\CMZ 04\c.Other Local Mgt Records\CCB-Field Cult	vegetations\Corn, grain	bushels	200.00
managements\CMZ 04\c.Other Local Mgt Records\CCB-Field Cult	vegetations\Corn, grain	bushels	200.00
managements\CMZ 04\c.Other Local Mgt Records\CCB-Field Cult	vegetations\Soybean, mw 15 - 20 in rows	bu	58.000

Contouring: a. rows up-and-down hill
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial

Outputs:
T value: 5.0 t/ac/yr
Soil loss erod. portion: 2.6 t/ac/yr
Detachment on slope: 2.6 t/ac/yr
Soil loss for cons. plan: 2.6 t/ac/yr
Sediment delivery: 2.6 t/ac/yr

Crit. slope length: 130 ft
Surf. cover after planting: -- %
Avg. ann. total biomass removal: 0 lb/ac

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
11/1/0	Manure injector, liquid low disturb.30 inch		87
5/1/1	Sprayer, pre-emergence		73
5/1/1	Planter, double disk opnr w/fluted coulter	Corn, grain	73
6/7/1	Sprayer, post emergence and fert. tank mix		61
10/20/1	Harvest, killing crop 50pct standing stubble		88

11/1/1	Manure injector, liquid low disturb.30 inch		94
11/5/1	Cultivator, field 6-12 in sweeps		88
5/1/2	Sprayer, pre-emergence		84
5/1/2	Planter, double disk opnr w/fluted coulter	Corn, grain	84
6/7/2	Sprayer, post emergence and fert. tank mix		79
10/20/2	Harvest, killing crop 50pct standing stubble		91
10/25/2	Cultivator, field 6-12 in sweeps		88
5/15/3	Sprayer, pre-emergence		84
5/15/3	Planter, double disk opnr, 15 inch row spacing	Soybean, mw 15 - 20 in rows	84
6/7/3	Sprayer, post emergence		84
10/5/3	Harvest, killing crop 20pct standing stubble		93

RUSLE2 Profile Erosion Calculation Record

Info:

File: profiles\Ferris\68724-02

Inputs:
Location: USA\Iowa\Hardin County
Soil: SSURGO\Hardin County, Iowa\L638C2 Clarion-Storden complex, Bemis moraine, 6 to 10 percent slopes, moderately eroded\Clarion Loam Bemis moraine, moderately eroded 45%
Slope length (horiz): 130 ft
Avg. slope steepness: 8.0 %

Management	*Vegetation*	*Yield units*	*# yield units, #/ac*
managements\CMZ 04\c.Other Local Mgt Records\CCB-Field Cult	vegetations\Corn, grain	bushels	200.00
managements\CMZ 04\c.Other Local Mgt Records\CCB-Field Cult	vegetations\Corn, grain	bushels	200.00
managements\CMZ 04\c.Other Local Mgt Records\CCB-Field Cult	vegetations\Soybean, mw 15 - 20 in rows	bu	58.000

Contouring: a. rows up-and-down hill
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial

Outputs:
T value: 5.0 t/ac/yr
Soil loss erod. portion: 2.6 t/ac/yr
Detachment on slope: 2.6 t/ac/yr
Soil loss for cons. plan: 2.6 t/ac/yr
Sediment delivery: 2.6 t/ac/yr

Crit. slope length: 130 ft
Surf. cover after planting: -- %
Avg. ann. total biomass removal: 0 lb/ac

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
11/1/0	Manure injector, liquid low disturb.30 inch		87
5/1/1	Sprayer, pre-emergence		73
5/1/1	Planter, double disk opnr w/fluted coulter	Corn, grain	73
6/7/1	Sprayer, post emergence and fert. tank mix		61
10/20/1	Harvest, killing crop 50pct standing stubble		88

11/1/1	Manure injector, liquid low disturb.30 inch		94
11/5/1	Cultivator, field 6-12 in sweeps		88
5/1/2	Sprayer, pre-emergence		84
5/1/2	Planter, double disk opnr w/fluted coulter	Corn, grain	84
6/7/2	Sprayer, post emergence and fert. tank mix		79
10/20/2	Harvest, killing crop 50pct standing stubble		91
10/25/2	Cultivator, field 6-12 in sweeps		88
5/15/3	Sprayer, pre-emergence		84
5/15/3	Planter, double disk opnr, 15 inch row spacing	Soybean, mw 15 - 20 in rows	84
6/7/3	Sprayer, post emergence		84
10/5/3	Harvest, killing crop 20pct standing stubble		93

RUSLE2 Profile Erosion Calculation Record

Info:

File: profiles\Ferris\68724-03a

Inputs:
Location: USA\Iowa\Hardin County
Soil: SSURGO\Hardin County, Iowa\L638D2 Omsrud-Storden complex, Bemis moraine, 10 to 16 percent slopes, moderately eroded\Storden Loam Bemis moraine, moderately eroded 35%
Slope length (horiz): 130 ft
Avg. slope steepness: 12 %

Management	*Vegetation*	*Yield units*	*# yield units, #/ac*
managements\CMZ 04\c.Other Local Mgt Records\CCB-Field Cult	vegetations\Corn, grain	bushels	165.00
managements\CMZ 04\c.Other Local Mgt Records\CCB-Field Cult	vegetations\Corn, grain	bushels	165.00
managements\CMZ 04\c.Other Local Mgt Records\CCB-Field Cult	vegetations\Soybean, mw 15 - 20 in rows	bu	48.000

Contouring: a. rows up-and-down hill
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial

Outputs:
T value: 5.0 t/ac/yr
Soil loss erod. portion: 5.7 t/ac/yr
Detachment on slope: 5.7 t/ac/yr
Soil loss for cons. plan: 5.7 t/ac/yr
Sediment delivery: 5.7 t/ac/yr

Crit. slope length: 130 ft
Surf. cover after planting: -- %
Avg. ann. total biomass removal: 0 lb/ac

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
11/1/0	Manure injector, liquid low disturb.30 inch		82
5/1/1	Sprayer, pre-emergence		67
5/1/1	Planter, double disk opnr w/fluted coulter	Corn, grain	67
6/7/1	Sprayer, post emergence and fert. tank mix		56
10/20/1	Harvest, killing crop 50pct standing stubble		83

11/1/1	Manure injector, liquid low disturb.30 inch		90
11/5/1	Cultivator, field 6-12 in sweeps		83
5/1/2	Sprayer, pre-emergence		78
5/1/2	Planter, double disk opnr w/fluted coulter	Corn, grain	78
6/7/2	Sprayer, post emergence and fert. tank mix		74
10/20/2	Harvest, killing crop 50pct standing stubble		87
10/25/2	Cultivator, field 6-12 in sweeps		82
5/15/3	Sprayer, pre-emergence		78
5/15/3	Planter, double disk opnr, 15 inch row spacing	Soybean, mw 15 - 20 in rows	78
6/7/3	Sprayer, post emergence		79
10/5/3	Harvest, killing crop 20pct standing stubble		89

RUSLE2 Profile Erosion Calculation Record

Info:

File: profiles\Ferris\68724-03b

Inputs:
Location: USA\Iowa\Hardin County
Soil: SSURGO\Hardin County, Iowa\L138B Clarion loam, Bemis moraine, 2 to 6 percent slopes\Clarion Loam Bemis moraine 85%
Slope length (horiz): 130 ft
Avg. slope steepness: 3.0 %

Management	*Vegetation*	*Yield units*	*# yield units, #/ac*
managements\CMZ 04\c.Other Local Mgt Records\CCB-Field Cult	vegetations\Corn, grain	bushels	221.00
managements\CMZ 04\c.Other Local Mgt Records\CCB-Field Cult	vegetations\Corn, grain	bushels	221.00
managements\CMZ 04\c.Other Local Mgt Records\CCB-Field Cult	vegetations\Soybean, mw 15 - 20 in rows	bu	64.000

Contouring: a. rows up-and-down hill
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial

Outputs:
T value: 5.0 t/ac/yr
Soil loss erod. portion: 0.83 t/ac/yr
Detachment on slope: 0.83 t/ac/yr
Soil loss for cons. plan: 0.83 t/ac/yr
Sediment delivery: 0.83 t/ac/yr

Crit. slope length: 130 ft
Surf. cover after planting: -- %
Avg. ann. total biomass removal: 0 lb/ac

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
11/1/0	Manure injector, liquid low disturb.30 inch		89
5/1/1	Sprayer, pre-emergence		77
5/1/1	Planter, double disk opnr w/fluted coulter	Corn, grain	77
6/7/1	Sprayer, post emergence and fert. tank mix		64
10/20/1	Harvest, killing crop 50pct standing stubble		91
11/1/1	Manure injector, liquid low disturb.30 inch		95

11/5/1	Cultivator, field 6-12 in sweeps		91
5/1/2	Sprayer, pre-emergence		86
5/1/2	Planter, double disk opnr w/fluted coulter	Corn, grain	86
6/7/2	Sprayer, post emergence and fert. tank mix		82
10/20/2	Harvest, killing crop 50pct standing stubble		93
10/25/2	Cultivator, field 6-12 in sweeps		90
5/15/3	Sprayer, pre-emergence		87
5/15/3	Planter, double disk opnr, 15 inch row spacing	Soybean, mw 15 - 20 in rows	87
6/7/3	Sprayer, post emergence		86
10/5/3	Harvest, killing crop 20pct standing stubble		94

RUSLE2 Profile Erosion Calculation Record

Info:

File: profiles\Ferris\68724-04

Inputs:
Location: USA\Iowa\Hardin County
Soil: SSURGO\Hardin County, Iowa\L638C2 Clarion-Storden complex, Bemis moraine, 6 to 10 percent slopes, moderately eroded\Clarion Loam Bemis moraine, moderately eroded 45%
Slope length (horiz): 130 ft
Avg. slope steepness: 8.0 %

Management	*Vegetation*	*Yield units*	*# yield units, #/ac*
managements\CMZ 04\c.Other Local Mgt Records\CCB-Field Cult	vegetations\Corn, grain	bushels	200.00
managements\CMZ 04\c.Other Local Mgt Records\CCB-Field Cult	vegetations\Corn, grain	bushels	200.00
managements\CMZ 04\c.Other Local Mgt Records\CCB-Field Cult	vegetations\Soybean, mw 15 - 20 in rows	bu	58.000

Contouring: a. rows up-and-down hill
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial

Outputs:
T value: 5.0 t/ac/yr
Soil loss erod. portion: 2.6 t/ac/yr
Detachment on slope: 2.6 t/ac/yr
Soil loss for cons. plan: 2.6 t/ac/yr
Sediment delivery: 2.6 t/ac/yr

Crit. slope length: 130 ft
Surf. cover after planting: -- %
Avg. ann. total biomass removal: 0 lb/ac

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
11/1/0	Manure injector, liquid low disturb.30 inch		87
5/1/1	Sprayer, pre-emergence		73
5/1/1	Planter, double disk opnr w/fluted coulter	Corn, grain	73
6/7/1	Sprayer, post emergence and fert. tank mix		61
10/20/1	Harvest, killing crop 50pct standing stubble		88

11/1/1	Manure injector, liquid low disturb.30 inch		94
11/5/1	Cultivator, field 6-12 in sweeps		88
5/1/2	Sprayer, pre-emergence		84
5/1/2	Planter, double disk opnr w/fluted coulter	Corn, grain	84
6/7/2	Sprayer, post emergence and fert. tank mix		79
10/20/2	Harvest, killing crop 50pct standing stubble		91
10/25/2	Cultivator, field 6-12 in sweeps		88
5/15/3	Sprayer, pre-emergence		84
5/15/3	Planter, double disk opnr, 15 inch row spacing	Soybean, mw 15 - 20 in rows	84
6/7/3	Sprayer, post emergence		84
10/5/3	Harvest, killing crop 20pct standing stubble		93

RUSLE2 Profile Erosion Calculation Record

Info:

File: profiles\Ferris\68724-05

Inputs:
Location: USA\Iowa\Hardin County
Soil: SSURGO\Hardin County, Iowa\L638C2 Clarion-Storden complex, Bemis moraine, 6 to 10 percent slopes, moderately eroded\Clarion Loam Bemis moraine, moderately eroded 45%
Slope length (horiz): 130 ft
Avg. slope steepness: 8.0 %

Management	*Vegetation*	*Yield units*	*# yield units, #/ac*
managements\CMZ 04\c.Other Local Mgt Records\CCB-Field Cult	vegetations\Corn, grain	bushels	200.00
managements\CMZ 04\c.Other Local Mgt Records\CCB-Field Cult	vegetations\Corn, grain	bushels	200.00
managements\CMZ 04\c.Other Local Mgt Records\CCB-Field Cult	vegetations\Soybean, mw 15 - 20 in rows	bu	58.000

Contouring: a. rows up-and-down hill
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial

Outputs:
T value: 5.0 t/ac/yr
Soil loss erod. portion: 2.6 t/ac/yr
Detachment on slope: 2.6 t/ac/yr
Soil loss for cons. plan: 2.6 t/ac/yr
Sediment delivery: 2.6 t/ac/yr

Crit. slope length: 130 ft
Surf. cover after planting: -- %
Avg. ann. total biomass removal: 0 lb/ac

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
11/1/0	Manure injector, liquid low disturb.30 inch		87
5/1/1	Sprayer, pre-emergence		73
5/1/1	Planter, double disk opnr w/fluted coulter	Corn, grain	73
6/7/1	Sprayer, post emergence and fert. tank mix		61
10/20/1	Harvest, killing crop 50pct standing stubble		88

11/1/1	Manure injector, liquid low disturb.30 inch		94
11/5/1	Cultivator, field 6-12 in sweeps		88
5/1/2	Sprayer, pre-emergence		84
5/1/2	Planter, double disk opnr w/fluted coulter	Corn, grain	84
6/7/2	Sprayer, post emergence and fert. tank mix		79
10/20/2	Harvest, killing crop 50pct standing stubble		91
10/25/2	Cultivator, field 6-12 in sweeps		88
5/15/3	Sprayer, pre-emergence		84
5/15/3	Planter, double disk opnr, 15 inch row spacing	Soybean, mw 15 - 20 in rows	84
6/7/3	Sprayer, post emergence		84
10/5/3	Harvest, killing crop 20pct standing stubble		93

RUSLE2 Profile Erosion Calculation Record

Info:

File: profiles\Ferris\68724-06

Inputs:
Location: USA\Iowa\Hardin County
Soil: SSURGO\Hardin County, Iowa\L138C2 Clarion loam, Bemis moraine, 6 to 10 percent slopes, moderately eroded\Clarion Loam Bemis moraine, moderately eroded 85%
Slope length (horiz): 130 ft
Avg. slope steepness: 8.0 %

Management	*Vegetation*	*Yield units*	*# yield units, #/ac*
managements\CMZ 04\c.Other Local Mgt Records\CCB-Field Cult	vegetations\Corn, grain	bushels	213.00
managements\CMZ 04\c.Other Local Mgt Records\CCB-Field Cult	vegetations\Corn, grain	bushels	213.00
managements\CMZ 04\c.Other Local Mgt Records\CCB-Field Cult	vegetations\Soybean, mw 15 - 20 in rows	bu	62.000

Contouring: a. rows up-and-down hill
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial

Outputs:
T value: 5.0 t/ac/yr
Soil loss erod. portion: 2.4 t/ac/yr
Detachment on slope: 2.4 t/ac/yr
Soil loss for cons. plan: 2.4 t/ac/yr
Sediment delivery: 2.4 t/ac/yr

Crit. slope length: 130 ft
Surf. cover after planting: -- %
Avg. ann. total biomass removal: 0 lb/ac

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
11/1/0	Manure injector, liquid low disturb.30 inch		88
5/1/1	Sprayer, pre-emergence		75
5/1/1	Planter, double disk opnr w/fluted coulter	Corn, grain	75
6/7/1	Sprayer, post emergence and fert. tank mix		63
10/20/1	Harvest, killing crop 50pct standing stubble		90

11/1/1	Manure injector, liquid low disturb.30 inch		95
11/5/1	Cultivator, field 6-12 in sweeps		90
5/1/2	Sprayer, pre-emergence		85
5/1/2	Planter, double disk opnr w/fluted coulter	Corn, grain	85
6/7/2	Sprayer, post emergence and fert. tank mix		81
10/20/2	Harvest, killing crop 50pct standing stubble		92
10/25/2	Cultivator, field 6-12 in sweeps		89
5/15/3	Sprayer, pre-emergence		86
5/15/3	Planter, double disk opnr, 15 inch row spacing	Soybean, mw 15 - 20 in rows	86
6/7/3	Sprayer, post emergence		85
10/5/3	Harvest, killing crop 20pct standing stubble		94

68724-01 Boundary

Map Center: 42° 26' 4.08, -93° 17' 43.44

0ft 413ft 827ft

16-88N-21W
Hardin County
Iowa

N
W E
S

1/14/2020

Maps Provided By:
surety
CUSTOMIZED ONLINE MAPPING

www.AgriDataInc.com

68724-02 Boundary

Map Center: 42° 25' 51.28, -93° 17' 41.93

0ft 387ft 774ft

16-88N-21W
Hardin County
Iowa

N
W E
S

1/14/2020

Maps Provided By:
surety
CUSTOMIZED ONLINE MAPPING

www.AgriDataInc.com

68724-03 Boundary

Map Center: 42° 26' 1.15, -93° 18' 8.03

0ft 423ft 846ft

16-88N-21W
Hardin County
Iowa

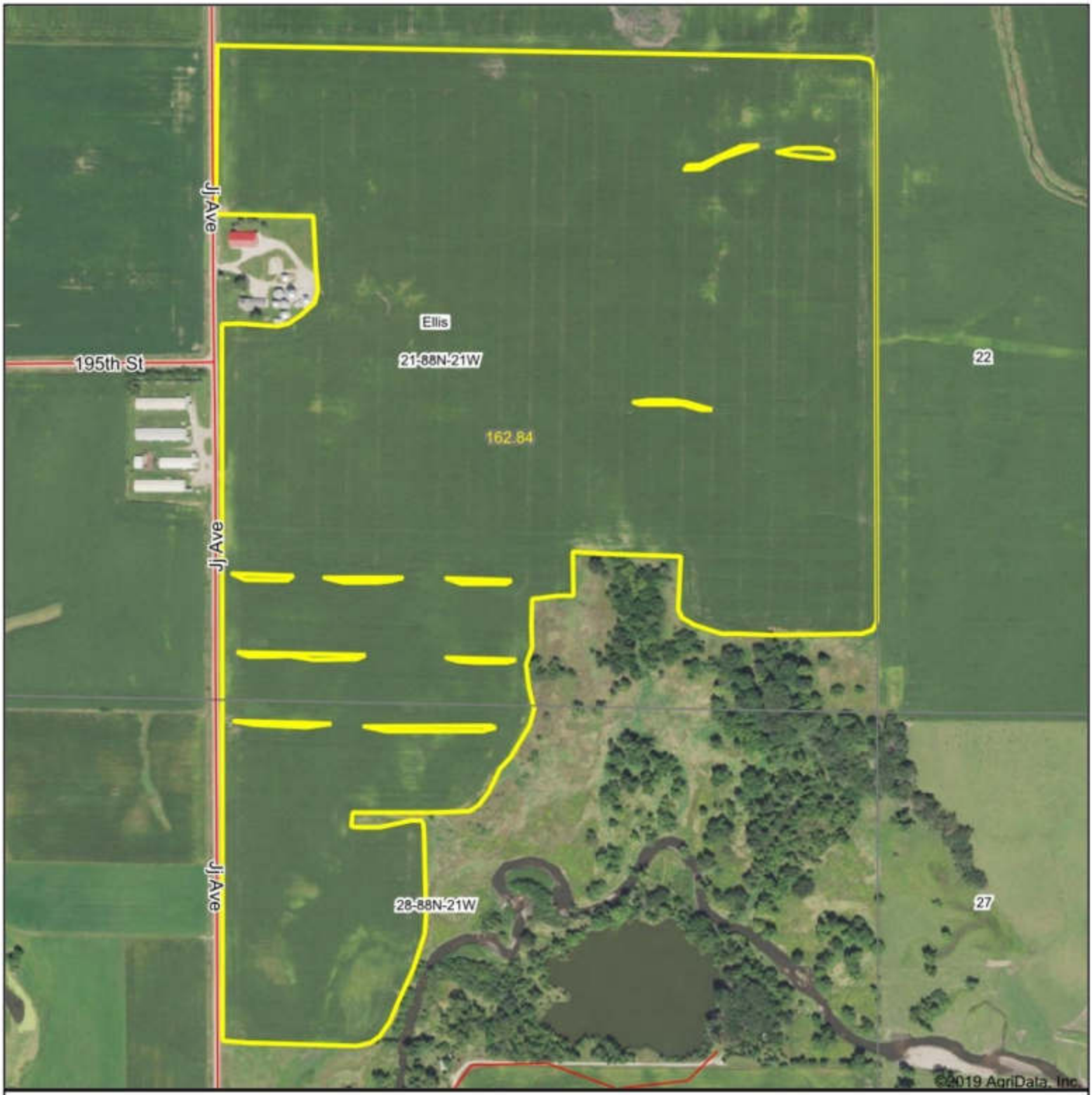
N
W E
S

1/14/2020

Maps Provided By:
surety
CUSTOMIZED ONLINE MAPPING

www.AgriDataInc.com

68724-04 Boundary



Map Center: 42° 24' 49.58, -93° 17' 43.08

0ft 614ft 1227ft

21-88N-21W
Hardin County
Iowa

N
W E
S

1/14/2020

Maps Provided By:
surety
CUSTOMIZED ONLINE MAPPING

www.AgriDataInc.com

68724-05 Boundary

Map Center: 42° 26' 19.44, -93° 17' 43.62

0ft 420ft 840ft

16-88N-21W
Hardin County
Iowa

N
W E
S

1/14/2020

Maps Provided By:
surety
CUSTOMIZED ONLINE MAPPING

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68724-06 Boundary

Map Center: 42° 26' 20.51, -93° 18' 10

0ft 230ft 459ft

16-88N-21W
Hardin County
Iowa

N
W E
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1/14/2020

Maps Provided By:
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CUSTOMIZED ONLINE MAPPING

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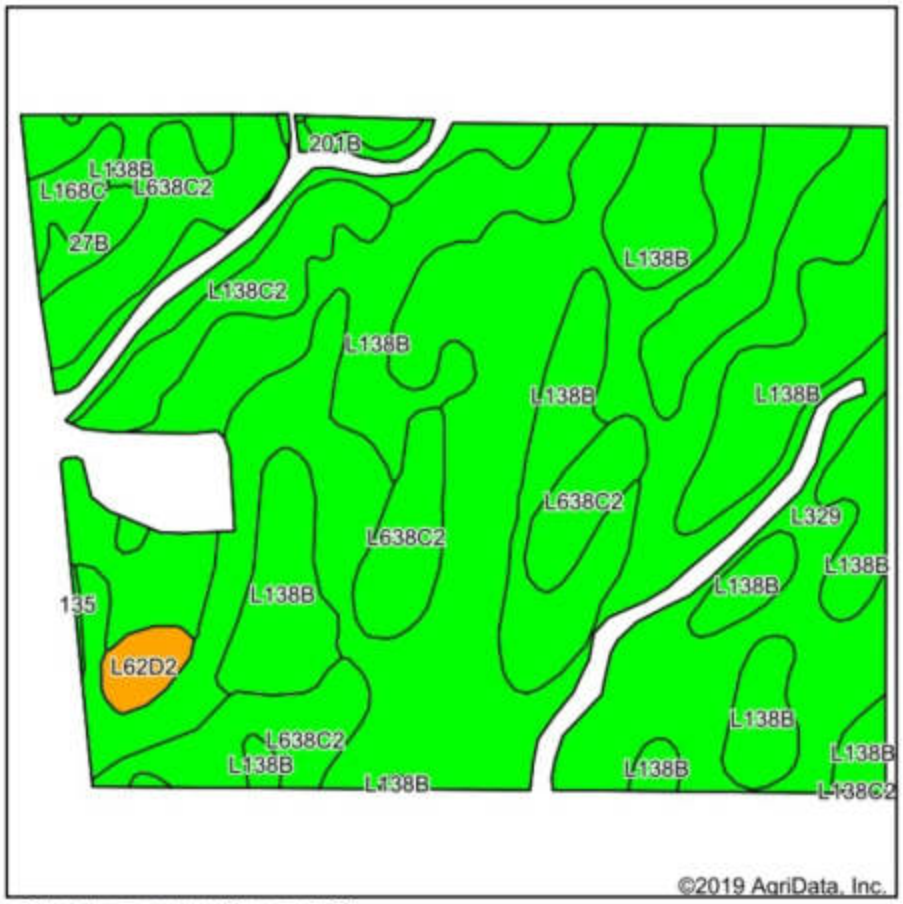
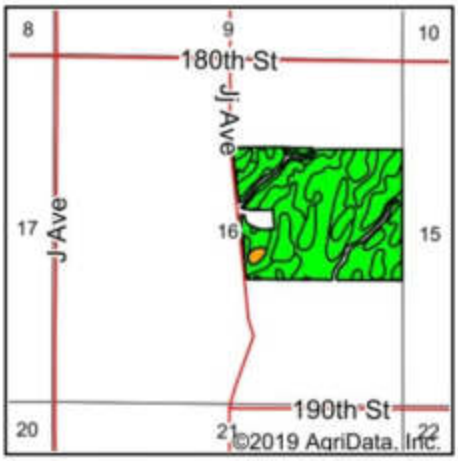
68724-01 Soils



Soils data provided by USDA and NRCS.



State: **Iowa**
County: **Hardin**
Location: **16-88N-21W**
Township: **Ellis**
Acres: **104.79**
Date: **1/14/2020**

Maps Provided By:
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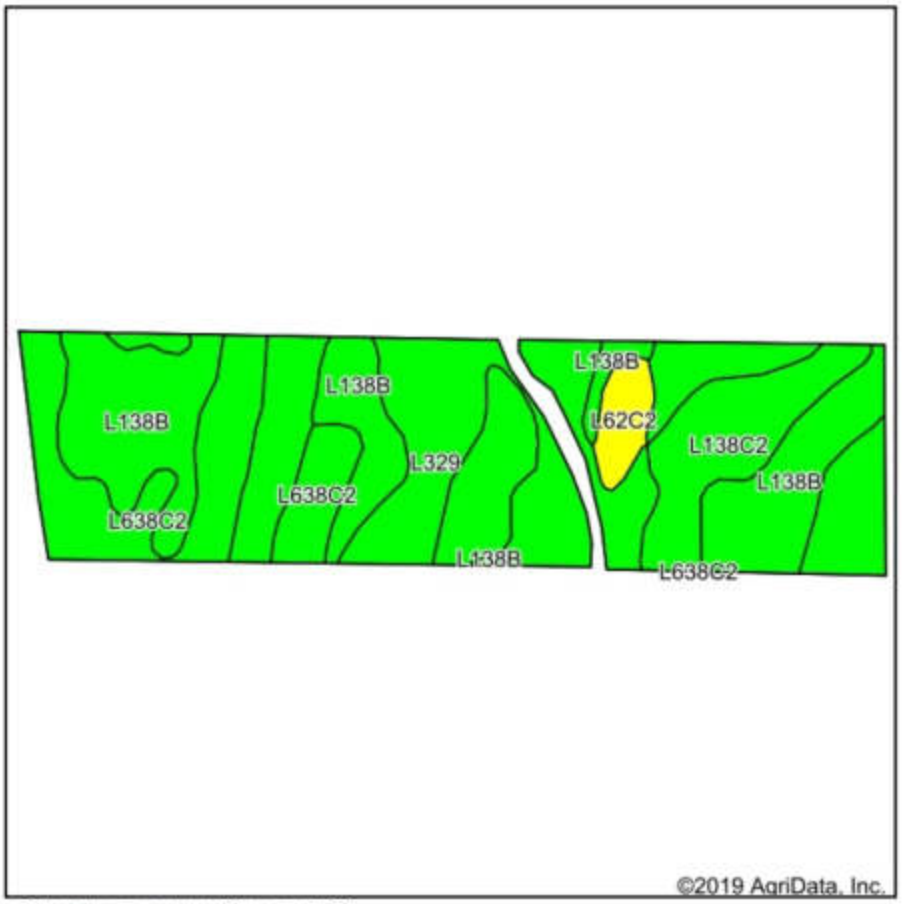
Area Symbol: IA083, Soil Area Version: 26

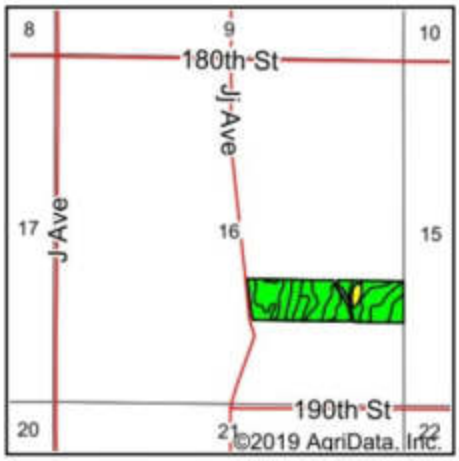
Code	Soil Description	Acres	Percent of field	CSR2 Legend	Non-Irr Class *c	*i Corn	*i Soybeans	CSR2**	CSR	*n NCCPI Soybeans
L329	Webster-Nicollet complex, Bemis moraine, 0 to 3 percent slopes	42.51	40.6%		IIw	0	0	89		81
L138B	Clarion loam, Bemis moraine, 2 to 6 percent slopes	36.20	34.5%		IIe	220.8	64	88		79
L638C2	Clarion-Storden complex, Bemis moraine, 6 to 10 percent slopes, moderately eroded	12.16	11.6%		IIIe	0	0	75		61
L138C2	Clarion loam, Bemis moraine, 6 to 10 percent slopes, moderately eroded	6.92	6.6%		IIIe	0	0	83		60
201B	Coland-Terril complex, 2 to 5 percent slopes	3.47	3.3%		IIw	208	60.3	80	69	90
L168C	Hayden loam, Bemis moraine, 6 to 10 percent slopes	1.25	1.2%		IIIe	0	0	73		72
L62D2	Storden loam, Bemis moraine, 10 to 16 percent slopes, moderately eroded	1.13	1.1%		IVe	0	0	41		60
27B	Terril loam, 2 to 6 percent slopes	1.04	1.0%		IIe	224	65	87	84	81
135	Coland clay loam, 0 to 2 percent slopes, occasionally flooded	0.11	0.1%		IIw	198.4	57.5	76	80	78
					Weighted Average	**85.6**	**24.8**	**85.6**	***-**	***n 76.6**

**IA has updated the CSR values for each county to CSR2.
*- CSR weighted average cannot be calculated on the current soils data, use prior data version for csr values.
*i Yield data provided by the ISPAID Database version 8.1.1 developed by IA State University.
*n: The aggregation method is "Weighted Average using major components"
*c: Using Capabilities Class Dominant Condition Aggregation Method
Soils data provided by USDA and NRCS.

68724-02 Soils



Soils data provided by USDA and NRCS.



State: **Iowa**
County: **Hardin**
Location: **16-88N-21W**
Township: **Ellis**
Acres: **32.39**
Date: **1/14/2020**

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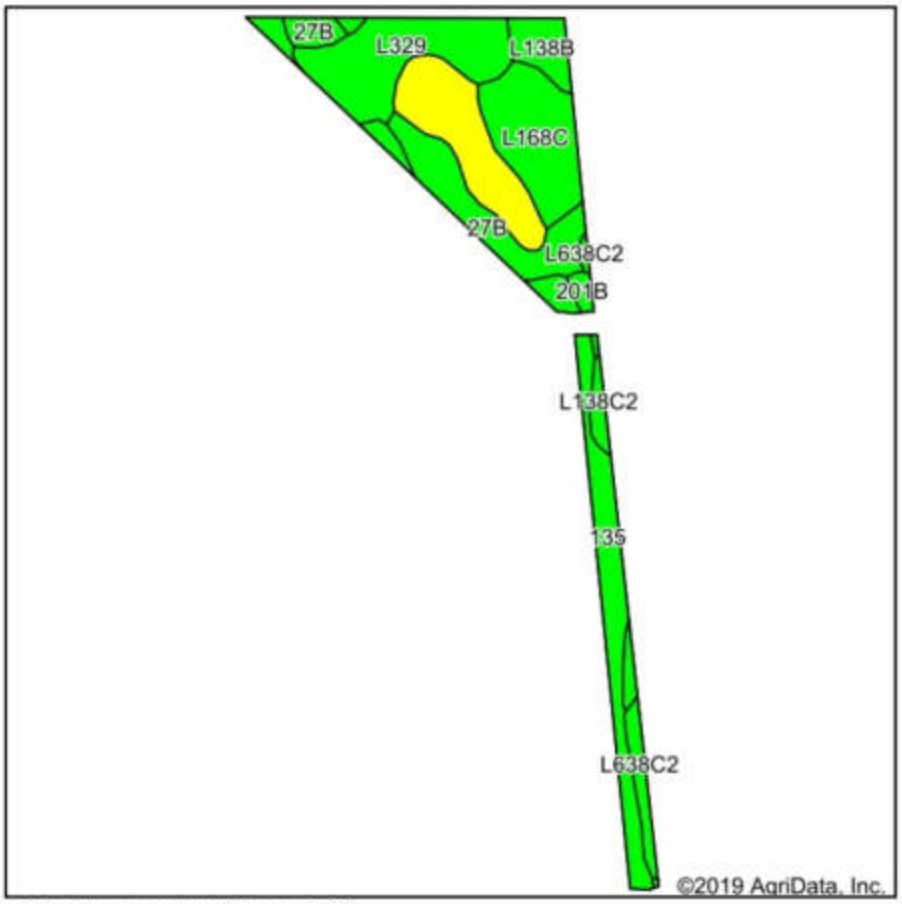
N W E S

Area Symbol: IA083, Soil Area Version: 26

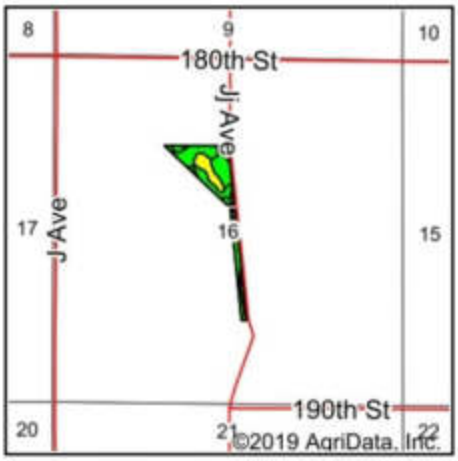
Code	Soil Description	Acres	Percent of field	CSR2 Legend	Non-Irr Class *c	*i Corn	*i Soybeans	CSR2**	*n NCCPI Soybeans
L329	Webster-Nicollet complex, Bemis moraine, 0 to 3 percent slopes	11.10	34.3%		IIw	0	0	89	81
L138B	Clarion loam, Bemis moraine, 2 to 6 percent slopes	9.13	28.2%		IIe	220.8	64	88	79
L638C2	Clarion-Storden complex, Bemis moraine, 6 to 10 percent slopes, moderately eroded	7.79	24.1%		IIIe	0	0	75	61
L138C2	Clarion loam, Bemis moraine, 6 to 10 percent slopes, moderately eroded	3.42	10.6%		IIIe	0	0	83	60
L62C2	Storden loam, Bemis moraine, 6 to 10 percent slopes, moderately eroded	0.95	2.9%		IIIe	0	0	64	63
					Weighted Average	**62.2**	**18**	**84**	***n 72.9**

**IA has updated the CSR values for each county to CSR2.
*i Yield data provided by the ISPAID Database version 8.1.1 developed by IA State University.
*n: The aggregation method is "Weighted Average using major components"
*c: Using Capabilities Class Dominant Condition Aggregation Method
Soils data provided by USDA and NRCS.

68724-03a Soils



Soils data provided by USDA and NRCS.



State: **Iowa**
County: **Hardin**
Location: **16-88N-21W**
Township: **Ellis**
Acres: **13.93**
Date: **1/14/2020**

Maps Provided By:
surety CUSTOMIZED ONLINE MAPPING
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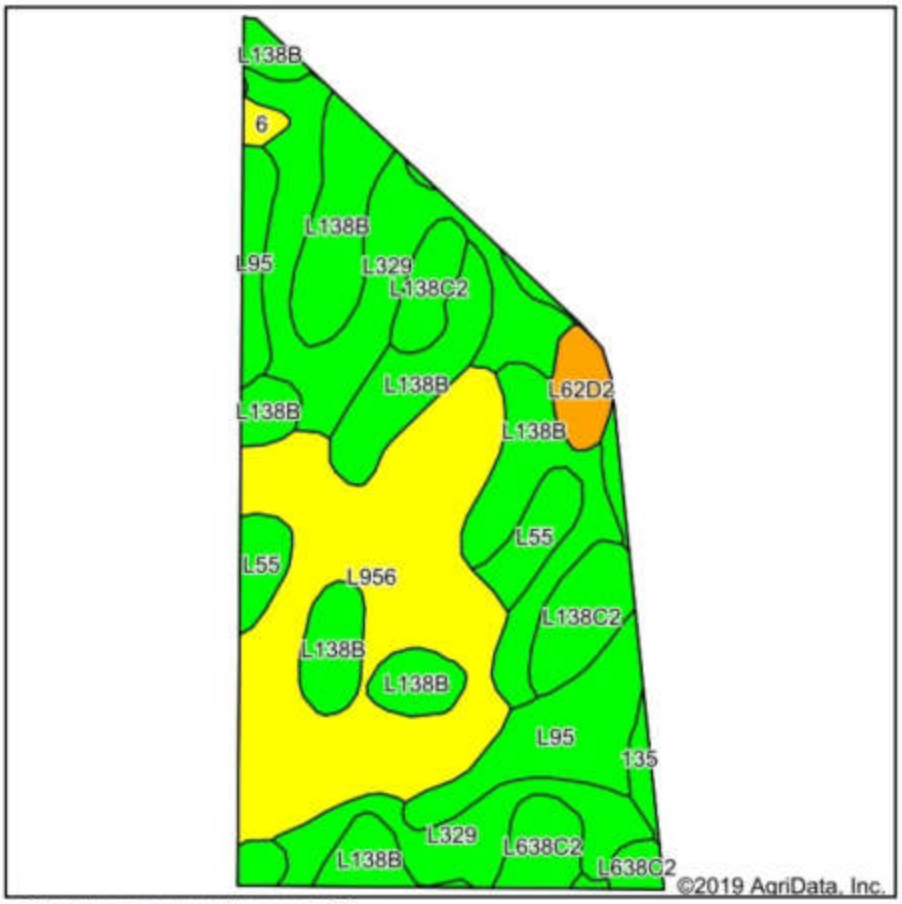
N W E S

Area Symbol: IA083, Soil Area Version: 26

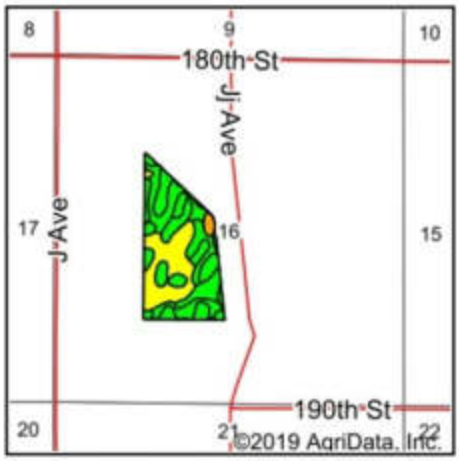
Code	Soil Description	Acres	Percent of field	CSR2 Legend	Non-Irr Class *c	*i Corn	*i Soybeans	CSR2**	CSR	*n NCCPI Soybeans
L329	Webster-Nicollet complex, Bemis moraine, 0 to 3 percent slopes	2.87	20.6%		IIw	0	0	89		81
135	Coland clay loam, 0 to 2 percent slopes, occasionally flooded	2.70	19.4%		IIw	198.4	57.5	76	80	78
L638D2	Omsrud-Storden complex, Bemis moraine, 10 to 16 percent slopes, moderately eroded	2.28	16.4%		IVe	0	0	53		58
L168C	Hayden loam, Bemis moraine, 6 to 10 percent slopes	2.25	16.2%		IIIe	0	0	73		72
27B	Terril loam, 2 to 6 percent slopes	2.13	15.3%		IIe	224	65	87	84	81
L138B	Clarion loam, Bemis moraine, 2 to 6 percent slopes	0.68	4.9%		IIe	220.8	64	88		79
L638C2	Clarion-Storden complex, Bemis moraine, 6 to 10 percent slopes, moderately eroded	0.52	3.7%		IIIe	0	0	75		61
L138C2	Clarion loam, Bemis moraine, 6 to 10 percent slopes, moderately eroded	0.32	2.3%		IIIe	0	0	83		60
201B	Coland-Terril complex, 2 to 5 percent slopes	0.18	1.3%		IIw	208	60.3	80	69	90
					Weighted Average	**86.2**	**25**	**76.9**	***-**	***n 74**

**IA has updated the CSR values for each county to CSR2.
*- CSR weighted average cannot be calculated on the current soils data, use prior data version for csr values.
*i Yield data provided by the ISPAID Database version 8.1.1 developed by IA State University.
*n: The aggregation method is "Weighted Average using major components"
*c: Using Capabilities Class Dominant Condition Aggregation Method
Soils data provided by USDA and NRCS.

68724-03b Soils



Soils data provided by USDA and NRCS.



State: **Iowa**
County: **Hardin**
Location: **16-88N-21W**
Township: **Ellis**
Acres: **52.43**
Date: **1/14/2020**

Maps Provided By:
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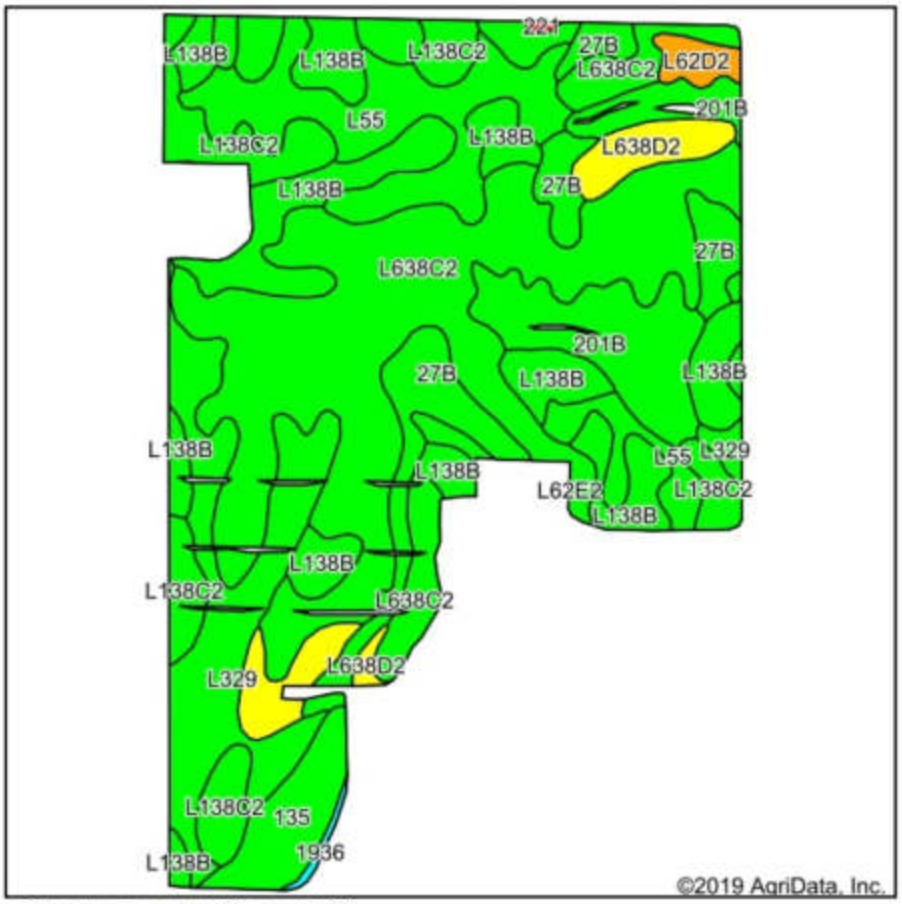
N W E S

Area Symbol: IA083, Soil Area Version: 26

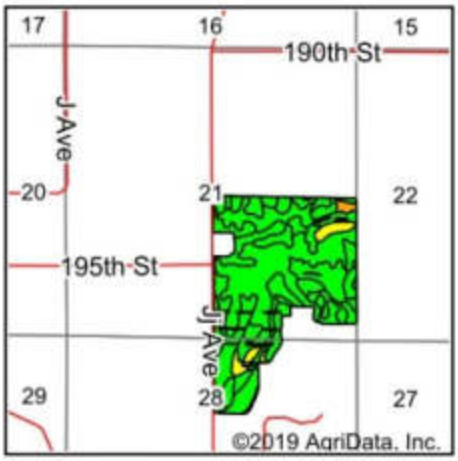
Code	Soil Description	Acres	Percent of field	CSR2 Legend	Non-Irr Class *c	*i Corn	*i Soybeans	CSR2**	CSR	*n NCCPI Soybeans
L956	Harps-Okoboji complex, Bemis moraine, 0 to 2 percent slopes	14.84	28.3%		IIw	0	0	69		76
L138B	Clarion loam, Bemis moraine, 2 to 6 percent slopes	13.51	25.8%		IIe	220.8	64	88		79
L329	Webster-Nicollet complex, Bemis moraine, 0 to 3 percent slopes	10.09	19.2%		IIw	0	0	89		81
L95	Harps clay loam, Bemis moraine, 0 to 2 percent slopes	4.68	8.9%		IIw	0	0	75		76
L138C2	Clarion loam, Bemis moraine, 6 to 10 percent slopes, moderately eroded	3.03	5.8%		IIIe	0	0	83		60
L55	Nicollet loam, 1 to 3 percent slopes	2.19	4.2%		Ie	0	0	91		83
L638C2	Clarion-Storden complex, Bemis moraine, 6 to 10 percent slopes, moderately eroded	1.67	3.2%		IIIe	0	0	75		61
L62D2	Storden loam, Bemis moraine, 10 to 16 percent slopes, moderately eroded	1.11	2.1%		IVe	0	0	41		60
135	Coland clay loam, 0 to 2 percent slopes, occasionally flooded	1.01	1.9%		IIw	198.4	57.5	76	80	78
6	Okoboji silty clay loam, 0 to 1 percent slopes	0.30	0.6%		IIIw	185.6	53.8	59	59	77
					Weighted Average	**61.8**	**17.9**	**79.7**	***-**	***n 76.3**

**IA has updated the CSR values for each county to CSR2.
*- CSR weighted average cannot be calculated on the current soils data, use prior data version for csr values.
*i Yield data provided by the ISPAID Database version 8.1.1 developed by IA State University.
*n: The aggregation method is "Weighted Average using major components"
*c: Using Capabilities Class Dominant Condition Aggregation Method
Soils data provided by USDA and NRCS.

68724-04 Soils



Soils data provided by USDA and NRCS.



State: **Iowa**
County: **Hardin**
Location: **21-88N-21W**
Township: **Ellis**
Acres: **162.84**
Date: **1/14/2020**

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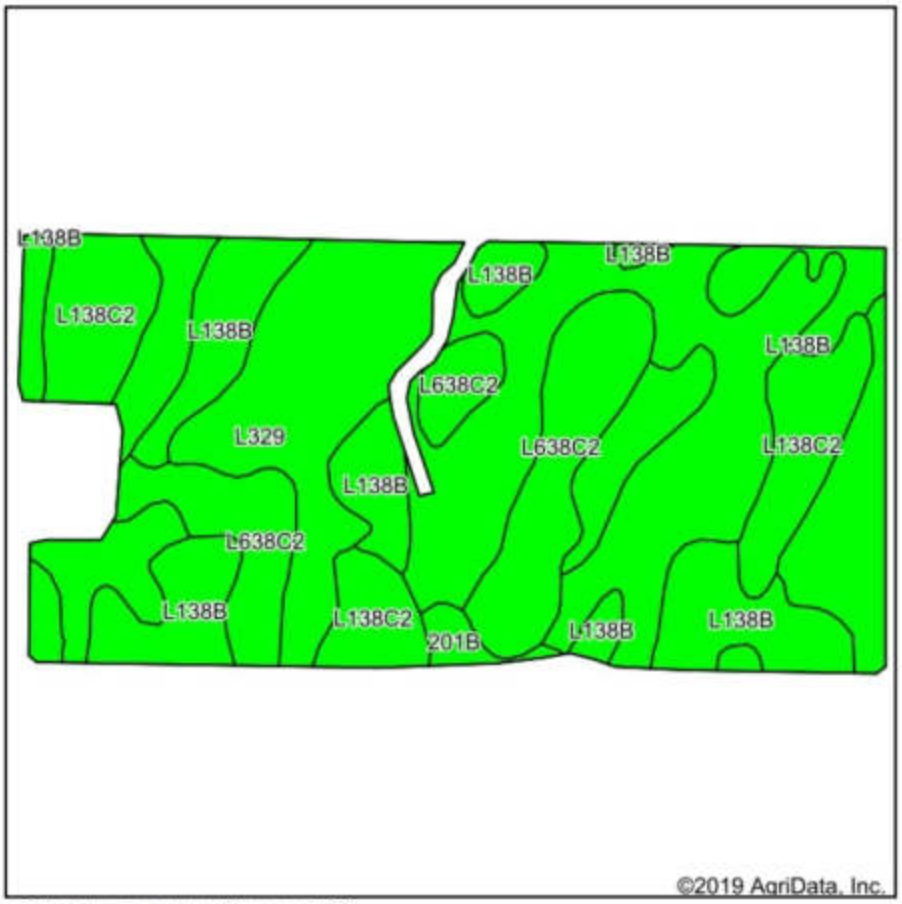
N W E S

Area Symbol: IA083, Soil Area Version: 26

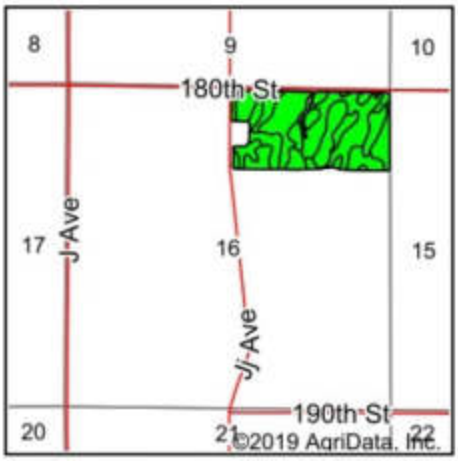
Code	Soil Description	Acres	Percent of field	CSR2 Legend	Non-Irr Class *c	*i Corn	*i Soybeans	CSR2**	CSR	*n NCCPI Soybeans
L638C2	Clarion-Storden complex, Bemis moraine, 6 to 10 percent slopes, moderately eroded	53.01	32.6%		IIIe	0	0	75		61
L138B	Clarion loam, Bemis moraine, 2 to 6 percent slopes	22.75	14.0%		IIe	220.8	64	88		79
L329	Webster-Nicollet complex, Bemis moraine, 0 to 3 percent slopes	18.38	11.3%		IIw	0	0	89		81
L55	Nicollet loam, 1 to 3 percent slopes	17.42	10.7%		Ie	0	0	91		83
201B	Coland-Terril complex, 2 to 5 percent slopes	12.24	7.5%		IIw	208	60.3	80	69	90
27B	Terril loam, 2 to 6 percent slopes	11.49	7.1%		IIe	224	65	87	84	81
L138C2	Clarion loam, Bemis moraine, 6 to 10 percent slopes, moderately eroded	11.08	6.8%		IIIe	0	0	83		60
L638D2	Omsrud-Storden complex, Bemis moraine, 10 to 16 percent slopes, moderately eroded	6.61	4.1%		IVe	0	0	53		58
135	Coland clay loam, 0 to 2 percent slopes, occasionally flooded	5.33	3.3%		IIw	198.4	57.5	76	80	78
L62D2	Storden loam, Bemis moraine, 10 to 16 percent slopes, moderately eroded	1.60	1.0%		IVe	0	0	41		60
L95	Harps clay loam, Bemis moraine, 0 to 2 percent slopes	1.25	0.8%		IIw	0	0	75		76
L507	Canisteo clay loam, Bemis moraine, 0 to 2 percent slopes	1.19	0.7%		IIw	0	0	87		79
1936	Coland-Spillville-Hanlon complex, channeled, 0 to 2 percent slopes	0.36	0.2%		Vw	120	34.8	24	25	36
221	Klossner muck, 0 to 1 percent slopes	0.13	0.1%		IIIw	80	23.2	32	51	88
					Weighted Average	**69.1**	**20**	**80.6**	***-**	***n 72.3**

**IA has updated the CSR values for each county to CSR2.
*- CSR weighted average cannot be calculated on the current soils data, use prior data version for csr values.
*i Yield data provided by the ISPAID Database version 8.1.1 developed by IA State University.
*n: The aggregation method is "Weighted Average using major components"
*c: Using Capabilities Class Dominant Condition Aggregation Method
Soils data provided by USDA and NRCS.

68724-05 Soils



Soils data provided by USDA and NRCS.



State: **Iowa**
County: **Hardin**
Location: **16-88N-21W**
Township: **Ellis**
Acres: **70.68**
Date: **1/14/2020**

Maps Provided By:
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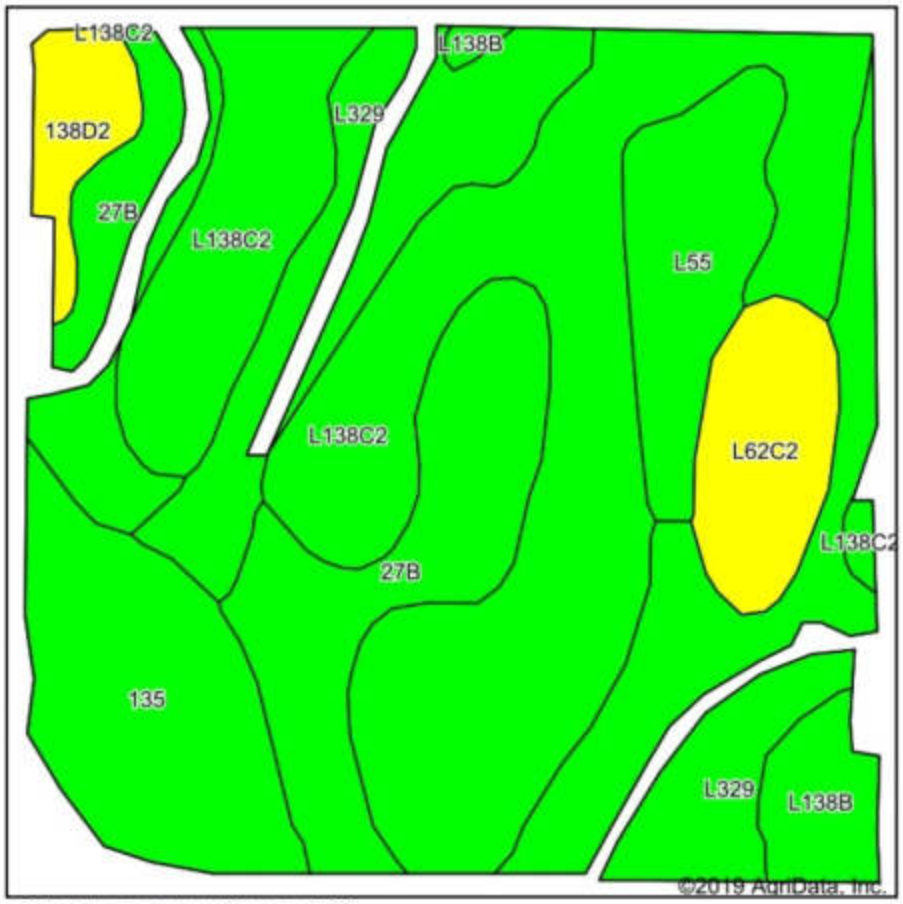
Area Symbol: IA083, Soil Area Version: 26

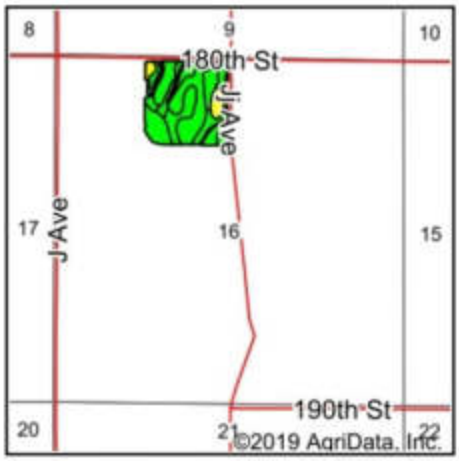
Code	Soil Description	Acres	Percent of field	CSR2 Legend	Non-Irr Class *c	*i Corn	*i Soybeans	CSR2**	CSR	*n NCCPI Soybeans
L329	Webster-Nicollet complex, Bemis moraine, 0 to 3 percent slopes	34.10	48.2%		IIw	0	0	89		81
L138B	Clarion loam, Bemis moraine, 2 to 6 percent slopes	16.89	23.9%		IIe	220.8	64	88		79
L638C2	Clarion-Storden complex, Bemis moraine, 6 to 10 percent slopes, moderately eroded	10.28	14.5%		IIIe	0	0	75		61
L138C2	Clarion loam, Bemis moraine, 6 to 10 percent slopes, moderately eroded	8.70	12.3%		IIIe	0	0	83		60
201B	Coland-Terril complex, 2 to 5 percent slopes	0.71	1.0%		IIw	208	60.3	80	69	90
					Weighted Average	**54.9**	**15.9**	**85.9**	***-**	***n 75.1**

**IA has updated the CSR values for each county to CSR2.
*- CSR weighted average cannot be calculated on the current soils data, use prior data version for csr values.
*i Yield data provided by the ISPAID Database version 8.1.1 developed by IA State University.
*n: The aggregation method is "Weighted Average using major components"
*c: Using Capabilities Class Dominant Condition Aggregation Method
Soils data provided by USDA and NRCS.

68724-06 Soils



Soils data provided by USDA and NRCS.



State: **Iowa**
County: **Hardin**
Location: **16-88N-21W**
Township: **Ellis**
Acres: **34.45**
Date: **1/14/2020**

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Area Symbol: IA083, Soil Area Version: 26

Code	Soil Description	Acres	Percent of field	CSR2 Legend	Non-Irr Class *c	*i Corn	*i Soybeans	CSR2**	CSR	*n NCCPI Soybeans
L138C2	Clarion loam, Bemis moraine, 6 to 10 percent slopes, moderately eroded	12.52	36.3%		IIIe	0	0	83		60
L329	Webster-Nicollet complex, Bemis moraine, 0 to 3 percent slopes	6.94	20.1%		IIw	0	0	89		81
27B	Terril loam, 2 to 6 percent slopes	5.37	15.6%		IIe	224	65	87	84	81
135	Coland clay loam, 0 to 2 percent slopes, occasionally flooded	3.67	10.7%		IIw	198.4	57.5	76	80	78
L55	Nicollet loam, 1 to 3 percent slopes	2.25	6.5%		Ie	0	0	91		83
L62C2	Storden loam, Bemis moraine, 6 to 10 percent slopes, moderately eroded	1.80	5.2%		IIIe	0	0	64		63
L138B	Clarion loam, Bemis moraine, 2 to 6 percent slopes	1.01	2.9%		IIe	220.8	64	88		79
138D2	Clarion loam, 9 to 14 percent slopes, moderately eroded	0.89	2.6%		IIIe	177.6	51.5	55	56	57
					Weighted Average	**67.1**	**19.5**	**83**	***-**	***n 71.6**

**IA has updated the CSR values for each county to CSR2.
*- CSR weighted average cannot be calculated on the current soils data, use prior data version for csr values.
*i Yield data provided by the ISPAID Database version 8.1.1 developed by IA State University.
*n: The aggregation method is "Weighted Average using major components"
*c: Using Capabilities Class Dominant Condition Aggregation Method
Soils data provided by USDA and NRCS.

Bob's East of JJ Ave

Sample Locations

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version 12.07

N
W
E
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5J Farms and Services
Ferris Farms
Bob's East of JJ Ave
111.1 acres

AgSource Laboratories
A Subsidiary of Cooperative Resources International

1532 DeWitt
Ellsworth, IA 50075
Phone: 515-836-4444
ellsworth@agsource.com

SOIL ANALYSIS

Submitted by **EW50014101**
5J FARMS AND SERVICES
3244 CAMERON SCHOOL RD
AMES, IA 50014

Submitted for
BOB BLOME

Laboratory Sample #
AW98496 - AW98523

Date Received
14-Oct-2016

Date Reported
18-Oct-2016

Information Sheet #
1014-265

Signup Id:

Field Id: **BOBS EAST OF JJ AVE**

Sample Id	Soil pH	Buffer pH	Sol. Salt	OM	Phosphorus				Wet K	K	Mg	Ca	S	Zn	Mn	Cu	Fe	B	CEC	% Base Saturation				
					Bray 1	Bray 2	Olsen	M3												H	K	Mg	Ca	Na
				%	ppm															%	%	%	%	%
1	5.9	7.1		1.7				37		129														
2	5.7	6.7		2.8				52		302														
3	5.2	6.5		3.1				64		218														
4	5.8	7.0		1.7				36		110														
5	6.5	7.2		3.2				80		218														
6	6.5	7.1		2.9				27		114														
7	7.1	6.9		2.2				36		78														
8	6.2	6.6		5.1				98		178														
9	6.9	7.1		2.1				25		126														
10	5.7	6.6		2.6				62		204														
11	6.8	6.8		2.2				38		132														
12	6.4	7.1		2.9				57		180														
13	5.7	6.6		2.9				40		152														
14	6.3	7.0		2.6				34		109														
15	5.4	6.7		2.4				52		184														
16	5.9	6.8		2.8				31		105														
17	5.6	6.9		5.1				56		100														

AgSource Laboratories
A Subsidiary of Cooperative Resources International

1532 DeWitt
Ellsworth, IA 50075
Phone: 515-836-4444
ellsworth@agsource.com

SOIL ANALYSIS

Submitted by **EW50014101**
5J FARMS AND SERVICES
3244 CAMERON SCHOOL RD
AMES, IA 50014

Submitted for
BOB BLOME

Laboratory Sample #
AW98496 - AW98523

Date Received
14-Oct-2016

Date Reported
18-Oct-2016

Information Sheet #
1014-265

Signup Id:

Field Id: **BOBS EAST OF JJ AVE**

Sample Id	Soil pH	Buffer pH	Sol. Salt	OM	Phosphorus				Wet K	K	Mg	Ca	S	Zn	Mn	Cu	Fe	B	CEC	% Base Saturation				
					Bray 1	Bray 2	Olsen	M3												H	K	Mg	Ca	Na
				%	ppm															%	%	%	%	%
18	5.7	6.7		4.6				52		73														
19	6.1	7.0		4.0				27		63														
20	5.5	6.8		3.5				34		118														
21	5.3	6.6		3.0				34		120														
22	5.2	6.7		2.9				39		98														
23	5.4	6.6		3.1				37		129														
24	5.0	6.5		2.5				42		80														
25	5.4	6.6		3.0				34		99														
26	6.1	7.0		2.8				38		129														
27	5.4	6.6		2.3				42		60														

Kline E of JJ Ave

Sample Locations

5J Farms and Services, LLC
3244 Cameron School Road
Ames, IA 50014

N
W E
S

5J Farms and Services
Ferris Farms
Kline E of JJ Ave
30.4 acres

SOIL ANALYSIS

Submitted by **EW50014101**
5J FARMS AND SERVICES
3244 CAMERON SCHOOL RD
AMES, IA 50014

Submitted for
FERRIS FARMS

AgSource LABORATORIES

Laboratory Sample #
BG20225 - BG20230

Information Sheet #
0413-232

Date Received
13-Apr-2018

Date Reported
17-Apr-2018

Signup Id:

Field Id: **KLINE E OF JJ AVE**

Sample Id	Soil pH	Buffer pH	Sol. Salt	OM	Phosphorus			Wet K										% Base Saturation				
					Bray 1	Bray 2	M3		K	Mg	Ca	S	Zn	Mn	Cu	Fe	B	CEC	H	K	Mg	Ca	Na
				%	ppm														%	%	%	%	%
1	7.4	7.3		1.7			54		165	312	2126	4	2.5					13.7	0.0			77.4	0.7
2	5.6	6.5		2.0			37		146	204	1652	8	2.3					18.5	44.0			44.5	0.6
3	5.2	6.3		2.6			48		144	219	1632	7	1.6					20.2	48.2			40.3	0.5
4	5.2	6.2		2.5			85		173	213	1477	6	2.2					20.3	52.3			36.3	0.5
5	5.3	6.4		2.0			40		137	184	1426	7	1.6					18.0	49.7	1.9	8.4	39.5	0.5
6	5.6	6.5		2.5			49		147	240	1824	6	2.0					19.9	42.1			45.7	0.5

1701 Detroit Street PO Box 247 Ellsworth, IA 50075 515.836.4441 ellsworth@agsource.com

Kline W of JJ Ave

Sample Locations

5J Farms and Services, LLC
3244 Cameron School Road
Ames, IA 50014

N
W E
S

5J Farms and Services
Ferris Farms
Kline W of JJ Ave
63.3 acres

SOIL ANALYSIS

AgSource LABORATORIES

Submitted by **EW50014101**
5J FARMS AND SERVICES
3244 CAMERON SCHOOL RD
AMES, IA 50014

Submitted for
FERRIS FARMS

Laboratory Sample #
BG20213 - BG20224

Date Received
13-Apr-2018

Date Reported
17-Apr-2018

Information Sheet #
0413-220

Signup Id:

Field Id: **KLINE W OF JJ AVE**

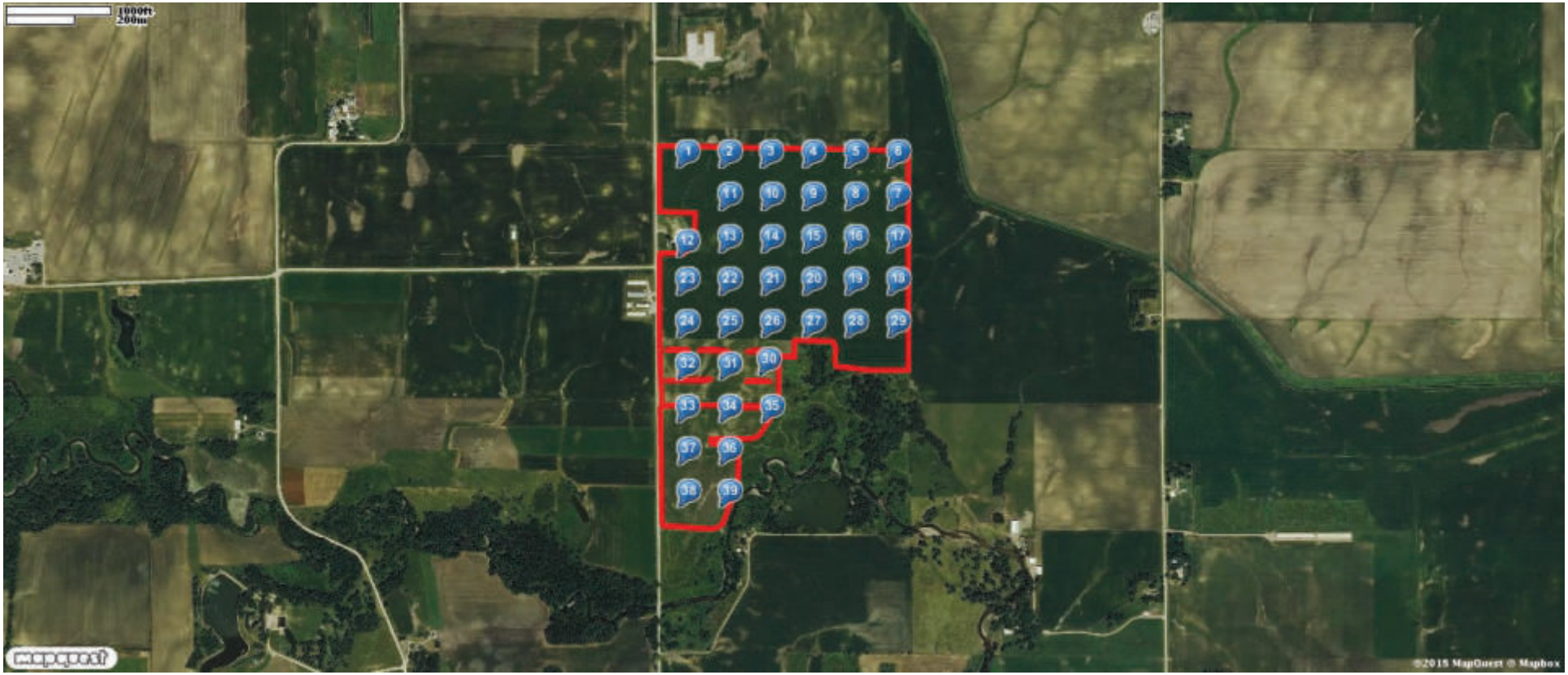
Sample Id	Soil pH	Buffer pH	Sol. Salt	OM	Phosphorus			Wet K										% Base Saturation				
					Bray 1	Bray 2	M3		K	Mg	Ca	S	Zn	Mn	Cu	Fe	B	CEC	H	K	Mg	Ca	Na
				%	ppm														%	%	%	%	%
1	6.1	6.7		2.3			288		437	185	1822	7	7.4					18.1	34.7			50.2	0.4
2	7.2	7.2		2.1			184		444	312	2114	4	5.0					14.4	0.0			73.3	0.8
3	6.7	6.9		5.6			64		218	461	3885	5	4.9					29.1	17.8			66.6	0.6
4	7.7	7.4		3.9			35		179	366	5207	3	2.6					29.5	0.0			88.1	0.3
5	6.2	6.7		4.7			57		187	494	3570	4	2.2					29.0	22.4	1.7	14.0	61.4	0.5
6	5.4	6.2		3.7			98		222	312	2152	7	2.6					24.9	44.0			43.1	0.5
7	5.4	6.1		4.7			68		180	360	2486	6	2.0					27.8	42.5			44.6	0.4
8	5.1	6.2		3.2			57		156	219	1742	9	1.7					21.9	49.6			39.7	0.5
9	6.0	6.8		2.3			54		186	294	2287	8	1.7					20.6	30.2			55.4	0.6
10	5.7	6.7		2.8			47		170	284	1892	6	1.8					19.4	36.5	2.2	12.0	48.7	0.7
11	5.3	6.4		2.6			46		152	275	1780	7	1.6					21.2	45.0			41.9	0.5
12	7.9	7.4		3.3			34		184	311	4821	3	2.2					27.2	0.0			88.4	0.5

1701 Detroit Street PO Box 247 Ellsworth, IA 50075 515.836.4441 ellsworth@agsource.com

Red House

Sample Locations

5J Farms and Services, LLC
3244 Cameron School Road
Ames, IA 50014



N
W
E
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5J Farms and Services
Ferris Farms
Red House
163.0 acres

SOIL ANALYSIS

Submitted by **EW50014101**
5J FARMS AND SERVICES
3244 CAMERON SCHOOL RD
AMES, IA 50014

Submitted for
FERRIS FARMS

Laboratory Sample #
BG20231 - BG20271

Date Received
13-Apr-2018

Date Reported
18-Apr-2018

Information Sheet #
0413-238

Signup Id:

Field Id: **RED HOUSE**

Sample Id	Soil pH	Buffer pH	Sol. Salt	OM	Phosphorus				Wet K	K	Mg	Ca	S	Zn	Mn	Cu	Fe	B	CEC	% Base Saturation				
					Bray 1	Bray 2	Olsen	M3												H	K	Mg	Ca	Na
				%	ppm															%	%	%	%	%
1	6.0	6.7		2.7				160		217	324	2240	8	4.2					21.1	31.0	2.6	12.6	53.0	0.7
2	5.5	6.4		3.2				97		174	261	1985	7	2.2					22.1	43.0	2.0	9.7	44.8	0.5
3	5.8	6.4		5.2				88		212	426	3059	7	3.2					28.4	31.5	1.9	12.3	53.7	0.5
4	6.6	6.9		4.4				132		278	344	3803	6	4.2					27.5	17.6	2.6	10.3	69.0	0.4
5	5.8	6.9		1.5				62		158	254	1679	5	2.1					16.0	31.2	2.5	13.0	52.4	0.7
6	7.9	7.6		2.3				123		285	229	3405	7	5.5					19.8	0.0	3.7	9.5	85.8	0.8
7	7.1	7.4		1.3				71		188	252	2357	6	3.0					14.4	0.0	3.3	14.4	81.7	0.9
8	7.1	7.3		1.2				41		131	293	3236	3	1.4					19.0	0.0	1.8	12.7	85.0	0.3
9	5.6	6.6		1.9				56		222	234	1693	7	1.6					18.6	40.4	3.1	10.3	45.4	0.7
10	6.4	7.0		1.6				79		213	309	2001	6	2.5					17.1	23.2	3.2	14.9	58.4	0.5
11	7.2	7.3		1.5				64		131	257	1543	4	2.1					10.2	0.0	3.3	20.7	75.5	0.7
12	7.3	7.3		3.2				200		488	422	2766	6	10.4					18.6	0.0	6.7	18.7	74.2	0.6
13	5.3	6.2		2.6				290		369	154	1268	7	5.4					19.6	56.2	4.8	6.5	32.3	0.4
14	5.4	6.2		2.6				157		265	231	1597	8	3.3					21.4	50.1	3.2	8.9	37.2	0.5
15	5.4	6.2		3.3				128		264	251	1981	8	3.1					23.4	45.8	2.9	8.8	42.2	0.5
16	5.3	6.1		2.9				104		276	171	1337	7	2.3					20.4	56.6	3.5	6.9	32.7	0.3
17	5.4	6.3		2.8				96		167	231	1693	6	2.7					21.1	48.7	2.0	9.0	40.0	0.4
18	5.6	6.5		1.8				34		137	275	1830	5	1.4					19.8	40.2	1.8	11.4	46.1	0.5

1701 Detroit Street PO Box 247 Ellsworth, IA 50075 515.836.4444 ellsworth@agsource.com

SOIL ANALYSIS

Submitted by **EW50014101**
5J FARMS AND SERVICES
3244 CAMERON SCHOOL RD
AMES, IA 50014

Submitted for
FERRIS FARMS

Laboratory Sample #
BG20231 - BG20271

Date Received
13-Apr-2018

Date Reported
18-Apr-2018

Information Sheet #
0413-238

Signup Id:

Field Id: **RED HOUSE**

Sample Id	Soil pH	Buffer pH	Sol. Salt	OM	Phosphorus				Wet K	K	Mg	Ca	S	Zn	Mn	Cu	Fe	B	CEC	% Base Saturation				
					Bray 1	Bray 2	Olsen	M3												H	K	Mg	Ca	Na
				%	ppm															%	%	%	%	%
19	5.9	6.4		3.7				54		175	365	2925	4	2.1					27.0	32.6	1.7	11.1	54.1	0.5
20	5.2	6.1		3.1				91		195	216	1730	8	2.4					22.9	52.0	2.2	7.8	37.7	0.4
21	6.2	6.7		2.0				47		171	342	2435	4	1.4					21.8	28.8	2.0	12.9	55.7	0.6
22	5.6	6.4		2.8				208		299	166	1687	6	4.5					20.1	47.0	3.8	6.8	41.9	0.4
23	6.4	6.7		2.7				95		153	220	1786	4	2.8					17.5	35.9	2.2	10.3	50.9	0.4
24	6.1	6.5		3.8				180		329	377	2710	5	5.6					26.2	32.8	3.2	11.8	51.6	0.5
25	5.5	6.3		2.8				126		333	246	1829	5	3.3					22.4	45.8	3.8	9.0	40.8	0.4
26	5.6	6.2		3.1				150		282	192	1509	7	2.7					20.7	51.9	3.5	7.6	36.4	0.4
27	7.7	7.4		1.4				74		158	257	3657	4	4.3					20.8	0.0	1.9	10.1	87.7	0.4
28	5.5	6.5		2.2				44		142	220	1637	6	2.2					18.8	44.5	1.9	9.6	43.5	0.4
29	5.5	6.4		2.7				47		135	230	1840	7	2.0					21.0	45.1	1.6	9.0	43.7	0.5
30	7.6	7.4		1.7				77		188	337	2945	4	3.9					18.0	0.0	2.7	15.4	81.6	0.5
31	5.9	6.5		2.7				154		298	215	1545	7	3.3					18.7	44.9	4.1	9.5	41.2	0.5
32	6.6	6.9		2.0				78		190	305	2032	5	3.0					18.0	26.5	2.7	14.0	56.3	0.7
33	7.5	7.3		2.7				138		247	471	3323	5	4.8					21.2	0.0	3.0	18.3	78.2	0.5
34	6.6	6.9		2.4				175		278	402	1995	5	3.8					19.0	25.9	3.7	17.4	52.4	0.7
35	6.3	6.7		2.1				319		330	280	1637	7	3.5					17.8	36.0	4.7	12.9	45.9	0.6
36	7.3	7.2		4.7				120		276	320	4106	6	5.9					23.9	0.0	2.9	11.0	85.7	0.4

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SOIL ANALYSIS

Submitted by **EW50014101**
5J FARMS AND SERVICES
3244 CAMERON SCHOOL RD
AMES, IA 50014

Submitted for
FERRIS FARMS

Laboratory Sample #
BG20231 - BG20271

Date Received
13-Apr-2018

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18-Apr-2018

Information Sheet #
0413-238

Signup Id:

Field Id: **RED HOUSE**

Sample Id	Soil pH	Buffer pH	Sol. Salt	OM	Phosphorus				Wet K	K	Mg	Ca	S	Zn	Mn	Cu	Fe	B	CEC	% Base Saturation				
					Bray 1	Bray 2	Olsen	M3												H	K	Mg	Ca	Na
				%	ppm															%	%	%	%	%
37	7.7	7.3		5.6				95		205	376	5130	5	4.0					29.3	0.0	1.8	10.6	87.4	0.4
38	5.5	6.3		2.7				151		288	202	1531	9	2.6					19.8	49.0	3.7	8.4	38.6	0.4
39	7.0	7.1		5.4				54		198	614	3930	5	3.6					25.3	0.0	2.0	20.0	77.5	0.5

1701 Detroit Street PO Box 247 Ellsworth, IA 50075 515.836.4444 ellsworth@agsource.com

Soil Sampling

Date: 11/28/2017
Field: EIS16NE
Farm: The 80
Grower: OBerndner, Steve
Area: 73.02 ac
Lat: 42.43897°N
Lon: 093.29538°W

N

One in = 513 feet

0 172 344 516 688 860

Sample ID	
1	(1 pt.)
2	(1 pt.)
3	(1 pt.)
4	(1 pt.)
5	(1 pt.)
6	(1 pt.)
7	(1 pt.)
8	(1 pt.)

MINNESOTA VALLEY TESTING LABORATORIES, INC.

MVTL

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MEMBER
ACIL

SUBMITTED BY: 002281

SAMANTHA STEGMAN
INNOVATIVE AG SERVICES-W
31578 CO HWY S27
GARDEN CITY IA 50102

SUBMITTED FOR: Oberndner, Steve
Farm: The 80
Field: EIS16NE-107392

Date Received: Nov 1 2017
Report Date:
Work Order No: 201791-00722

Lab Num	Sample ID	Soil pH	Buff pH	OM %	B-I P ppm	Olsen P ppm	MehP ppm	Salts EC	MehK ppm	Zn ppm	Cu ppm	B ppm	S ppm	NO3 lbs	N-NH4 lbs	Cl lbs	BrayII ppm
17-M65759	1	6.2	6.9	2.9			21		152								
17-M65760	2	5.5	6.6	2.8			20		152								
17-M65761	3	6.4	6.9	3.2			26		130								
17-M65762	4	5.9	6.7	3.8			24		183								
17-M65763	5	5.8	6.8	2.5			20		156								
17-M65764	6	6.1	6.7	5.3			35		147								
17-M65765	7	5.7	6.8	2.8			17		118								
17-M65766	8	6.3	7.0	2.9			20		146								

Soil Sampling

Date: 11/27/2017
Field: EIS16NW
Farm: West 40
Grower: OBerndner, Steve
Area: 35.43 ac
Lat: 42.43905°N
Lon: 093.30280°W

N

One in = 270 feet

0 91 181 272 363 453

Sample ID	
1	(1 pt.)
2	(1 pt.)
3	(1 pt.)
4	(1 pt.)

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MEMBER
ACIL

SUBMITTED BY: 002281

SAMANTHA STEGMAN
INNOVATIVE AG SERVICES-W
31578 CO HWY S27
GARDEN CITY IA 50102

SUBMITTED FOR: Oberndner, Steve
Farm: West 40
Field: EIS16NW-83714

Date Received: Oct 27 2016
Report Date:
Work Order No: 201691-00474

Lab Num	Sample ID	Soil pH	Buff pH	OM %	B-I P ppm	Olsen P ppm	MehP ppm	Salts EC	MehK ppm	Zn ppm	Cu ppm	B ppm	S ppm	NO3 lbs	A-NH4 lbs	Cl lbs	BrayII ppm
16-M45268	1	5.8	6.6	3.1			21		93								
16-M45269	2	5.7	6.3	5.0			35		130								
16-M45270	3	5.6	6.2	4.7			22		98								
16-M45271	4	5.7	6.2	5.1			47		144								

Manure Application Agreement

I, Steve Oberender (Land Owner), agree to furnish land for the application of livestock manure from the confinement site owned by Ferris Pork, LLC (Site Owner), with location of 18400 JJ Ave, Iowa Falls, IA 50126. The application cost is as agreed upon between Land Owner and Site Owner.

This agreement shall be binding until canceled by written notice of either party.

The following parcel(s) of land in Hardin County Iowa is/are included in this agreement:

- N 1/2 NE 1/4 Sec 16 T88N R21W Ellis
- NE 1/4 NW 1/4 Sec 16 T88N R21W Ellis

This will amount to approximately 105 acres for manure application.

Land owner

Printed Name: Steve Oberender

Signed: Steve Oberender Date: 11-01-2017

Confinement Site owner

Printed Name: Brock Ferris

Signed: Brock Ferris Date: 11-1-17

Iowa Manure Management Plan

Statement of Intent Fertilizer Acknowledgement Form

This form is required for each field contained in a Manure Management Plan that is not owned or farmed by the site owner.

Facility Name: Ferris Pork

Facility ID #: 68724

Manure from the above site may be applied to my fields that are listed below. After application takes place the actual gallons of manure per acre will indicate the units of each nutrient that were applied. I understand and recognize that this will determine if/how much additional fertilizer may be needed by the planned crop and I will not apply fertilizer above the amount allowed by the facility's manure management plan when manure has been applied.

Field Name or ID	Legal Description	County
68724-05	N 1/2 NE 1/4 Sec 16 T88N R21W Ellis	Hardin
68724-06	NE 1/4 NW 1/4 Sec 16 T88N R21W Ellis	Hardin

Farmer Name

Steve Oberender

Date

11-01-2017

Farmer Signature

Steven Oberender

Iowa Livestock Production and the Master Matrix

Iowa is an agricultural state. Its economy is fueled by agriculture. According to Iowa Farm Bureau, 1 out of every 5 jobs in the state is related to agriculture, and the agricultural industry gives the state an economic boost of $112.2 billion annually. The heart of Iowa agriculture is its farmers, those individuals and families working the land and tending the livestock.

Extensive research was conducted by ISU Extension evaluating livestock production and crop yields, and it was found that less than 45% of the required crop nutrients in the state are supplied by livestock manure. This research leads to the conclusion that in rural Iowa, where communities and families depend on agriculture and its jobs, there is actually a need for more livestock and livestock facilities.

In Iowa, livestock production in general, and manure handling and application in particular, are heavily regulated. Some of these regulations include requiring manure storage structures be engineered and permitted, annual manure management plans be submitted and reviewed by the county and the Iowa DNR, manure application records be kept and available for review, and that periodic inspections of both records and the facility be conducted by the DNR. Additionally, the majority of manure from Iowa livestock operations is sampled for testing and the analysis used to calculate a responsible agronomic application rate.

In contrast, the commercial fertilizer used in residential neighborhoods, golf courses, municipalities, and anywhere else is unregulated in Iowa. Application rates are not required to be tied to vegetation needs, records are not required to be kept, and no application information is ever submitted or reviewed by either county personnel or a regulatory agency.

The Master Matrix is the tool used to scrutinize the location of a livestock facility of 1000 animal units or more (a large Confined Animal Feeding Operation, or CAFO). It has been in use since the early 2000's, and was developed by a panel of environmentalists, extension and university experts, producers, regulatory agents, and county officials. The Master Matrix takes into account proximity to neighbors, residential areas, other livestock facilities, surface water, and drinking and agricultural drainage wells. The proposed large CAFO must be located a safe distance from these and other sensitive areas, or it's deemed unsuitable for construction.

For those Iowa counties that have adopted its use, the Master Matrix remains the definitive tool for determining eligibility of a suitable CAFO site. Any site that scores the necessary Master Matrix points meets approval from an environmental standpoint.

Ferris Pork, Facility ID 68724

APPENDIX C
MASTER MATRIX

Proposed Site Characteristics

The following scoring criteria apply to the site of the proposed confinement feeding operation. Mark <u>one</u> score under each criterion selected by the applicant. The proposed site must obtain a minimum overall score of 440 and a score of 53.38 in the "air" subcategory, a score of 67.75 in the "water" subcategory and a score of 101.13 in the "community impacts" subcategory.

1 Additional separation distance, above minimum requirements, from proposed confinement structure to the closest:
* Residence not owned by the owner of the confinement feeding operation,
* Hospital,
* Nursing home, or
* Licensed or registered child care facility.

	Score	Air	Water	Community
☐ 250 feet to 500 feet	25	16.25		8.75
☐ 501 feet to 750 feet	45	29.25		17.50
☐ 751 feet to 1,000 feet	65	42.25		22.75
☐ 1,001 feet to 1,250 feet	85	55.25		29.75
☐ 1,251 feet or more	100	65.00		35.00

(A) Refer to the construction permit application package to determine the animal unit capacity (or animal weight capacity if an expansion) of the proposed confinement feeding operation. Then refer to Table 6 of 567--Chapter 65 to determine minimum required separation distances.

(B) The department will award points only for the single building, of the four listed above, closest to the proposed confinement feeding operation.

(C) "Licensed child care center" – a facility licensed by the department of human services providing child care or preschool services for seven or more children, except when the facility is registered as a child care home.

(D) "Registered child development homes" - child care providers certify that they comply with rules adopted by the department of human services. This process is voluntary for providers caring for five or fewer children and mandatory for providers caring for six or more children.

(E) A full listing of licensed and registered child care facilities is available at county offices of the department of human services.

2 Additional separation distance, above minimum requirements, from proposed confinement structure to the closest public use area.

	Score	Air	Water	Community
☐ 250 feet to 500 feet	5	2.00		3.00
☐ 501 feet to 750 feet	10	4.00		6.00
☐ 751 feet to 1,000 feet	15	6.00		9.00
☐ 1,001 feet to 1,250 feet	20	8.00		12.00

☐	1,251 feet to 1,500 feet	25	10.00		15.00
☑	1,501 feet or more	30	12.00		18.00

(A) Refer to the construction permit application package to determine the animal unit capacity (or animal weight capacity if an expansion) of the proposed confinement feeding operation. Then refer to Table 6 of 567--Chapter 65 to determine minimum required separation distances.

(B) "Public use area" - a portion of land owned by the United States, the state, or a political subdivision with facilities which attract the public to congregate and remain in the area for significant periods of time. Facilities include, but are not limited to, picnic grounds, campgrounds, cemeteries, lodges, shelter houses, playground equipment, lakes as listed in Table 2 of 567--Chapter 65, and swimming beaches. It does not include a highway, road right-of-way, parking areas, recreational trails or other areas where the public passes through, but does not congregate or remain in the area for significant periods of time.

---

3 Additional separation distance, above minimum requirements, from proposed confinement structure to the closest:
*Educational institution
*Religious institution, or
*Commercial enterprise.

		Score	Air	Water	Community
☐	250 feet to 500 feet	5	2.00		3.00
☐	501 feet to 750 feet	10	4.00		6.00
☐	751 feet to 1,000 feet	15	6.00		9.00
☐	1,001 feet to 1,250 feet	20	8.00		12.00
☐	1,251 feet to 1,500 feet	25	10.00		15.00
☑	1,501 feet or more	30	12.00		18.00

(A) Refer to the construction permit application package to determine the animal unit capacity (or animal weight capacity if an expansion) of the proposed confinement feeding operation. Then refer to Table 6 of 567--Chapter 65 to determine minimum required separation distances.

(B) The department will award points only for the single building, of the three listed above, closest to the proposed confinement feeding operation.

(C) "Educational institution" - a building in which an organized course of study or training is offered to students enrolled in kindergarten through grade 12 and served by local school districts, accredited or approved nonpublic schools, area educational agencies, community colleges, institutions of higher education under the control of the state board of regents, and accredited independent colleges and universities.

(D) "Religious institution" - a building in which an active congregation is devoted to worship.

(E) "Commercial enterprise" - a building which is used as a part of a business that manufactures goods, delivers services, or sells goods or services, which is customarily and regularly used by the general public during the entire calendar year and which is connected to electric, water, and sewer systems. A commercial enterprise does not include a farm operation.

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4 Additional separation distance, above minimum requirement of 500 feet, from proposed confinement structure to the closest water source.

		Score	Air	Water	Community
☐	250 feet to 500 feet	5		5.00	
☐	501 feet to 750 feet	10		10.00	
☐	751 feet to 1,000 feet	15		15.00	
☐	1,001 feet to 1,250 feet	20		20.00	

☐	1,251 feet to 1,500 feet	25		25.00	
☐	1,501 feet or more	30		30.00	

"Water source" - a lake, river, reservoir, creek, stream, ditch, or other body of water or channel having definite banks and a bed with water flow, except lakes or ponds without an outlet to which only one landowner is riparian.

---

5 Separation distance of 300 feet or more from the proposed confinement structure to the nearest thoroughfare.

		Score	Air	Water	Community
☐	300 feet or more	30	9.00		21.00

(A) "Thoroughfare" - a road, street, bridge, or highway open to the public and constructed or maintained by the state or a political subdivision.

(B) The 300-foot distance includes the 100-foot minimum setback plus additional 200 feet.

---

6 Additional separation distance, above minimum requirements, from proposed confinement structure to the closest critical public area.

		Score	Air	Water	Community
☑	500 feet or more	10	4.00		6.00

(A) All critical public areas as defined in 567--65.1(455B), are public use areas, and therefore subject to public use area minimum separation distances.

(B) Refer to the construction permit application package to determine the animal unit capacity (or animal weight capacity if an expansion) of the proposed confinement feeding operation. Then refer to Table 6 of 567--Chapter 65 to determine minimum required separation distances.

---

7 Proposed confinement structure is at least two times the minimum required separation distance from all private and public water wells.

		Score	Air	Water	Community
☑	Two times the minimum separation distance	30		24.00	6.00

Refer to Table 6 of 567--Chapter 65 for minimum required separation distances to wells.

---

8 Additional separation distance, above the minimum requirement of 1,000 feet, from proposed confinement structure to the closest:
* Agricultural drainage well,
* Known sinkhole, or * Major water source.

		Score	Air	Water	Community
☐	250 feet to 500 feet	5	0.50	2.50	2.00
☐	501 feet to 750 feet	10	1.00	5.00	4.00
☐	751 feet to 1,000 feet	15	1.50	7.50	6.00
☐	1,001 feet to 1,250 feet	20	2.00	10.00	8.00
☐	1,251 feet to 1,500 feet	25	2.50	12.50	10.00
☐	1,501 feet to 1,750 feet	30	3.00	15.00	12.00
☐	1,751 feet to 2,000 feet	35	3.50	17.50	14.00
☐	2,001 feet to 2,250 feet	40	4.00	20.00	16.00
☐	2,251 feet to 2,500 feet	45	4.50	22.50	18.00
☑	2,501 feet or more	50	5.00	25.00	20.00

(A) The department will award points only for the single item, of the three listed above, that is closest to the proposed confinement feeding operation.

(B) "Agricultural drainage wells" - include surface intakes, cisterns and wellheads of agricultural drainage wells.

(C) "Major water source" - a lake, reservoir, river or stream located within the territorial limits of the state, or any marginal river area adjacent to the state which can support a floating vessel capable of carrying one or more persons during a total of a six-month period in one out of ten years, excluding periods of flooding. Major water sources in the state are listed in Tables 1 and 2 in 567--Chapter 65.

9 Distance between the proposed confinement structure and the nearest confinement facility that has a submitted department manure management plan.

	Score	Air	Water	Community
Three-quarter of a mile or more (3,960 feet)	25	7.50	7.50	10.00

Confinement facilities include swine, poultry, and dairy and beef cattle.

10 Separation distance from proposed confinement structure to closest:
*High quality (HQ) waters,
* High quality resource (HQR) waters, or
* Protected water areas (PWA)
is at least two times the minimum required separation distance

None within 10000 ft

	Score	Air	Water	Community
Two times the minimum separation distance	30		22.50	7.50

(A) The department will award points only for the single item, of the three listed above, closest to the proposed confinement feeding operation.

(B) HQ waters are identified in 567--Chapter 61.

(C) HQR waters are identified in 567--Chapter 61.

(D) A listing of PWAs is available at http://www.state.ia.us/government/dnr/organiza/ppd/prowater.htm#Location%20of%20PWA's%20in.

11 Air quality modeling results demonstrating an annoyance level less than 2 percent of the time for residences within two times the minimum separation distance.

	Score	Air	Water	Community
University of Minnesota OFFSET model results demonstrating an annoyance level less than 2 percent of the time	10	6.00		4.00

(A) OFFSET can be found at http://www.extension.umn.edu/distribution/livestocksystems/DI7680.html . For more information, contact Dr. Larry Jacobson, University of Minnesota, (612) 625-8288, jacob007@tc.umn.edu .

(B) A residence that has a signed waiver for the minimum separation distance cannot be included in the model.

(C) Only the OFFSET model is acceptable until the department recognizes other air quality models.

12 Liquid manure storage structure is covered.

Score	Air	Water	Community

☑	Covered liquid manure storage	30	27.00		3.00

(A) "Covered" - organic or inorganic material, placed upon an animal feeding operation structure used to store manure, which significantly reduces the exchange of gases between the stored manure and the outside air. Organic materials include, but are not limited to, a layer of chopped straw, other crop residue, or a naturally occurring crust on the surface of the stored manure. Inorganic materials include, but are not limited to, wood, steel, aluminum, rubber, plastic, or Styrofoam. The materials shall shield at least 90 percent of the surface area of the stored manure from the outside air. Cover shall include an organic or inorganic material which current scientific research shows reduces detectable odor by at least 75 percent. A formed manure storage structure directly beneath a floor where animals are housed in a confinement feeding operation is deemed to be covered.

(B) The design, operation and maintenance plan for the manure cover must be in the construction permit application and made a condition in the approved construction permit.

---

13 Construction permit application contains design, construction, operation and maintenance plan for e

		Score	Air	Water	Community
☐	Emergency containment	20		18.00	2.00

(A) The emergency containment area must be able to contain at least 5 percent of the total volume capacity of the manure storage structure.
(B) The emergency containment area must be constructed on soils that are fine-grained and have low permeability.
(C) If manure is spilled into the emergency containment area, the spill must be reported to the department within six hours of onset or discovery.
(D) The design, construction, operation and maintenance plan for the emergency containment area must be in the construction permit application and made a condition in the approved construction permit.

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14 Installation of a filter(s) designed to reduce odors from confinement building(s) exhaust fan(s).

		Score	Air	Water	Community
☐	Installation of filter(s)	10	8.00		2.00

The design, operation and maintenance plan for the filter(s) must be in the construction permit application and made a condition in the approved construction permit.

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15 Utilization of landscaping around confinement structure.

		Score	Air	Water	Community
☐	Utilization of landscaping	20	10.00		10.00

The design, operation and maintenance plan for the landscaping must be in the construction permit application and made a condition in the approved construction permit. The design should contain at least three rows of trees and shrubs, of both fast and slow-growing species that are well suited for the site.

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16 Enhancement, above minimum requirements, of structures used in stockpiling and composting acti

		Score	Air	Water	Community
☐	Stockpile and compost facility enhancements	30	9.00	18.00	3.00

(A) The design, operation and maintenance plan for the stockpile or compost structure enhancements must be in the construction permit application and made a condition in the approved construction permit.
(B) The stockpile or compost structures must be located on land adjacent or contiguous to the confinement building.

Ferris Pork, Facility ID 68724

17 Proposed manure storage structure is formed

	Score	Air	Water	Community
Formed manure storage structure	30		27.00	3.00

(A) "Formed manure storage structure" - a covered or uncovered impoundment used to store manure from an animal feeding operation, which has walls and a floor constructed of concrete, concrete block, wood, steel, or similar materials. Similar materials may include, but are not limited to, plastic, rubber, fiberglass, or other synthetic materials. Materials used in a formed manure storage structure shall have the structural integrity to withstand expected internal and external load pressures.

(B) The design, operation and maintenance plan for the formed manure storage structure must be in the construction permit application and made a condition in the approved construction permit.

18 Manure storage structure is aerated to meet departmental standards as an aerobic structure, if aera

	Score	Air	Water	Community
Aerated manure storage structure(s)	10	8.00		2.00

(A) Aerobic structure - an animal feeding operation structure other than an egg washwater storage structure which relies on aerobic bacterial action which is maintained by the utilization of air or oxygen and which includes aeration equipment to digest organic matter. Aeration equipment shall be used and shall be capable of providing oxygen at a rate sufficient to maintain an average of 2 milligrams per liter dissolved oxygen concentration in the upper 30 percent of the depth of manure in the structure at all times.

(B) The design, operation and maintenance plan for the aeration equipment must be in the construction permit application and made a condition in the approved construction permit.

19 Proposed confinement site has a suitable truck turnaround area so that semitrailers do not have to back into the facility from the road

	Score	Air	Water	Community
Truck turnaround	20			20.00

(A) The design, operation and maintenance plan for the truck turn around area must be in the construction permit application and made a condition in the approved construction permit.

(B) The turnaround area should be at least 120 feet in diameter and be adequately surfaced for traffic in inclement weather.

20 Construction permit applicant's animal feeding operation environmental and worker protection violation history for the last five years at all facilites in which the applicant has an interest.

	Score	Air	Water	Community
No history of Administrative Orders in last five years	30			30.00

(A) "Interest" - means ownership of a confinement feeding operation as a sole proprietor or a 10 percent or more ownership interest held by a person in a confinement feeding operation as a joint tenant, tenant in common, shareholder, partner, member, beneficiary or other equity interest holder. Ownership interest is an interest when it is held either directly, indirectly through a spouse or dependent child, or both.

(B) An environmental violation is a final Administrative Order (AO) from the department of natural resources or final court ruling against the construction permit applicant for environmental violations related to an animal feeding operation. A Notice of Violation (NOV) does not constitute a violation.

21 Construction permit applicant waives the right to claim a Pollution Control Tax Exemption for the life of the proposed confinement feeding operation structure.

Ferris Pork, Facility ID 68724

	Score	Air	Water	Community
☐ Permanent waiver of Pollution Control Tax Exemption	5			5.00

(A) Waiver of Pollution Control Tax Exemption is limited to the proposed structure(s) in the construction permit application.

(B) The department and county assessor will maintain a record of this waiver, and it must be in the construction permit application and made a condition in the approved construction permit.

22 Construction permit applicant can lawfully claim a Homestead Tax Exemption on the site where the
- OR -
the construction permit applicant is the closest resident to the proposed confinement structure.

	Score	Air	Water	Community
☐ Site qualifies for Homestead Tax Exemption or permit applicant is closest resident to proposed structure	25			25.00

Proof of Homestead Tax Exemption is required as part of the construction permit application.

(A) Applicant include persons who have ownership interests."Interest" - means ownership of a confinement feeding operation as a sole proprietor or a 10 percent or more ownership interest held by a person in a confinement feeding operation as a joint tenant, tenant in common, shareholder, partner, member, beneficiary or other equity interest holder. Ownership interest is an interest when it is held either directly, indirectly through a spouse or dependent child, or both.

23 Construction permit applicant can lawfully claim a Family Farm Tax Credit for agricultural land where the proposed confinement feeding operation is to be located pursuant to Iowa Code chapter 425A.

	Score	Air	Water	Community
☑ Family Farm Tax Credit qualification	25			25.00

(A) Applicant include persons who have ownership interests. "Interest" - means ownership of a confinement feeding operation as a sole proprietor or a 10 percent or more ownership interest held by a person in a confinement feeding operation as a joint tenant, tenant in common, shareholder, partner, member, beneficiary or other equity interest holder. Ownership interest is an interest when it is held either directly, indirectly through a spouse or dependent child, or both.

24 Facility size

	Score	Air	Water	Community
☑ 1 to 2,000 animal unit capacity	20			20.00
☐ 2,001 to 3,000 animal unit capacity	10			10.00
☐ 3,001 animal unit capacity or more	0			0.00

(A) Refer to the construction permit application package to determine the animal unit capacity of the proposed confinement structure at the completion of construction.

(B) If the proposed structure is part of an expansion, animal unit capacity (or animal weight capacity) must include all animals confined in adjacent confinement structures.

(C) Two or more animal feeding operations under common ownership or management are deemed to be a single animal feeding operation if they are adjacent or utilize a common area or system for manure disposal. In addition, for purposes of determining whether two or more confinement feeding operations are adjacent, all of the following must apply:

(a) At least one confinement feeding operation structure must be constructed on and after May 21, 1998.

(b) A confinement feeding operation structure which is part of one confinement feeding operation is separated by less than a minimum required distance from a confinement feeding operation structure which is part of the other confinement feeding operation. The minimum required distance shall be as follows:

(1) 1,250 feet for confinement feeding operations having a combined animal unit capacity of less than 1,000 animal units.

(2) 2,500 feet for confinement feeding operations having a combined animal unit capacity of 1,000 animal units or more.

25 Construction permit application includes livestock feeding and watering systems that significantly reduce manure volume.

		Score	Air	Water	Community
☑	Wet/dry feeders or other feeding and watering systems that significantly reduce manure volume	25		12.50	12.50

The design, operation and maintenance plan for the feeding system must be in the construction permit application and made a condition in the approved construction permit.

Proposed Site Operation and Manure Management Practices

The following scoring criteria apply to the operation and manure management characteristics of the proposed confinement feeding operation. Mark one score under each criterion that best reflects the characteristics of the submitted manure management plan.

26 Liquid or dry manure *(choose only one subsection from subsections "a" - "e" and mark one*

		Score	Air	Water	Community
a. ☐	Bulk dry manure is sold under Iowa Code chapter 200A and surface-applied	15		15.00	
☐	Bulk dry manure is sold under Iowa Code chapter 200A and incorporated on the same date it is land-applied	30	12.00	12.00	6.00
b. ☐	Dry manure is composted and land-applied under the requirements of a department manure management plan	10	4.00	4.00	2.00
☐	Dry manure is composted and sold so that no manure is applied under the requirements of a department manure management plan	30	12.00	12.00	6.00
c. ☐	Methane digester is used to generate energy from manure and remaining manure is surface-applied under the requirements of an approved department manure management plan	10	3.00	3.00	4.00

☐	After methane digestion is complete, manure is injected or incorporated on the same date it is land-applied under the requirements of an approved department manure management plan	30	12.00	12.00	6.00
d. ☐	Dry manure is completely burned to generate energy and no remaining manure is applied under the requirements of a manure management plan	30	9.00	9.00	12.00
☐	Some dry manure is burned to generate energy, but remaining manure is land-applied and incorporated on the same date it is land-applied	30	12.00	12.00	6.00
e. ☒	Injection or incorporation of manure on the same date it is land-applied	30	12.00	12.00	6.00

(A) Choose only ONE line from subsection "a", "b," "c," "d," or "e" above and mark only one score in that subsection.

(B) The injection or incorporation of manure must be in the construction permit application and made a condition in the approved construction permit.

(C) If an emergency arises and injection or incorporation is not feasible, prior to land application of manure the applicant must receive a written approval for an emergency waiver from a department field office to surface-apply manure.

(D) Requirements pertaining to the sale of bulk dry manure under pursuant to Iowa Code chapter 200A must be incorporated into the construction permit application and made a condition of the approved construction permit.

(E) The design, operation and maintenance plan for utilization of manure as an energy source must be in the construction permit application and made a condition in the approved construction permit.

(F) The design, operation and maintenance plan for composting facilities must be in the construction permit application and made a condition in the approved construction permit.

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27 Land application of manure is based on a two-year crop rotation phosphorus uptake level.

		Score	Air	Water	Community
☐	**Two-year phosphorus crop uptake application rate**	10		10.00	

(A) Land application of manure cannot exceed phosphorus crop usage levels for a two-year crop rotation cycle.

(B) The phosphorus uptake application rates must be in the construction permit application and made a condition in the approved construction permit.

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28 Land application of manure to farmland that has USDA Natural Resources Conservation Service (NRCS) approved buffer strips contiguous to all water sources traversing or adjacent to the fields listed in the manure management plan.

		Score	Air	Water	Community
☐	Manure application on farmland with buffer strips	10		8.00	2.00

(A) The department may request NRCS maintenance agreements to ensure proper design, installation and maintenance of filter strips. If a filter strip is present but not designed by NRCS, it must meet NRCS standard specifications.

(B) The application field does not need to be owned by the confinement facility owner to receive points.

(C) On current and future manure management plans, the requirement for buffer strips on all land application areas must be in the construction permit application and made a condition in the approved construction permit.

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29 Land application of manure does not occur on highly erodible land (HEL), as classified by the USDA NRCS.

	Score	Air	Water	Community
☒ No manure application on HEL farmland	10		10.00	

Manure application on non-HEL farmland must be in the construction permit application and made a condition in the approved construction permit.

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30 Additional separation distance, above minimum requirements (0 or 750 feet, see below), for the land application of manure to the closest:
*Residence not owned by the owner of the confinement feeding operation,
* Hospital,
* Nursing home, or
*Licensed or registered child care facility.

	Score	Air	Water	Community
☐ Additional separation distance of 200 feet	5	3.25		1.75
☐ Additional separation distance of 500 feet	10	6.50		3.50

(A) The department will award points only for the single building, of the four listed above, closest to the proposed confinement feeding operation.

(B) Minimum separation distance for land application of manure injected or incorporated on the same date as application: 0 feet.

(C) Minimum separation distance for land application of manure broadcast on soil surface: 750 feet.

(D) The additional separation distances must be in the construction permit application and made a condition in the approved construction permit.

(E) "Licensed child care center" – a facility licensed by the department of human services providing child care or preschool services for seven or more children, except when the facility is registered as a child care home.

(F) "Registered child development homes" - child care providers certify that they comply with rules adopted by the department of human services. This process is voluntary for providers caring for five or fewer children and mandatory for providers caring for six or more children.

(G) A full listing of licensed and registered child care facilities is available at county offices of the department of human services

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31 Additional separation distance, above minimum requirements (0 or 750 feet, see below), for land application of manure to closest public use area.

	Score	Air	Water	Community
☒ Additional separation distance of 200 feet	5	2.00		3.00

(A) "Public use area" - a portion of land owned by the United States, the state, or a political subdivision with facilities which attract the public to congregate and remain in the area for significant periods of time. Facilities include, but are not limited to, picnic grounds, campgrounds, cemeteries, lodges, shelter houses, playground equipment, lakes as listed in Table 2 in 567--Dhapter 65, and swimming beaches. It does not include a highway, road right-of-way, parking areas, recreational trails or other areas where the public passes through, but does not congregate or remain in the area for significant periods of time.

(B) Minimum separation distance for land application of manure injected or incorporated on the same date as application: 0 feet.

(C) Minimum separation distance for land application of manure broadcast on soil surface: 750 feet.

(D) The additional separation distances must be in the construction permit application and made a condition in the approved construction permit.

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32 Additional separation distance, above minimum requirements (0 or 750 feet, see below), for the land application of manure to the closest:
* Educational institution,
* Religious institution, or
* Commercial enterprise.

	Score	Air	Water	Community
☑ Additional separation distance of 200 feet	5	2.00		3.00

(A) Minimum separation distance for land application of manure broadcast on soil surface: 750 feet.

(B) Minimum separation distance for land application of manure injected or incorporated on same date as application: 0 feet.

(C) The additional separation distances must be in the construction permit application and made a condition in the approved construction permit.

(D) "Educational institution" - a building in which an organized course of study or training is offered to students enrolled in kindergarten through grade 12 and served by local school districts, accredited or approved nonpublic schools, area educational agencies, community colleges, institutions of higher education under the control of the state board of regents, and accredited independent colleges and universities.

(E) "Religious institution" - a building in which an active congregation is devoted to worship.

(F) "Commercial enterprise" - a building which is used as a part of a business that manufactures goods, delivers services, or sells goods or services, which is customarily and regularly used by the general public during the entire calendar year and which is connected to electric, water, and sewer systems. A commercial enterprise does not include a farm operation.

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33 Additional separation distance of 50 feet, above minimum requirements (0 or 200 feet, see below), for the land application of manure to the closest private drinking water well or public drinking water well
- OR -
well is properly closed under supervision of county health officials.

	Score	Air	Water	Community
☐ Additional separation distance of 50 feet or well is properly closed	10		8.00	2.00

(A) Minimum separation distance for land application of manure injected or incorporated on the same date as application or 50-foot vegetation buffer exists around well and manure is not applied to the buffer: 0 feet.

(B) Minimum separation distance for land application of manure broadcast on soil surface: 200 feet.

(C) If applicant chooses to close the well, the well closure must be incorporated into the construction permit application and made a condition in the approved construction permit.

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34 Additional separation distance, above minimum requirements, for the land application of manure to the closest:
* Agricultural drainage well,
* Known sinkhole,
* Major water source, or
* Water source.

	Score	Air	Water	Community
☐ Additional separation distance of 200 feet	5	0.50	2.50	2.00

Additional separation distance of 400 feet	10	1.00	5.00	4.00

(A) "Agricultural drainage wells" - include surface intakes, cisterns and wellheads of agricultiral drainage wells.

(B) "Major water source" - a lake, reservoir, river or stream located within the territorial limits of the state, or any marginal river area adjacent to the state, which can support a floating vessel capable of carrying one or more persons during a total of a six-month period in one out of ten years, excluding periods of flooding. Major water sources in the state are listed in Tables 1 and 2 in 567--Chapter 65.

(C) "Water source" - a lake, river, reservoir, creek, stream, ditch, or other body of water or channel having definite banks and a bed with water flow, except lakes or ponds without an outlet to which only one landowner is riparian.

(D) The additional separation distances must be in the construction permit application and made a condition in the approved construction permit.

35 Additional separation distance above minimum requirements, for the land application of manure, to the closest:
* High quality (HQ) water,
* High quality resource (HQR) water, or
* Protected water area (PWA).

	Score	Air	Water	Community
☐ Additional separation distance of 200 feet	5		3.75	1.25
☑ Additional separation distance of 400 feet	10		7.50	2.50

(A) HQ waters are identified in 567--Chapter 61.

(B) HQR waters are identified in 567--Chapter 61.

(C) A listing of PWAs is available at

http://www.state.ia.us/government/dnr/organiza/ppd/prowater.htm#Location%20of%20PWA's%20in

36 Demonstrated community support.

	Score	Air	Water	Community
Written approval of 100% of the property owners within a one mile radius.	20			20.00

37 Worker safety and protection plan is submitted with the construction permit application.

	Score	Air	Water	Community
Submission of worker safety and protection plan	10			10.00

(A) The worker safety and protection plan must be in the construction permit application and made a condition in the approved construction permit.

(B) The worker safety and protection plan and subsequent records must be kept on site with the manure management plan records.

38 Applicant signs a waiver of confidentiality allowing public to view confidential manure management plan land application records

	Score	Air	Water	Community
Manure management plan confidentiality waiver	5			5.00

The waiver of confidentiality must be in the construction permit application and made a condition in the approved construction permit. The applicant may limit public inspection to reasonable times and places.

39 Added economic value based on quality job development (number of full time equivalent (FTE) positions), and salary equal to or above Iowa department of workforce development median (45-2093)
- OR -
the proposed structure increases commercial property tax base in the county.

	Score	Air	Water	Community
Economic value to local community	10			10.00

The Iowa department of workforce development regional profiles are available at http://www.iowaworkforce.org/centers/regionalsites.htm. Select the appropriate region and then select "Regional Profile."

40 Construction permit application contains an emergency action plan.

	Score	Air	Water	Community
Emergency action plan	5		2.50	2.50

(A) Iowa State University Extension publication PM 1859 lists the components of an emergency action plan. The emergency action plan submitted should parallel the components listed in the publication.
(B) The posting and implementation of an emergency action plan must be in the construction permit application and made a condition in the approved construction permit.
(C) The emergency action plan and subsequent records must be kept on site with the manure management plan records.

41 Construction permit application contains a closure plan.

	Score	Air	Water	Community
Closure plan	5		2.50	2.50

(A) The closure plan must be in the construction permit application and made a condition in the approved construction permit.
(B) The closure plan must be kept on site with the manure management plan records.

42 Adoption and implementation of an environmental management system (EMS) recognized by the department.

	Score	Air	Water	Community
EMS	15	4.50	4.50	6.00

(A) The EMS must be in the construction permit application and made a condition in the approved construction permit.
(B) The EMS must be recognized by the department as an acceptable EMS for use with confinement operations.

43 Adoption and implementation of NRCS approved Comprehensive Nutrient Management Plan (CNMP).

	Score	Air	Water	Community
CNMP	10	3.00	3.00	4.00

The implementation and continuation of a CNMP must be in the construction permit application and made a condition in the approved construction permit.

44 Groundwater monitoring wells installed near manure storage structure), and applicant agrees to provide data to the department.

	Score	Air	Water	Community
☐ Groundwater monitoring	15		10.50	4.50

(A) Monitoring well location, sampling and data submission must meet department requirements.

(B) The design, operation and maintenance plan for the groundwater monitoring wells, and data transfer to the department, must be in the construction permit application and made a condition in the approved construction permit.

	Total Score	Air	Water	Community
	445	83.5	148	213.5
Score to pass	440	53.38	67.75	101.13

Master Matrix
Design, Operation, and Maintenance Plan

Livestock Facility Name: Ferris Pork, Facility ID 68724

Master Matrix #12: Covered Liquid Manure Storage

Design: "Section 3 – Construction Design Standards" in the Construction Design Statement describes in detail the design of the covered, below-ground, under-building, steel-reinforced, formed concrete manure storage structure that will be utilized by this livestock facility.

Operation: The floor of the livestock facility, which acts as the covering for the liquid manure storage, will be constructed of slatted concrete, the accepted industry standard for this type of livestock facility. Animal waste will be deposited into the under-building liquid manure storage through these floor slats. This valuable liquid fertilizer will then be pumped out and injected into crop fields.

Maintenance: After construction and throughout the life of the livestock facility, routine inspections of the covered liquid manure storage will be conducted to ensure structural integrity. Any maintenance of the covered liquid manure storage, which is expected to be minimal because of the design and the cover, will be identified during the routine inspections. Any necessary repairs will be made to ensure the covered liquid manure storage continues to function with no environmental impact.

Master Matrix #17: Formed Manure Storage Structure

Design: "Section 3 – Construction Design Standards" in the Construction Design Statement describes in detail the design of the formed, below-ground, under-building, steel-reinforced, covered concrete manure storage structure that will be utilized by this livestock facility.

Operation: The floor of the livestock facility, which acts as the covering for the liquid manure storage, will be constructed of slatted concrete, the accepted industry standard for this type of livestock facility. Animal waste will be deposited into the under-building liquid manure storage through these floor slats. This valuable liquid fertilizer will then be pumped out and injected into crop fields.

Maintenance: After construction and throughout the life of the livestock facility, routine inspections of the formed liquid manure storage will be conducted to ensure structural integrity. These will include routine inspections around the perimeter of the livestock facility, with close attention paid to the concrete sidewalls of the formed manure storage structure. Also, during manure pumpout and application, observations will be made as the manure level decreases, making it more conducive to visually inspecting the interior of the concrete manure storage. Any necessary repairs will be made to ensure the formed liquid manure storage continues to function with no environmental impact.

Master Matrix #19: Truck Turnaround

Design: The livestock facility will be designed with an adequate turnaround area for feed trucks, trucks with livestock trailers, and other heavy equipment so that backing up onto the public thoroughfare won't be necessary (see attached site map). After being suitably packed and prepped, the turnaround area will be surfaced with layered drive rock to a thickness necessary to support trucks and other heavy equipment in all types of conditions.

Operation: The livestock facility's truck turnaround will be operated in such a way as to minimize potential risk to drivers on the public thoroughfare, since the need to back up onto the roadway will be eliminated. The turnaround will be safer for drivers on the roadway, truck and heavy equipment operators at the facility, and animals being transported to and from the facility.

Maintenance: Drive rock will be added to the turnaround as necessary to ensure support of trucks and heavy equipment at the facility in all types of conditions.

Master Matrix #25: Wet/Dry Feeders

Design: "Wet/dry" feeders will be used inside the barn at the livestock facility. Because this type of feeder reduces dust, and since research has shown that the majority of odor generated from a livestock facility is attached to dust particles, wet/dry feeders will help reduce overall odor.

In addition, wet/dry feeders maximize feed efficiency, which decreases waste through the animal. This has the desirable outcome of considerably reducing the volume deposited into the liquid manure storage structure compared to using more traditional feeders.

Operation: The wet/dry feeders operate automatically as animals eat and drink. Daily observations by animal caretakers at the livestock facility will ensure that the feeders are operating properly.

In addition, water use is a metric that is monitored and evaluated daily. Any operational issues will be detected as part of the daily review of water consumption.

Maintenance: Part of the daily responsibilities of livestock facility employees will be ensuring the wet/dry feeders are adjusted and operating at an optimum level. Keeping the wet/dry feeders well-maintained will continue to reduce the volume deposited into the liquid manure storage at the livestock facility.

Additionally, animal health and growth (thus profit) are strongly associated with water and feed, providing a strong motivation for the livestock facility employees to ensure wet/dry feeders are functioning properly, with no feed and water waste.

Master Matrix Additional Details and Explanations
Proposed New Livestock Facility
Confinement, Unincorporated Area

Livestock Facility Name: Ferris Pork, Facility ID 68724
Animal Unit Capacity: 1996

Master Matrix #2
The minimum separation distance requirement from the proposed livestock facility to the closest **public use area** is **2,500'**. Since there are no public use areas located within **4,001'** of the proposed livestock facility, the score on Item #2 is **30**.

Master Matrix #3
The minimum separation distance requirement from the proposed livestock facility to the closest **educational institution, religious institution, or commercial enterprise** is **1,875'**. Since there are none of these establishments located within **3,376'** of the proposed livestock facility, the score on Item #3 is **30**.

Master Matrix #6
The minimum separation distance requirement from the proposed livestock facility to the closest **critical public use area** is **2,500'**. Since there are no critical public use areas located within **3,000'** of the proposed livestock facility, the score on Item #6 is **10**.

Master Matrix #7
The minimum separation distance requirement from the proposed livestock facility to the closest **private, deep well** is **100'**. Since the private, deep, on-site well will be located **311'** south of the proposed livestock facility, the score on Item #7 is **30**.

There are no other public or private wells of any type near the proposed livestock facility.

Master Matrix #8
The minimum separation distance requirement from the proposed livestock facility to the closest **agricultural drainage well, known sinkhole, or major water source** is **1000'**. Since none of these features are located within **3,501'** of the proposed livestock facility, the score on Item #8 is **50**.

Master Matrix #9
The minimum separation distance requirement from the proposed livestock facility to the closest **confinement facility that has a submitted department manure management plan** is **3,960'**. Since the closest confinement facility that has a submitted DNR MMP is located **4,476'** south, the score on Item #9 is **25**.

Master Matrix #10
The minimum separation distance requirement from the proposed livestock facility to the closest **high quality waters, high quality resource waters, and protected areas** is **1000'**. Since there are none of these waters or areas within **2000'** of the proposed livestock facility, the score on Item #10 is **30**.

Master Matrix #12
Since the proposed livestock facility's **liquid manure storage structure is covered**, the score on Item #12 is **30**.

The liquid manure storage is an engineered and reinforced concrete below-ground structure, located directly beneath the livestock confinement barn. The barn itself is constructed of wood framing, with steel siding and roofing. The floor of the confinement consists of concrete slats.

The DNR clarification of Item #12 is: "A formed manure storage structure directly beneath a floor where animals are housed in a confinement feeding operation is deemed to be covered." Therefore this proposed livestock facility has a covered liquid manure storage structure.

Master Matrix #17
Since the proposed livestock facility's **manure storage structure is formed**, the score on Item #17 is **30**.

The DNR clarification of "Formed manure storage structure" in Item #17 is: "a covered or uncovered impoundment used to store manure from an animal feeding operation, which has walls and a floor constructed of concrete, concrete block, wood, steel, or similar materials. Similar materials may include, but are not limited to, plastic, rubber, fiberglass, or other synthetic materials. Materials used in a formed manure storage structure shall have the structural integrity to withstand expected internal and external load pressures."

The manure storage structure at this proposed livestock facility will be formed and reinforced concrete. Since its design has been engineered, it will have the structural integrity necessary to withstand expected internal and external load pressures. As required, the construction design statement and construction permit include extensive design and construction details.

Master Matrix #19
Since the proposed livestock facility will have a **suitable truck turnaround area**, the score on Item #19 is **20**.

The turnaround area will be at least 120' in diameter and will have at least 3" of gravel on a packed drive to provide an all-weather surface to support trucks in all conditions.

Master Matrix #20
Since the proposed livestock facility **construction permit applicants have no history of Administrative Orders in the last five years**, the score on Item #20 is **30**.

Master Matrix #23
Since the proposed livestock facility **construction permit applicant can claim a Family Farm Tax Credit qualification**, the score of Item #23 is **25**.

Ferris Pork, LLC, consisting of brothers Brock and Ben Ferris, own the livestock facility and the tract of ground on which the livestock facility is constructed. This tract of land was purchased from their grandfather, Robert Blome, who also owns the remainder of the agricultural land on which the livestock facility is constructed. Ben Ferris, grandson of Robert Blome, leases the farmland from Robert Blome, and actively farms said ground. Given this situation, the agricultural land meets the criteria in Iowa Code chapter 425A, and therefore qualifies for the Family Farm Tax Credit.

Master Matrix #24
Since the proposed livestock facility **capacity will be 1,996 Animal Units**, the score on Item #24 is **20**.

Master Matrix #25
Since the proposed livestock facility **will utilize wet/dry feeders that significantly reduce manure volume**, the score on Item #25 is **25**.

Master Matrix #26e
Since the proposed livestock facility **will inject or incorporate manure on the same date it is land-applied**, the score on Item #26e is **30**.

If an emergency arises and injection or incorporation of manure is not feasible, prior to land application of manure the applicant will receive a written approval for an emergency waiver from the appropriate DNR field office to surface-apply manure.

Master Matrix #29
Since **no manure from proposed livestock facility will be applied to Highly Erodible Land as classified by the NRCS**, the score on Item #29 is **10**.

All manure application fields are included in the original Manure Management Plan submitted with the construction permit package, and are designated as “non-HEL”.

Master Matrix #31
Since all manure will be injected, the **minimum separation distance to a public use area is 0’**. Since **no public use areas are located within 200’ of manure application fields in the Manure Management Plan**, the score on Item #31 is **5**.

Master Matrix #32

Since all manure will be injected, the **minimum separation distance to educational institutions, religious institutions, and commercial enterprises is 0'**. Since **none of these institutions are located within 200' of manure application fields in the Manure Management Plan**, the score on Item #32 is **5**.

Master Matrix #35

Since all manure will be injected, the **minimum separation distance to HQ water, HWR water, PWA is 0'**. Since **none of these waters or areas are located within 400' of manure application fields in the Manure Management Plan**, the score on Item #35 is **10**.