JES ENVIRONMENTAL SERVICES, INC.
www.jesenv.com

Table of Contents

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Section 1.1 Form B

NOTE: *"Applicant" refers to the legal name of an individual, a corporation, a limited liability company, partnership, or government entity to whom the permit will be issued, if approved. If applicant is an individual, completion of a U.S. Citizenship Attestation form may be required, except when already on file with the Department.* The Applicant is responsible for compliance with all local laws, and for obtaining applicable local, county, and other permits. The Certification below must be signed by the applicant or an authorized representative, as defined below.

CERTIFICATION

I certify that, to the best of my knowledge and belief, I have the authority under the laws of the State of Nebraska to sign this application. I also certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that significant penalties exist for submitting false information, including the possibilities of a fine and imprisonment for knowing violations.

Thomas L Rupert
Printed or Typed Name of Applicant or Authorized Representative

Signature of Applicant or Authorized Representative

Aug 28/2012
Date of Signature

"Authorized Representative" means, for:
A Corporation: a principal executive officer in charge of a principal business function and of at least the level of vice president; or
A Limited Liability Company: a manager or principal executive officer; or
A Partnership: a general partner; or
A Sole Proprietorship: the proprietor; or
A Municipal, state or other public entity: a principal executive officer or ranking elected official

TECHNICAL ADVISOR INFORMATION

NAME OF CONSULTANT OR ADVISOR Jack Sukovaty TITLE OR CERTIFICATION: President

NAME OF COMPANY JES Environmental Services, Inc.

STREET ADDRESS 5535 Wilderness View CITY/STATE/ZIP Lincoln, NE 68512

CONSULTANT PHONE NO.: (402) 423-8054 *(Work)* (402) 310-6028 *(Other: Cell, Home, Fax, etc.)*

Email: jrsuko@hotmail.com

I certify that the design of the livestock waste control facility meets the minimum requirements as outlined in Title 130, "Livestock Waste Control Regulations," of the Nebraska Department of Environmental Quality.

Jack Sukovaty
Signature of Technical Advisor or Professional Engineer

8/31/12
Date of Signature

—Seal of Professional Engineer—
(if required)

—For DEQ Office Use Only—

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Thomas L Rempe Jr
Printed or Typed Name of Applicant or Authorized Representative

Signature of Applicant or Authorized Representative

Aug 28 2012
Date of Signature

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TECHNICAL ADVISOR INFORMATION

NAME OF CONSULTANT OR ADVISOR: Jack Sukovaty TITLE OR CERTIFICATION: President

NAME OF COMPANY: JES Environmental Services, Inc.

STREET ADDRESS: 5535 Wilderness View CITY/STATE/ZIP: Lincoln, NE 68512

CONSULTANT PHONE NO.: (402) 423-8054 *(Work)* (402) 310-6028 *(Other: Cell, Home, Fax etc.)*

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I certify that the design of the livestock waste control facility meets the minimum requirements as outlined in Title 130, "Livestock Waste Control Regulations," of the Nebraska Department of Environmental Quality.

Jack Sukovaty
Signature of Technical Advisor or Professional Engineer

8/31/12
Date of Signature

---Seal of Professional Engineer---
(if required)

PROFESSIONAL AGRICULTURAL ENGINEER
BRADLEY S. WOERNER
E-10921
3/15/2013
STATE OF NEBRASKA

---For DEQ Office Use Only---

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Section 1.2 Form C

NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY
AGRICULTURE SECTION * 1200 N STREET, SUITE 400 * LINCOLN, NE 68509-8922 *
TEL: (402)471-4239 FAX: (402) 471-2909 * WEB SITE: www.deq.state.ne.us

TITLE 130 - FORM C
APPLICANT DISCLOSURE

Reserved for NDEQ Use only

IIS # _____

This Applicant Disclosure is required from all applicants for construction and operating permits, major modifications, transfer requests, National Pollutant Discharge Elimination System (NPDES) individual permits, or requests for coverage under a NPDES General Permit. If additional space is needed for any section, please print, "See Attached," in that section and attach the required information on a separate sheet of paper.

LEGAL NAME OF APPLICANT: Thomas L. Reppert
(Legal name of permittee, i.e.: Legal name of sole proprietor, partnership, limited liability company, corporation, or government entity)

NAME OF ANIMAL FEEDING OPERATION (AFO): *(May be different than Applicant Name given above.)*
Reppert Feeding IIS #68417

AFO LOCATION SE-1/4 (Qtr.), SW-1/4 (Qtr.) 25 (Section), 25 (Township) N, 5 (Range) ☒ E or ☐ W Thurston County

TYPE OF BUSINESS (check one): ☒ Sole Proprietor ☐ Partnership ☐ Limited Liability Company ☐ Corporation ☐ Government Entity

SECTION I – Owner or Authorized Representative Information

In the space provided below, disclose the name, title, address, phone number and email address *(email optional)* of the applicant, partners, owners, members, authorized representative(s), and all corporate officers, directors, and stockholders.

Name	Title or Association with Operation	Address & Phone No. (Email Optional)
Thomas L. Reppert	Owner	
	Street Address:	1245 M Avenue
	City/State/Zip:	Pender, NE 68047
	Phone No.:	402-385-2305 / 402-922-1376
	Email:	tireppert@gmail.com
	Street Address:	
	City/State/Zip:	
	Phone No.:	
	Email:	
	Street Address:	
	City/State/Zip:	
	Phone No.:	
	Email:	

SECTION II – Participation in Other AFOs

In the space below, list the location of all animal feeding operations in Nebraska and other states wholly or partially owned or operated in the past 5 years by the applicant or individual(s) listed in Section I.

Name	Name of Operation	Legal Location of Operation *(Qtr, Section, Township, Range, County, State)*
None		

SECTION III – Livestock Waste Discharges

In the space below, list any livestock waste discharges within the past five years that were not in compliance with permit conditions from any operation in Nebraska wholly or partially owned or operated by the applicant or individuals listed in Section I.

Name of Operation	Location & Legal Description of Operation	Date(s) of Discharge
None		

SECTION IV – Previous Violations of Environmental Laws

In the space below, list all criminal convictions for a violation of §81-1506 of the Nebraska Environmental Protection Act or all felony criminal convictions for violation of the environmental laws of any jurisdiction by any of the individuals listed in Section I. Include the name of the individual, name of the operation, date(s) of violation, and describe the violation. If additional space is needed, please attach a separate sheet of paper.

None

CERTIFICATION

As authorized representative for the animal feeding operation described above, I hereby certify the following:

A. Neither I, nor any of the persons named in Section I, have:

1) Allowed three or more livestock waste discharges to Waters of the State within the past five years that were not in compliance with permit conditions from any operation in Nebraska wholly or partially owned or operated by the applicant and individuals listed in Section I;

2) A criminal conviction for violation of §81-1506 of the Nebraska Environmental Protection Act, or a felony criminal conviction for violation of environmental laws in any jurisdiction.

B. That to the best of my knowledge and belief, I have the authority under the laws of the State of Nebraska to sign this applicant disclosure.

C. Under penalty of law, that the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that significant penalties exist for submitting false information, including the possibilities of a fine and imprisonment for knowing violations. I have completely and accurately disclosed all information required by this form.

D. I understand any misrepresentation or withholding of information may result in rejection of the application or revocation of a permit once issued. I also understand that any misrepresentation on this form may result in civil or criminal penalties provided for by law.

Thomas L Reppert
Printed or Typed Name of Authorized Representative

Signature of Authorized Representative

Aug 28 / 2012
Date of Signature

"Authorized Representative" means, for:

A Corporation: a principal executive officer in charge of a principal business function and of at least the level of vice president; or

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A Sole Proprietorship: the proprietor; or

A Municipal, state or other public entity: a principal executive officer or ranking elected official

NOTE: Applicant is responsible for compliance with all local laws and for obtaining applicable local, county, and other permits.

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Section 1.3 Attestation Form

Note: Effective Oct. 1, 2009, any individual submitting any application or form that would derive public benefit from the state must also fill out this United States Citizenship Attestation Form. This applies to individuals submitting the forms on their own behalf. If applicable, please submit this with the relevant applications and forms.

United States Citizenship Attestation Form

For the purpose of complying with Neb. Rev. Stat. §§ 4-108 through 4-114, I attest as follows:

☒ I am a citizen of the United States.

— OR —

☐ I am a qualified alien under the federal Immigration and Nationality Act, my immigration status and alien number are as follows: _____, and I agree to provide a copy of my USCIS documentation upon request.

I hereby attest that my response and the information provided on this form and any related application for public benefits are true, complete, and accurate and I understand that this information may be used to verify my lawful presence in the United States.

PRINT NAME Thomas Lee Reppert

(first, middle, last)

SIGNATURE Thomas Lee Reppert

DATE August 28, 2012

JES ENVIRONMENTAL SERVICES, INC.
www.jesenv.com

Section 1.4 NDEQ Correspondence/ Permits

Dave Heineman
Governor

STATE OF NEBRASKA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Michael J. Linder
Director
Suite 400, The Atrium
1200 'N' Street
P.O. Box 98922
Lincoln, Nebraska 68509-8922
Phone (402) 471-2186
FAX (402) 471-2909
website: www.deq.state.ne.us

AUG 0 1 2012

Tom Reppert
Tom Reppert Livestock
1241 "M" Avenue
Pender, NE 68047

RE: Tom Reppert Animal Feeding Operation
NDEQID: 68417
Program ID: LWC 55-1004
Subject: **Request for Extension**
SW ¼, Section 25, Township 25N, Range 05E, Thurston County

Dear Mr. Reppert:

Your request for an extension of the compliance date for submitting an application was reviewed by Department of Environmental Quality (Department) staff. The Department grants your request, and is extending the compliance date to **October 1, 2012**. All other requirements still apply, as outlined in the Department's letter dated May 9, 2011.

If you have any questions, please contact Derek Schreiter at (402) 471-8132 or myself at (402) 471-0282.

Sincerely,

Jon Kenning, Supervisor
Permits & Compliance Unit Supervisor
Agriculture Section
Water Quality Division

STATE OF NEBRASKA

Dave Heineman
Governor

DEPARTMENT OF ENVIRONMENTAL QUALITY
Michael J. Linder
Director
Suite 400, The Atrium
1200 'N' Street
P.O. Box 98922
Lincoln, Nebraska 68509-8922
Phone (402) 471-2186
FAX (402) 471-2909
website: www.deq.state.ne.us

MAY 0 9 2011

Tom Reppert
Tom Reppert Livestock
1241 "M" Avenue
Pender, NE 68047

RE: Tom Reppert Animal Feeding Operation
NDEQID: 68417
Program ID: LWC 55-1004
Subject: **Construction and Operating Permit Required**
SE ¼, SW ¼, Section 25, Township 25N, Range 05E, Thurston County

Dear Mr. Reppert:

A livestock waste control facility (LWCF) is required for the above existing animal feeding operation. This determination is based on an inspection conducted on April 14, 2011 by Derek Schreiter from the Department of Environmental Quality in accordance with Title 130, *"Livestock Waste Control Regulations."*

A completed application (original and **five** copies) for a Construction and Operating Permit must be submitted to the Department **prior to February 1, 2012**. The Department has up to 110 days from receipt of the application to approve or deny the application. **A Construction and Operating Permit is required before LWCF construction begins.**

The submitted application must meet the minimum requirements outlined in Title 130. The enclosed "Form C - Applicant Disclosure" also must be submitted with the application. An application fee of $200 is required. The application must be signed by the applicant.

Additional information and a copy of Title 130 are enclosed for your use. Copies of other guidance documents are available by request, or can be obtained from the Department's website at *www.deq.state.ne.us*.

If you have any questions, please feel free to contact Derek Schreiter at (402) 471-8132 or Jon Kenning, Permits and Compliance Unit Supervisor, at 402-471-0282.

Sincerely,

Dennis Heitmann

Dennis Heitmann, Supervisor
Agriculture Section
Water Quality Division

7/2010

LIVESTOCK PROGRAM APPROVAL SLIP

TYPE OF LETTER: **CONSTRUCTION & OPERATING PERMIT REQUIRED**

OPERATION: Tom Reppert IIS #: 68417

DRAFTER: D. Schreiter PROGRAM ID #: 55-1004

DATE: 5-4-11

LEGAL DESCRIPTION: SE, SW, Sec. 25, T25N, R05E, Thurston County

REVIEWED BY:	NAME	INITIALS	DATE
	Jon Kenning	JK	5/9/11
	Dennis Heitmann	DH	5/9/11

COMMENTS: (Add Comments Here)

Enclosures to Operation:

X	AFO Categories and Fees
X	Additional Requirements for CA/NPDES
X	Form C (Applicant Disclosure)
X	Title 130 (1/1/2008)
X	PE/TA Listing

Other Documents/Copies:

Letter:

[X] Program Specialist = Derek

Enclosures to Consultant(s):

NONE

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Section 1.5 Chemical Management Plan

February 2005

Chemical Management Plan - Supplement

OPERATION INFORMATION:

For NDEQ use

Tom Reppert Livestock

1245 M Avenue

Pender, NE 68047

Phone No. 402-385-2305

IIS No. 68417 (if known)

Does your operation store chemicals (insecticides, herbicides or other pesticides or disinfectants) on or adjacent to the animal feeding operation (including chemicals used for farming practices as well as livestock production)? ☐ **Yes** X **No**

If yes, indicate the area chemicals are stored on a site map or describe the storage area location(s)
☐ Area indicated on attached site map. ☐ Description of storage area location(s)

If pesticides are mixed or loaded into application equipment on site please indicate the location where this normally occurs. Normal location of mixing/loading

Does your operation store petroleum products, fuels, lubricants or oils, used oils or antifreeze on or adjacent to the animal feeding operation? **X Yes** ☐ **No**

If yes, indicate the area chemicals are stored on a site map or describe the storage area location(s)
Fuel barrels located south of machine shed, east portion of yard, not near LWCF.

NOTE: If used, be sure to attach an aerial photo or site map showing the location of storage areas and mixing/loading area.

DISPOSAL OF CHEMICALS IN THE LIVESTOCK WASTE CONTROL FACILITY IS PROHIBITED.

Additional information on chemical management for pesticides is available through Nebraska Department of Agriculture and UNL Extension.

For additional information on bulk fuel storage contact the Nebraska State Fire Marshal.

Tom Reppert
**Printed or typed name of Authorized Representative*

_____ Date: _____
**Signature of Authorized Representative*

**Signature not required if supplement submitted within a complete application.*

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Section 1.6 Mortality Management Plan

February 2005

Livestock Mortality Management Plan - Supplement

OPERATION INFORMATION:

Tom Reppert Livestock
1245 M Avenue
Pender, NE 68047
Phone No. 402-385-2305

IIS No. 68417 (if known)

For NDEQ use

INDICATE YOUR PRIMARY AND SECONDARY MEANS OF CARCASS DISPOSAL.

Primary:	☐ Burial	**X** Render	☐ Compost	☐ Incinerate	☐ Landfill
Secondary:	☐ Burial	☐ Render	☐ Compost	☐ Incinerate	☐ Landfill

IS TEMPORARY ON-SITE STORAGE USED? ☐ **Yes** **X No**

If Yes, indicate the means used to control runoff from the temporary storage area:

Area controlled by Livestock Waste Control Facility:	☐ Yes	☐ No
Carcasses containerized or covered (tarped):	☐ Yes	☐ No
Storage area controlled by berms or diversion:	☐ Yes	☐ No
Controlled by other means or practices:	☐ Yes	☐ No

If Yes, please describe the other means or practices:
Description of how the runoff is controlled

Attach an aerial photo or site map showing the location and extent of temporary storage areas, burial sites or compost sites.

DISPOSAL OF ANIMAL CARCASSES IN THE LIVESTOCK WASTE CONTROL FACILITY IS PROHIBITED.

Additional information on mortality management is available through Nebraska Department of Agriculture.

Tom Reppert
**Printed or typed name of Authorized representative*

_____ Date:_____
**Signature of Authorized Representative:*

**Signature not required if supplement submitted within a complete application*

Section 2.1: Nutrient management Plan Narrative

TOM REPPERT LIVESTOCK
NDEQ ID # 68417

NUTRIENT MANAGEMENT PLAN

Facility Description:

The Tom Reppert Livestock Operation is located in SW 1/4, Sec 25, T25N, R5E of Thurston County, Nebraska. The feedlot is an existing operation with additional pen space planned. The feedlot is well-managed and will have a phased construction plan to establish a waste control system. The feedlot is in the process of applying for a State Operating Permit and a NPDES permit for 1,500 head. Feed storage and pens are to be controlled.

Animal Capacity:

PHASE	OPERATION TYPE	ANIMAL TYPE	ONE-TIME HEAD COUNT	AVERAGE WEIGHT (POUNDS)
Final	Open Lot	Feeder Cattle	1,500	900

Manure Production and Nutrients Available:

The "Manure Nutrient and Land Requirement Estimator" from the University of Nebraska-Lincoln (UNL) Cooperative Extension was used to determine nutrients excreted, storage and application losses, crop nutrient removal, and acres required for utilization at agronomic rates for nitrogen

Acres Required for Nitrogen-Based Plan: 372 acres
Acres Required for Phosphorous-Based Plan: 680 acres

Manure Application Site Information:

Section 3 contains detailed information on each application site including site map, soil types, topography, setbacks and other application information. A summation table is also provided.

Total Acres Available for Manure/Process Wastewater Application:

IRRIGATED CROPLAND:	0.0
Dryland Cropland:	826.1
Total:	826.1

Historic crop yields for Thurston County are provided in Section 3 of this document.

Abandonment Plan:

In the event the operation is discontinued, specific abandonment procedures will be followed to assure that environmental concerns will be addressed. All liquids contained in the holding pond will be pumped and dewatered onto approved and designated land application areas specified. Pumping will be consistent with proper management to insure holding pond liner integrity. Sludge and solids will be removed from the holding pond, basin and pen area consistent with the operational plan. All manure, solids and liquids will be analyzed for nutrient content (including total nitrogen, organic nitrogen, NH_4-N, P_2O_5, K_2O and % moisture) and applied to designated areas consistent with recommended agronomic practices and the nutrient management plan. Sampling procedures will follow UNL guidance.

Application of liquids will be accomplished through volume gun irrigation distribution systems. Solids and sludge will be spread onto designated and approved application areas via mechanical spreader or custom truck spreaders.

Once all manure (liquids and solids) have been removed from the waste control system and pen area, the areas will be converted to cropland and crops (corn or soybeans) will be grown to utilize any remaining nutrients in the soil. Total abandonment of the facilities will include leveling and filling of the basin and holding pond or allowing the holding pond to

capture clean water runoff from the cropland areas and reused as irrigation water to augment crop production. The NDEQ will be notified of the initiation and completion of the abandonment procedures.

Operation and Maintenance Procedures:

The livestock waste control facilities will be managed in a manner to insure proper functioning of the complete system and minimize odors. The holding pond and associated facilities will be visually monitored for capacity on a weekly basis and/or after each runoff and pump-down event and emptied on an as needed basis. Any specific monitoring requirements as specified in the NDEQ Operating Permit will also be addressed. The holding pond will be pumped down on dewatering days to allow for the containment of a 25 year-24 hour storm event and 1.5 feet freeboard at all times. In addition, the pond will be pumped to allow for winter storage (minimum design capacity and 180 day storage) prior to the winter months to allow for cold weather runoff control when land application may not be practical. Stage storage tables are provided.

Collected pen manure and holding pond effluent will be land applied to designated application areas. Consideration as to specific conditions (wind direction, soil moisture, humidity, etc.) will be evaluated prior to any land application.

Pens will be cleaned and scraped on a regular basis to promote good drainage and void the pens of standing water which may produce odor and flies. Spilled feed and grain and any spoiled hay will be removed and disposed of to also prevent odor and fly production.

Liquids from the holding pond will be applied to adjacent cropland and consideration to wind direction, velocity and climatic conditions. Any minor maintenance on structures will be corrected and repaired as needed. Any areas where soil is disturbed will be established with a vegetative grass cover. This cover will be mowed and maintained.

Records of precipitation events will be used to document annual precipitation and aid in liquid waste application planning. In addition, if a chronic wet period or catastrophic rainfall event would occur directly subsequent to land application, it will serve as a record should any runoff or discharge occur from a land application site or the waste control facilities.

Land application records will track the application of manure, site specific and include location, amount, date of application, type of application method and any specific comments to that site.

Facility inspection reports will be used as guidance for the owner/staff to inspect and monitor the facility and review specific key components of the facility.

Precipitation logs, land application records, manure transfer and all facility inspection reports will be maintained at the site. Record keeping forms and inspection forms are provided. All records will be maintained at the Tom Reppert Feedlot office for five years and are available to the Department of Environmental Quality upon request.

Mortality stock will be screened from public view and removed as needed and as soon as possible by a local rendering service. A rodent and vector control program is practiced. Chemicals or pesticides used onsite are not introduced into the livestock waste control system. Product label directions will be followed.

Biosecurity Plan:

Biosecurity at the feedlot will be/is enforced via non-entry by any unauthorized personnel, vehicles and [illegible] protocol. The site is gated and areas controlled. Biosecurity guidance outlined in UNL publication is enclose[illegible]

PROFESSIONAL AGRICULTURAL E[illegible]
BRADLEY S. WOERNER
E-10921
STATE OF NEBRASKA

Mortality Management:

Mortality stock will be screened from public view and rendered. The NDEQ mortality management plan is provided [illegible] primary plan. Any catastrophic mortality events will be addressed as needed in cooperation with the Department of Agriculture and the NDEQ to minimize any impact to the environment and water quality.

Spill Response Plan:

Any spills or releases will be addressed immediately to prevent or minimize any environmental impact. Pay loaders, tractors, blade and front-end loaders are available as equipment to address any needed emergency response and spill containment. This equipment is housed at the livestock facility. Should any situation develop such as a power outage, broken water line or severe storm to create and cause a spill of animal waste from the facility or application areas, the management will respond as soon as is practical and possible to minimize any environmental and safety concerns. The operation will have one person on call at all times to respond to any spill or discharge.

If a problem occurs on a roadway with a manure or truck spreader (i.e. blown tire, upset, rupture), the equipment will be stopped and repaired. Any spill will be contained in road ditch if possible through berm or dike construction with blade or front end loader. Any contained effluent will be transferred into a second tank wagon or loaded onto a second manure spreader and as much as possible will be collected. If a road hazard exists, the local sheriff's office (Thurston County, 402-385-3018) will be contacted. Any reportable discharge or spill will be reported to the NDEQ office (402-471-2186) within 24 hours of the event and subsequently reported in writing within five days of the incident. The report of any discharge will include location, time and date discharge occurred, estimate of amount of waste discharge, type of waste and corrective response actions taken. The Department's Livestock Waste Discharge Notification form is referenced here and will be used as guidance for reporting.

If a custom applicator is hired to apply the holding pond effluent, staff will be onsite to oversee the application procedures. In the event of a broken or ruptured line, the pump power unit at the pit will be shut down. Any broken line will be repaired prior to start-up. Any manure discharged by the rupture will be contained, collected in a tank wagon if possible, and land applied. Any discharge to waters of the state will be reported under the protocol previously mentioned.

If an irrigation line should rupture or discharge during effluent distribution from the holding pond, the power unit will be shut down immediately. Any discharge will be contained on the owner's property with the use of onsite equipment (i.e. tractor, blade, loader). Repairs to any line will be completed prior to reapplication.

Any catastrophic berm failure will be addressed immediately with onsite equipment. The failure will be temporarily repaired and a contractor will be retained to make permanent repairs. The Department will be notified via spill response protocol previously mentioned. Any repair work and berm reconstruction will adhere to NDEQ Title 130 requirements.

Nutrient Management:

Feedlot production waste from this operation is scraped from pens and cleaned from debris basins, pumped from the holding pond and land applied for nutrient utilization. The land application areas are dryland cropland and planted to a corn-corn or corn-soybean rotation. The accompanying land estimator addresses land application area and rate of waste application.

The generated manure produced from this feedlot operation will be applied according to University of Nebraska guidelines and based on realistic yields, residual nutrients found in soil tests, and credits from organic waste, legumes, and others. Nutrients will be land applied in order to manage the amount, form, placement and timing of application in order to obtain optimum nutrient utilization by crops and minimize leaching and runoff of nutrients into surface or groundwater. Reference is made to enclosed NRCS annual nutrient budget worksheet and guidance (#590 and CPA-38). These job sheets will be completed for each application area on an annual basis.

The solid manure and liquid effluent will be applied to the available cropland with manure spreaders and volume gun or traveling gun irrigations systems. A majority of the waste will be applied in the fall after harvest. An inventory of waste handling equipment is provided.

Any solid and effluent waste will be collected and analyzed for total and organic nitrogen, NH_4-N, P_2O_5, K_2O and % moisture prior to any land application. A representative sample of the waste will be collected for analysis. UNL guidance for manure sampling and analysis will be followed.

Application amount will be based on nutrient content in the organic waste, crop nutrient needs, and other nutrient credits according to University of Nebraska guidelines. All applications of organic waste will be in accordance with NDEQ and

any local laws and ordinances. The O&M plan shall comply with all state/local laws, ordinances and regulations, including a schedule of periodic inspections and maintenance of equipment and facilities used in waste utilization.

The total acres of land application area are adequate to accommodate nitrogen production from the manure production for the Tom Reppert Feedlot operation and shows a nitrogen deficit. Soil nutrient analysis and manure nutrient analysis results will be used in conjunction with the projected yield goal and/or fertilizer recommendations to determine specific application rates of manure per site based on NRCS or UNL recommendations. Nitrogen addition from manure is total nitrogen and is approximately 35-50% available the first year of application. Following years' availability is reduced to approximately 3-5% by the third year, then remains constant.

Manure Application & Transfer Equipment Inventory:

EQUIPMENT TYPE & DESCRIPTION	CAPACITY (GPM, TONS/LOAD, ETC.)	OWNED, LEASED OR COMMERCIAL APPLICATOR	MANURE STORAGE SYSTEM SERVED
Manure Spreaders (1)	18 tons	Owned	Pens
Tractors (3)	160 hp+	Owned	Pens/Stockpiles
Scraper (1)	~10 ft.	Owned	Pens
Payload loaders (1)	5 ft.^{3}	Owned	Pens/ Stockpiles
Pump (multiple)	~600 gpm	Owned	Holding pond

The Waste Storage worksheet, included as part of this application provides estimated quantities of manure. It is estimated the operation will annually produce approximately 296,276 cubic feet of manure per year

Application Rates/Timing:

The Tom Reppert Feedlot will distribute effluent retained from the holding pond to adjacent land application areas via sprinkler irrigation equipment. A 600 gpm pump is used to transport the holding pond liquids. The pump will be position on the holding pond berms as needed to augment dedicated pumping stations. Effluent will be distributed to the distribution point via 6" & 8" lines. This is a total disconnect system and there is no connection to any water well. The solid manure will be scraped, stockpiled and eventually hauled from the area and land applied. Application rates will be consistent with nutrient maximization and soil conditions.

The accompanying spreadsheets and field maps indicate manure application areas utilized by the Feedlot and reference location, acres, soil characteristics and other site specific information.

Cropping practices on the application areas include primarily dryland corn and soybeans. Five-year Thurston County average yields are enclosed.

Manure and effluent samples will be collected and analyzed for total nitrogen, organic nitrogen, NH_4-N, P_2O_5, K_2O and % moisture prior to land application. At least two different grab samples of the solid manure and holding pond effluent will be collected for analysis on an annual basis.

Nutrient and waste application will be applied according to University of Nebraska guidelines and based on realistic yields, residual nutrients found in soil tests, and credits from organic waste, legumes, and others. Nutrients will be applied in order to manage the amount, form, placement and timing of application in order to obtain optimum nutrient utilization by drops and minimize leaching and runoff of nutrients into surface or groundwater. Refer to NE-CPA-38 Annual Nutrient Budget Management Plan Jobsheet, Nebraska Conservation Planning Sheet No. 11 (Nutrient Management) and Neb Guide G91-100A is provided for additional information. A narrative approach based on 590 Practice Standards (enclosed) is used.

The livestock waste will be applied to manage the amount, placement, location, and timing of application in order to obtain optimum nutrient utilization by crops and minimize any contamination of surface and ground water. Application amounts will be based on nutrient content in the waste, crop nutrient needs, and other nutrient credits according to the University of Nebraska guidelines. All application of waste will be in accordance with state and local laws and ordinances.

Runoff Volume generated at the feedlot can only be estimated and is directly related to precipitation, storm duration, climatic conditions and other environmental factors. For the sake of explanation it is estimated the holding pond will be totally emptied an average of 1.5 times per year. Using this example it would require the dewatering of approximately 4.0" of effluent applied per acre not allowing for any evaporation over the rear, reasonable for growing season application and post harvest application. Assuming a 600 gpm pump rate equates to 300 hours of pumping this is a reasonable amount of time over the growing seasons and post-harvest application.

Soil Sampling and Analysis Procedures:

Soil samples will be collected and prepared following University of Nebraska Nebguide G1740 "Guidelines for Soil Sampling." Sampling and labeling methods shall be consistent from year to year. Soil analysis will be performed on all application areas a minimum of once every five years for phosphorus and every year for nitrogen. Expanded analysis will include pH, K_20 and CEC when needed to comply with 590 standards. All areas will be sampled on 40 acres or less per sample analysis. Field samples will represent soil probe composite samples collected and based on field size. Samples will be collected 0-8 inches for phosphorus and 0-8 and 8-24 inch sample depth for nitrogen analysis. Test methods include Bray P1 procedure for determination of phosphorus or other method as determined by the soils lab due to local soil characteristics. Soil sample collection will be conducted in the fall of the year after harvest and follow UNL sampling procedures (enclosed).

Nitrogen fertilizer recommendations are based on the amount of nitrate-nitrogen in the root zone determined from subsurface samples, as well as organic matter content in surface samples. For this reason, subsurface samples to a minimum depth of 24 inches will be collected and analyzed for nitrate-nitrogen, in accordance with UNL guidelines. A qualified individual may elect to use an alternative 24-inch depth based on cropping practices, topography, etc.

A qualified laboratory will perform the chemical analysis and will determine the method of chemical analysis. The method will be stated on results/reporting forms.

Manure and Effluent Sampling and Analysis Procedures:

Manure samples will be collected and prepared following University of Nebraska Nebguide G1450 "Sampling Manures for Nutrient Analysis." Manure will be sampled and analyzed annually for total, organic and ammonium nitrogen K_20, % moisture and phosphorous content, prior to land application. Sampling methods shall be consistent from year to year. UNL guidance is provided.

A qualified laboratory will perform the chemical analysis and will determine the method of chemical analysis. The method will be stated on results/reporting forms.

Cropping History and Alternate Cropping Practices:

Cropping practices will be done on a theoretical five-year timeline. Most of the cropping practices for this operation will include the following rotations. Corn listed may either be for grain or for silage.

Practice	Year 1	Year 2	Year 3	Year 4	Year 5
Option 1*	Corn	Corn	Corn	Corn	Corn
Option 2*	Soybeans	Corn	Soybeans	Corn	Soybeans

Due to the unpredictability of climate, economics, and new research indicating environmental benefits of different cropping practices, and introductions of new hybrids, some or all of the above rotations may change or be supplemented with an alternate crop. Any changes to the cropping practices will be calculated on reputable guidance and documentations provided by approved agencies (i.e. UNL extension office, NRCS).

Section 2.2 Cropping history and 5 Year plan

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Nutrient Planning 5 Year Example Inputs

Manure Analysis Information

Producer	
Operation Name	Reppert Livestock
Operation Site legal	
County	Thurston
Operation Type	Open Lot
Operation Size	Large

Crops Grown					
Goal is 105% of 5 year average		Irrigated		Dryland	
		5 yr. Ave	Goal	5 yr. Ave	Goal
Corn			0.00	165	173.25
Soybeans			0	48	50.40
Corn Silage			0		0
Other:			0		0
Other:			0		0
Other:			0		0

* source usda data query for the past 5 years

	Actual	Averages For Nebraska Defaults			
	In/ac.	East	Central	West	Panhandle
Average Irrigation		6	9	12	15

8 use if irrigation water is >10 ppm in nitrogen

takes application rate * subtotals on typical Nutrient content table						
Application Rate Dryland				*Ammonium-N* lbs/ac	*Organic-N lbs/ac*	P_2O_5 *lbs/ac*
Manure			gal/ac	0	0	0
Manure		8	ton/ac	8	44	174.8
Effluent			In/ac	0	0	0

takes application rate * subtotals on typical Nutrient content table						
Application Rate Effluent application				*Ammonium-N* lbs/ac	*Organic-N lbs/ac*	P_2O_5 *lbs/ac*
Manure			gal/ac	0	0	0
Manure			ton/ac	0	0	0
Effluent		2	In/ac	7.1	5.6	4.7

Typical nutrient content of manure		*% Dry Matter*	*Nitrogen*		
			Ammonium-N	*Organic-N*	P_2O_5
	Slurry Manure		(lbs. of nutrient per 1,000 gallons of		
Choose Nutrient type		0	0	0	0
Losses			0.00%	0.00%	0.00%
		Sub Totals	0.00	0.00	0.00
	Solid Manure		(lbs. of nutrient per ton of manure)		
Choose Storage	Beef (dirt lot)	0	2	22	23
Choose Storage	Not incorperated	Beef/Dairy Feedlot	50.00%	25.00%	95.00%
		Sub Totals	1.00	5.50	21.85
	Liquid Effluent from lagoon or holding pond		(lbs. of nutrient per acre-inch)		
Choose Nutrient type	Beef (runoff holding pond)	0	71	8	47
Choose Storage	Not incorperated	Beef/Dairy Stored Liquid	5.00%	35.00%	5%
		Sub Totals	3.55	2.80	2.35

Value based upon ASAE, 2005, D384.2, Manure Production and Characteristics with exception of those "*".

Actual, Or alternative from table listed, i.e. Nutrient land estimator		*Dry Matter*	Accruals if known		
			(lbs. of nutrient per 1,000 gallons of		
	Slurry Manure		(lbs. of nutrient per 1,000 gallons of		
Choose Nutrient type		0			
Choose Storage for % Retained			0%	0%	0%
		Sub Totals	0.00	0.00	0.00
	Solid Manure		(lbs. of nutrient per ton of manure)		
Choose Storage		0			
Choose Storage			0%	0%	0%
		Sub Totals	0.00	0.00	0.00
	Liquid Effluent from lagoon or holding pond		(lbs. of nutrient per acre-inch)		
Choose Nutrient type		0	10		
Choose Storage			0%	0%	0%
		Sub Totals	0.00	0.00	0.00

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Table 2.1
Nutrient Planning 5 Year Example
Tom Reppert Livestock
NDEQ ID # 68417

A	B	C	D	E	F		G	H	I	J	K	L	M	N	O	P	Q	R		S	T	U	V	W
All Figures are Estimated. This Table is for planning purposes only, actual may be different at which time adjustments should be made to long term plan																								
Field Information							NITROGE PLANNING															PHOSHORUS PLANNING		
Field ID # or Field Group	Year	Crop	Irrigated acres	Dryland Acers	Realistic Yield Goal (5 yr ave *105%) bu/ac or tons per acre for silage, hay, pasture	Manure application planned, Yes, No	Soil Sample accounting for N from all sources (lb/Ac) For cropping year	Nitrogen Credits from previous year if soil test does not account for them: Soil N Residue (lb/Ac)	Nitrogen Credits from previous year if soil test does not account for them: O.M Credit (lb/ac) (OM% * CY * .14) From previous year crop. O.M. default 2%	Nitrogen Credits from previous year if soil test does not account for them: Legume previous year N credit (lb/ac)	Nitrogen Credits (lb./ac) estimates if soil test does not account for them: 2nd year Availability from Manure (15% of Organic-N)	Nitrogen Credits (lb./ac) estimates if soil test does not account for them: 3rd year Availability from Manure (7% of Organic-N)	Nitrogen Credits (lb./ac) estimates if soil test does not account for them: 4th year Availability from Manure (4% of Organic-N)	Sum of all N Credits (lb/ac)	Crop uptake For N (40 lbs/ac is added for corn per s-590)	Needs for N after credits removed *	Irrigation Water N (lb/ac) only if >10ppm	N (lb/ac) Available from Manure	Commercial Nitrogen plan to be applied (Yes, No)	Proposed Commercial N (lb/ac)	N (lb/ac) Balance for the year	Crop Removal	P (lb/ac) From Manure	Planned Commercial P (lb/ac)
Group 1 Dryland	0	Soybeans		726	50.4																			
	1	Corn		726	173.3	Yes		30.0	14.1	45.0				89.1	243.1	154.0	0.0	52.0	Yes	102.0	0.0	81.2	174.8	0.0
	2	Soybeans		726	50.4	NO		30.0	48.5		26.4			104.9	113.4	8.5	0.0	0.0	NO	0.0	-8.5	26.7	0.0	0.0
	3	Corn		726	173.3	Yes		30.0	14.1	45.0		12.3		101.4	243.1	141.6	0.0	52.0	Yes	89.6	0.0	81.2	174.8	0.0
	4	Soybeans		726	50.4	No		30.0	48.5		26.4		7.0	112.0	113.4	1.5	0.0	0.0	NO	0.0	-1.5	26.7	0.0	0.0
	5	Corn		726	173.3	Yes		30.0	14.1	45.0		12.3		101.4	243.1	141.6	0.0	52.0	Yes	89.6	0.0	81.2	174.8	0.0
																		5 Year balance			-9.9			
Group 2 Dryland/Effluent	0	Corn		100	173.3																			
	1	Corn		100	173.3	Yes		15.0	48.5		1.2			63.5	243.1	179.6	0.0	12.7	Yes	166.9	0.0	62.5	4.7	0.0
	2	Corn		100	173.3	Yes		15.0	48.5		1.2			64.7	243.1	178.4	0.0	12.7	Yes	165.7	0.0	81.2	4.7	0.0
	3	Corn		100	173.3	Yes		15.0	48.5		1.2	0.6		65.3	243.1	177.8	0.0	12.7	Yes	165.1	0.0	81.2	4.7	0.0
	4	Corn		100	173.3	Yes		15.0	48.5		1.2	0.6	0.3	65.6	243.1	177.5	0.0	12.7	Yes	164.8	0.0	81.2	4.7	0.0
	5	Corn		100	173.3	Yes		15.0	48.5		1.2	0.6	0.3	65.6	243.1	177.5	0.0	12.7	Yes	164.8	0.0	81.2	4.7	0.0
																		5 Year balance			0.0		5 Year balance	

Group 1: Dryland #2-9
Group 1: Effluent field # 1

*** values above are allowed a +/- 15% tolerance**

**Please note that this is a projection for cropping practices. This is to add some detail to the narrative approach. This is not a liner approach meaning the producer is by no way bound to this example and may substitute any other alternative crop, manure application amount based on manure samples, Soil samples, or other observations, as long as nutrients are applied at suggested agronomic rates by guidance from but not limited to the following sources (crop consultant, UNL guidance, agronomist, environmental consultant)

* all figures and calculations are from NRCS 590, NebGuide 1335(2006 version),EC117 from UNL extension office, NebGuid G97-1335-A and or Role of plants in Waste management
* all figures are estimations and this document should not implicate the producer in any way for deviating from this example, example may not be exact on figures.

Column Explanation, Calculations, and Sources For Nutrient Planning 5 year example table 2.2		
Colum	Calculation or explanation	Source
A	Field group, or individual field label	Field application maps
B	Year in the five year rotation	Producer
C	Crop associated with that year	Producer
D	Acers in the field or group that is irrigated	Field application maps
E	Acers in the field or group that is Dryland	Field application maps
F	Realistic Yield goal from USDA 5 Year average	USDA
G	If an all inclusive soil sample is available this will be used instead of all the credits being calculated	Soil Sample
H	Soil N residue if unknown 30 will be used for crops and 15 for pastur	If no Soil Sample
I	O.M Credit (lb/ac) (OM% * CY * .14) From previous year crop. O.M. default 2%	S-590 page 4, Section 6.b.ii
J	Legume previous year N credit (lb/ac)	S-590
K	2nd year Availability from Manure (15% of Organic-N)	NebGuide G1335 "Determining Crop Available Nutrients from Manure; Table 1 & Figure 1.
L	3rd year Availability from Manure (7% of Organic-N)	NebGuide G1335 "Determining Crop Available Nutrients from Manure; Table 1 & Figure 1.
M	4th year Availability from Manure (4% of Organic-N)	NebGuide G1335 "Determining Crop Available Nutrients from Manure; Table 1 & Figure 1.
N	Sum of all N Credits (lb/ac)	sum(h,I,j,k,l,m,n)
O	Crop uptake For N (*)	Role of plants in waste management: s-590 pg 5, sec. 6.c.i
P	Needs for N after credits removed *	O-N
Q	Irrigation Water N (lb/ac) only if >10ppm	s-590 6.b.iii.4
R	N (lb/ac) Available from Manure	N from current year, Nutrient Planning 5 Year Example Inputs application rate table
S	Planned Commercial N (lb/ac)	P-Q-R
T	N (lb/ac) Balance for the year	P-Q-R-S
U	Crop Removal	Role of plants in waste management , Calc on uptake page
V	P (lb/ac) From Manure	P from current year, Nutrient Planning 5 Year Example Inputs
W	Planned Commercial P (lb/ac)	Producer input
X	P(lb/ac) Balance For the year	W+V-U

Crop Uptake For Existing And Alternate Crops Table 2.3

5 Year Average or any avlible data	YG = year ave *105%	Crop	Units	%N	%P	%K	Conversion Dry wt. Lb/Bu, or LB/Ton	N Efficiency	N LBS/AC, Corn add 40 lbs. per S-590	P LBS/AC* by 2.3 to get P_2O_5
a	b	c	d	e	f	g	h	i	j	k
Input	Ave*105%								b*h*e*i	b*h*f*2.3
0.00		Corn (Irrigated)	bu/ac	1.61%	0.28%	0.40%	56	1.3		
0.00		Soybeans (Irrigated)	bu/ac	6.25%	0.64%	1.90%	60	0.6		
165.00	173.25	Corn (Dryland)	bu/ac	1.61%	0.28%	0.40%	56	1.3	243.1	62.5
48.00	50.40	Soybeans (Dryland)	bu/ac	6.25%	0.64%	1.90%	60	0.6	153.4	44.5
		Alfalfa Haylage, mid-bloom	tons/ac	2.25%	0.22%	1.87%	2000	0.5		
		Alfalfa mid-bloom	tons/ac	2.31%	0.20%	1.87%	2000	0.5		
		Barley	bu/ac	1.80%	0.31%	0.43%	48	1.3		
		Barley Straw	tons/ac	0.64%	0.06%	-	2000	1		
		Birdsfoot trefoil	tons/ac	2.16%	0.20%	-	2000	0.5		
		Bluestem, early heading	tons/ac	1.09%	0.13%	-	2000	1		
		Bluestem, mature	tons/ac	0.40%	0.06%	-	2000	1		
		Brome Grass	tons/ac	1.96%	0.24%	2.55%	2000	1		
		Buckwheat	bu/ac	1.67%	0.31%	-	48	1.3		
		Clover, red	tons/ac	2.04%	0.20%	-	2000	0.5		
		Corn Silage	tons/ac	0.45%	0.07%	0.38%	2000	1		
		Corn Stover	tons/ac	0.89%	0.08%	-	2000	1		
		Dry Beans	cwt/ac	4.10%	0.48%	0.86%	100	1		
		Fescue, Tall, full-bloom	tons/ac	1.76%	0.27%	-	2000	1		
		Millet	cwt/ac	1.86%	0.28%	-	100	1.3		
		Millet, foxtail	tons/ac	1.17%	0.16%	-	2000	1		
		Oat Straw	tons/ac	0.64%	0.06%	-	2000	1		
49	51.45	Oats	bu/ac	1.88%	0.32%	0.49%	32	1.3	80.2	12.1
59	61.95	Oats	bu/ac	1.88%	0.32%	0.49%	32	1.3	88.4	14.6
		Orchardgrass, late-bloom	tons/ac	1.14%	0.26%	-	2000	1		
		Popcorn (grain)	cwt/ac	1.80%	0.26%	-	100	1		
		Potatoes	tons/ac	0.35%	0.06%	0.52%	2000	1		
		Prairie hay, mature	tons/ac	0.72%	0.12%	-	2000	1		
		Reed canary grass	tons/ac	1.40%	0.20%	-	2000	1		
		Rye	bu/ac	1.96%	0.31%	-	56	1.3		
		Rye Straw	tons/ac	0.43%	0.08%	-	2000	1		
		Small grain hay, boot	tons/ac	1.70%	0.26%	-	2000	1.3		
		Small grain hay, dough	tons/ac	1.09%	0.24%	-	2000	1.3		
		Small Grain Silage, dough	tons/ac	0.45%	0.10%	0.38%	2000	1		
		Sorghum	bu/ac	1.60%	0.31%	0.42%	56	1		
		Sorghum Silage	tons/ac	0.45%	0.07%	-	2000	1		
		Sorghum Stover	tons/ac	0.68%	0.09%	-	2000	1		
		Sorghum-Sudan Silage	tons/ac	0.52%	0.06%	0.73%	2000	1		
		Soybean hay	tons/ac	1.14%	0.28%	-	2000	0.5		
		Soybean Stover	tons/ac	0.79%	0.02%	-	2000	0.5		
		Sugar Beet Roots	tons/ac	0.18%	0.04%	0.14%	2000	2		
		Sugar Beet Tops	tons/ac	0.28%	0.03%	-	2000	1		
		Sunflower	lbs/ac	2.91%	0.57%	1.11%	1	1.3		
		Sweet Corn	cwt/ac	0.89%	0.24%	0.58%	100	1		
		Switch grass	tons/ac	1.09%	0.13%	-	2000	1		
		Timothy, mid-bloom	tons/ac	1.32%	0.20%	-	2000	1		
		Vetch, hairy	tons/ac	2.83%	0.29%	-	2000	0.5		
		Wheat	bu/ac	2.00%	0.37%	0.52%	60	1.3		
		Wheat Grass	tons/ac	1.00%	0.13%	2.68%	2000	1		
		Wheat Straw	tons/ac	0.51%	0.05%	-	2000	1		

Source: Role of plants in waste Management, Agricultural waste management Field hand book, Table 6-6.

National Agricultural Statistics Service

QuickStats

Alternative crop yields

Crop	Average of Yield 2005-2011	
Barley All	68.66	bushel
Beans Baby Lima	2374.29	pounds
Beans Black	1913.69	pounds
Beans Blackeye	1791.88	pounds
Beans Cranberry	1642.77	pounds
Beans Dark Red Kidney	1740.65	pounds
Beans Dry Edible	1836.45	pounds
Beans Great Northern	2056.61	pounds
Beans Large Lima	2197.14	pounds
Beans Light Red Kidney	1886.98	pounds
Beans Navy (Pea/Beans)	2022.10	pounds
Beans Other Dry Edible	1827.64	pounds
Beans Pink	1900.03	pounds
Beans Pinto	2002.86	pounds
Beans Small Red	1931.12	pounds
Beans Small White	2343.80	pounds
Canola	1577.84	pounds
Chickpeas All (Garbanzo)	1377.40	pounds
Chickpeas Large (Garbanzo Larger than 20/64 in)	1372.38	pounds
Chickpeas Small (Garbanzo Smaller than 20/64 in)	1302.97	pounds
Coffee	991.67	pounds
Corn For Grain	140.85	bushel
Corn For Silage	18.45	tons
Cotton All	882.40	pounds
Cotton Amer. Pima	1011.94	pounds
Cotton Upland	888.41	pounds
Flaxseed	17.23	bushel
Forage Alfalfa(Dry Hay+Haylage)	3.97	tons
Forage All(Dry Hay+Haylage)	3.09	tons
Ginger Root	37625.00	pounds
Hay Alfalfa (Dry)	3.42	tons
Hay All (Dry)	2.59	tons
Hay Other (Dry)	2.05	tons
Hops	1940.43	pounds
Lentils	1138.49	pounds
Maple Syrup	0.21	gallon
Millet (Proso)	29.75	bushel
Mustard	758.83	pounds
Oats	62.65	bushel
Peanuts for Nuts	3194.27	pounds
Peas Austrian Winter	1400.68	pounds
Peas Dry Edible	1836.74	pounds
Peppermint	78.66	pounds
Potatoes All	332.02	hundredweight
Potatoes Fall	387.38	hundredweight
Potatoes Spring	278.86	hundredweight
Potatoes Summer	311.08	hundredweight
Potatoes Winter	240.33	hundredweight
Rapeseed	1465.17	pounds
Rice All	6930.08	pounds
Rice Long Grain	6632.31	pounds
Rice Med Grain	6941.31	pounds
Rice Short Grain	6264.06	pounds
Roughage Green Chop	6.75	tons
Rye	25.20	bushel
Safflower	1269.85	pounds
Sorghum For Grain	68.44	bushel
Sorghum For Silage	12.23	tons
Soybeans	36.98	bushel
Spearmint	95.00	pounds
Spearmint: Native	145.40	pounds
Spearmint: Scotch	136.00	pounds
Sugarbeets	28.14	tons
Sugarcane For Seed	32.70	tons
Sugarcane For Sugar	41.09	tons
Sugarcane For Sugar And Seed	40.29	tons
Sunflower All	1345.41	pounds
Sunflower Seed For Oil	1361.18	pounds
Sunflower Seed Non-Oil Use	1380.59	pounds
Sweet Potatoes	163.73	hundredweight
Tobacco Air-Cured Dark Class 3B (35-37)	2791.81	pounds
Tobacco Air-cured Light All Class 3A (31-32)	2031.43	pounds
Tobacco Air-Cured Light Burley (Type 31)	1999.28	pounds
Tobacco Air-Cured Light Southern Md Belt (Type 32)	2114.29	pounds
Tobacco All (All Classes)	2066.57	pounds
Tobacco Cigar Binder All Class 5 (51-56)	1676.20	pounds
Tobacco Cigar Binder Conn Valley Broadleaf (Type 51)	1634.43	pounds
Tobacco Cigar Filler Pa Seed Leaf (Type 41)	2200.00	pounds
Tobacco Cigar Types All Classes 4-6 (41-65)	1777.29	pounds
Tobacco Cigar Wrapper Conn Valley Shade-Grown (Type 61)	1336.57	pounds
Tobacco Fire-cured Class 2 (21-24)	2891.57	pounds
Tobacco Flue-Cured Class 1 (11-14)	2176.32	pounds
Tobacco Flue-Cured East Nc Belt (Type 12)	2250.00	pounds
Tobacco Flue-Cured Ga-Fla Belt (Type 14)	1911.00	pounds
Tobacco Flue-Cured Nc Bord & Sc Belt (Type 13)	2076.33	pounds
Tobacco Flue-Cured Old/Mid Belts (Type 11)	2322.00	pounds
Wheat All	54.72	bushel
Wheat Durum	57.13	bushel
Wheat Other Spring	52.35	bushel
Wheat Winter All	54.89	bushel

* Alternative Yields are state or national average a more detailed average will be provided when available and for current cropping rotation, most commonly done on a county level.

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Section 3.1 Field Overview Tables

ecord Keeping, Guidance Documents:

A set of records will be kept by the Tom Reppert Feedlot operation and is attached. Records will be maintained and kept at the facility office for five years and are available to the Department upon request. Record keeping timelines specific to each record keeping practice will be denoted on the corresponding forms for the operator to track. A set of guidance documents will be provided to the producer.

Additional Information:

- The example assumes a 100% stocking rate 365 days/year. In reality, this may never be achieved due to seasonal stocking variation, pen cleaning, re-stocking and market considerations. Total nutrient production will therefore be less than portrayed.
- Application areas will be managed via soil incorporation, appropriate cover crops when appropriate, contour farming, and conservation practices to minimize any surface runoff that may produce phosphorus and nutrient transport offsite.
- Nitrogen losses through application were considered.
- Records of soil nutrient analysis, manure and effluent analysis, application rates, application area maps and specific conditions will be maintained at the operation office for at least five years and are available to the Department upon request.
- Any manure sold or given away (transferred) will be documented with a receipt indicating date, quantity, recipient, and manure analysis.

  For this feedlot livestock operation, no manure will be applied closer than 100 feet to any stream, lakes, or impounded waters of the state or not closer than 35 feet if incorporated or equipped with a vegetative buffer.
- Planned and current conservation practices on all application areas include no till and contour farming.
- Irrigation water will be sampled every five years for nitrogen content. Samples will be collected at irrigation start-up and conducted by a qualified reputable lab. Specific analytical methods for testing will be stated on the results/reporting forms.

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www.jesenv.com

Land Application Summary

Tom Reppert Livestock

NDEQ ID # 68417

Field #	Legal Description of Application Site				County	Spreadable Acres	Land owner	Irrigated acres	Dryland acres	Pasture/Grass land Acers	Application agreement	Manure from other facilities applied to this site
		Sec.	T	R								
1	SW 1/4	25	25N	5E	Thurston	100*	Lee Reppert	yes *	100		Yes	No
2	S 1/2, SE 1/4	29	25N	6E	Thurston	63.8	Lee Reppert		63.8		Yes	No
3	NW 1/4	35	25N	5E	Thurston	117.1	Lee Reppert/Barb Jorgensen		117.1		Yes	No
4	SW 1/4	26	25N	5E	Thurston	152.12	Edeltnaud Reppert		152.12		Yes	No
5	NW 1/4	36	25N	5E	Thurston	156.06	Edeltnaud Reppert		156.06		Yes	No
6	W 1/2, NE 1/4	36	25N	5E	Thurston	75.9	Lee Reppert		75.9		Yes	No
7	SW 1/4, NW1/4	24	25N	5E	Thurston	30.76	Randell Bouder		30.76		Yes	No
8	NW 1/4, NE1/4	7	24N	6E	Cuming	39.12	Randell Bouder		39.12		Yes	No
9	N1/2, SW 1/4	35	25N	5E	Thurston	81.69	Mary Graber		81.69		Yes	No
							Sub Totals	0	816.55	0		
								Total acres		816.55		

* using volume gun

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www.jesenv.com

Section 3.2 Land application Agreements

Homl

Field # 1

LAND APPLICATION AGREEMENT

This agreement is made this by and between the Livestock operator (Please Print) Tom Reppert and the Landowner (Please Print) Lee Reppert.

1. That Tom Reppert is the livestock operation owner of the following described real estate (legal description): SE 1/4, SW 1/4, Section 25, Township 25 N, Range 5 E or W, Thurston County, and is in the process of constructing and/or maintaining on the above described real estate a livestock facility which shall include a livestock manure storage structure.
2. That the Nebraska Department of Environmental Quality (NDEQ) has required that the owner of the livestock operation have adequate land available to apply collected manure. The manure must be applied in an environmentally sound manner in accordance with NDEQ guidelines. The livestock owner/operator shall take full responsibility for any runoff of manure applied by his control which may enter waters of the State of Nebraska.
3. The livestock owner shall analyze the manure for nutrient content. Rates of application will be in accordance with acceptable agronomic practices.

   That the Landowner is the owner of the following real estate (legal description): SW 1/4, ____ 1/4, Section 25, Township 25 N, Range 5 E or W, Thurston County, 104 acres.
5. That the Landowner does hereby agree to make the above land available for the application of manure from the above referenced livestock facility for a period of 15 years. That said manure shall be applied upon the land in a manner consistent with the Landowner's farming operation and timeliness as directed by the Landowner for the most efficient use of the manure. The Landowner's farming operations shall be consistent with fair and usual farming practices. Only manure produced on the livestock owner's property is included in this agreement.

Dated this 28 day of August, 2012.

BY: Landowner (Signature) Lee Reppert

Address 411 Thurston Ave. Pender, NE

Phone No. 402-385-2635

Livestock Operator (Signature) [signature]

Field # 2

LAND APPLICATION AGREEMENT

This agreement is made this by and between the Livestock operator (Please Print) Tom Reppert and the Landowner (Please Print) Lee Reppert.

1. That Tom Reppert is the livestock operation owner of the following described real estate (legal description): SE 1/4, SW 1/4, Section 25, Township 25 N, Range 5 E or W, Thurston County, and is in the process of constructing and/or maintaining on the above described real estate a livestock facility which shall include a livestock manure storage structure.
2. That the Nebraska Department of Environmental Quality (NDEQ) has required that the owner of the livestock operation have adequate land available to apply collected manure. The manure must be applied in an environmentally sound manner in accordance with NDEQ guidelines. The livestock owner/operator shall take full responsibility for any runoff of manure applied by his control which may enter waters of the State of Nebraska.
3. The livestock owner shall analyze the manure for nutrient content. Rates of application will be in accordance with acceptable agronomic practices.
4. That the Landowner is the owner of the following real estate (legal description): S 1/2, SE 1/4, Section 29, Township 25 N, Range 6 E or W, Thurston County, 76 acres.
5. That the Landowner does hereby agree to make the above land available for the application of manure from the above referenced livestock facility for a period of 15 years. That said manure shall be applied upon the land in a manner consistent with the Landowner's farming operation and timeliness as directed by the Landowner for the most efficient use of the manure. The Landowner's farming operations shall be consistent with fair and usual farming practices. Only manure produced on the livestock owner's property is included in this agreement.

Dated this 28 day of August, 2012.

BY: Landowner (Signature) Lee G Reppert

Address 411 Thurston Ave. Pender

Phone No. 385-2635

Livestock Operator (Signature) [signature]

Docs

Field # 3

LAND APPLICATION AGREEMENT

This agreement is made this by and between the Livestock operator (Please Print) Tom Reppert and the Landowner (Please Print) Lee Reppert.

1. That Tom Reppert is the livestock operation owner of the following described real estate (legal description): SE 1/4, SW 1/4, Section 25, Township 25 N, Range 5 E or W, Thurston County, and is in the process of constructing and/or maintaining on the above described real estate a livestock facility which shall include a livestock manure storage structure.
2. That the Nebraska Department of Environmental Quality (NDEQ) has required that the owner of the livestock operation have adequate land available to apply collected manure. The manure must be applied in an environmentally sound manner in accordance with NDEQ guidelines. The livestock owner/operator shall take full responsibility for any runoff of manure applied by his control which may enter waters of the State of Nebraska.
3. The livestock owner shall analyze the manure for nutrient content. Rates of application will be in accordance with acceptable agronomic practices.
4. That the Landowner is the owner of the following real estate (legal description): E ½, NW 1/4, Section 35, Township 25 N, Range 5 E or W, Thurston County, 80 acres.
5. That the Landowner does hereby agree to make the above land available for the application of manure from the above referenced livestock facility for a period of 15 years. That said manure shall be applied upon the land in a manner consistent with the Landowner's farming operation and timeliness as directed by the Landowner for the most efficient use of the manure. The Landowner's farming operations shall be consistent with fair and usual farming practices. Only manure produced on the livestock owner's property is included in this agreement.

Dated this 28 day of August, 2012.

BY: Landowner (Signature) Lee Reppert

Address 411 Thurston Ave Pender

Phone No. 385-2635

Livestock Operator (Signature) Tom Rep

Barbs

Field # 3

LAND APPLICATION AGREEMENT

This agreement is made this by and between the Livestock operator (Please Print) Tom Reppert and the Landowner (Please Print) Barb Jorgensen.

1. That Tom Reppert is the livestock operation owner of the following described real estate (legal description): SE 1/4 SW 1/4, Section 25, Township 25 N, Range 5 E or W, Thurston County, and is in the process of constructing and/or maintaining on the above described real estate a livestock facility which shall include a livestock manure storage structure.
2. That the Nebraska Department of Environmental Quality (NDEQ) has required that the owner of the livestock operation have adequate land available to apply collected manure. The manure must be applied in an environmentally sound manner in accordance with NDEQ guidelines. The livestock owner/operator shall take full responsibility for any runoff of manure applied by his control which may enter waters of the State of Nebraska.
3. The livestock owner shall analyze the manure for nutrient content. Rates of application will be in accordance with acceptable agronomic practices.
4. That the Landowner is the owner of the following real estate (legal description): W 1/2 NW 1/4, Section 35, Township 25 N, Range 5 E or W, Thurston County, 80 acres.
5. That the Landowner does hereby agree to make the above land available for the application of manure from the above referenced livestock facility for a period of 1 years. That said manure shall be applied upon the land in a manner consistent with the Landowner's farming operation and timeliness as directed by the Landowner for the most efficient use of the manure. The Landowner's farming operations shall be consistent with fair and usual farming practices. Only manure produced on the livestock owner's property is included in this agreement.

Dated this 28 day of August, 2012.

BY: Landowner (Signature) Barbara Jorgensen

Address 604 S Thurston Ave Pender 68047

Phone No. 385-2668

Livestock Operator (Signature) Tom Reppert

Annas Stuck

Field # 4

LAND APPLICATION AGREEMENT

This agreement is made this by and between the Livestock operator (Please Print) Tom Reppert and the Landowner (Please Print) Edelhaud Reppert.

1. That Tom Reppert is the livestock operation owner of the following described real estate (legal description): SE 1/4, SW 1/4, Section 25, Township 25 N, Range 5 E or W, Thurston County, and is in the process of constructing and/or maintaining on the above described real estate a livestock facility which shall include a livestock manure storage structure.
2. That the Nebraska Department of Environmental Quality (NDEQ) has required that the owner of the livestock operation have adequate land available to apply collected manure. The manure must be applied in an environmentally sound manner in accordance with NDEQ guidelines. The livestock owner/operator shall take full responsibility for any runoff of manure applied by his control which may enter waters of the State of Nebraska.
3. The livestock owner shall analyze the manure for nutrient content. Rates of application will be in accordance with acceptable agronomic practices.
4. That the Landowner is the owner of the following real estate (legal description): SW 1/4, ___ 1/4, Section 26, Township 25 N, Range 5 E or W, Thurston County, 160 acres.
5. That the Landowner does hereby agree to make the above land available for the application of manure from the above referenced livestock facility for a period of 15 years. That said manure shall be applied upon the land in a manner consistent with the Landowner's farming operation and timeliness as directed by the Landowner for the most efficient use of the manure. The Landowner's farming operations shall be consistent with fair and usual farming practices. Only manure produced on the livestock owner's property is included in this agreement.

Dated this 28 day of August, 2012.

BY: Landowner (Signature) Edelhaud Reppert

Address 411 Thurston Ave Pender

Phone No. 385-2635

Livestock Operator (Signature) [signature]

Field # 5

LAND APPLICATION AGREEMENT

This agreement is made this by and between the Livestock operator (Please Print) Tom Reppert and the Landowner (Please Print) Edelfraud Reppert.

1. That Tom Reppert is the livestock operation owner of the following described real estate (legal description): SE 1/4, SW 1/4, Section 25, Township 25 N, Range 5 E or W, Thurston County, and is in the process of constructing and/or maintaining on the above described real estate a livestock facility which shall include a livestock manure storage structure.
2. That the Nebraska Department of Environmental Quality (NDEQ) has required that the owner of the livestock operation have adequate land available to apply collected manure. The manure must be applied in an environmentally sound manner in accordance with NDEQ guidelines. The livestock owner/operator shall take full responsibility for any runoff of manure applied by his control which may enter waters of the State of Nebraska.
3. The livestock owner shall analyze the manure for nutrient content. Rates of application will be in accordance with acceptable agronomic practices.

   That the Landowner is the owner of the following real estate (legal description): ___ 1/4, NW 1/4, Section 36, Township 25 N, Range 5 E or W, Thurston County, 160 acres.
5. That the Landowner does hereby agree to make the above land available for the application of manure from the above referenced livestock facility for a period of 15 years. That said manure shall be applied upon the land in a manner consistent with the Landowner's farming operation and timeliness as directed by the Landowner for the most efficient use of the manure. The Landowner's farming operations shall be consistent with fair and usual farming practices. Only manure produced on the livestock owner's property is included in this agreement.

Dated this 28 day of August, 2012.

BY: Landowner (Signature) Edelfraud Reppert

Address 411 Thurston Ave. Pender

Phone No. 385-2635

Livestock Operator (Signature) [signature]

Church

Field # 6

LAND APPLICATION AGREEMENT

This agreement is made this by and between the Livestock operator (Please Print) Tom Reppert and the Landowner (Please Print) Lee Reppert.

1. That Tom Reppert is the livestock operation owner of the following described real estate (legal description): SE 1/4, SW 1/4, Section 25, Township 25 N, Range 5 E or W, Thurston County, and is in the process of constructing and/or maintaining on the above described real estate a livestock facility which shall include a livestock manure storage structure.
2. That the Nebraska Department of Environmental Quality (NDEQ) has required that the owner of the livestock operation have adequate land available to apply collected manure. The manure must be applied in an environmentally sound manner in accordance with NDEQ guidelines. The livestock owner/operator shall take full responsibility for any runoff of manure applied by his control which may enter waters of the State of Nebraska.
3. The livestock owner shall analyze the manure for nutrient content. Rates of application will be in accordance with acceptable agronomic practices.
4. That the Landowner is the owner of the following real estate (legal description): W 1/2, NW 1/4, Section 36, Township 25 N, Range 5 E or W, Thurston County, 76 acres.
5. That the Landowner does hereby agree to make the above land available for the application of manure from the above referenced livestock facility for a period of 15 years. That said manure shall be applied upon the land in a manner consistent with the Landowner's farming operation and timeliness as directed by the Landowner for the most efficient use of the manure. The Landowner's farming operations shall be consistent with fair and usual farming practices. Only manure produced on the livestock owner's property is included in this agreement.

Dated this 28 day of August, 2012.

BY: Landowner (Signature) Lee G Reppert

Address 411 Thurston Ave. Pender

Phone No. 385-2835

Livestock Operator (Signature) Tom Reppert

Randy S

Field # 7

LAND APPLICATION AGREEMENT

This agreement is made this by and between the Livestock operator (Please Print) Tom Reppert and the Landowner (Please Print) Randall Bowder / Liesa Bowder

1. That Tom Reppert is the livestock operation owner of the following described real estate (legal description): SE 1/4, SW 1/4, Section 25, Township 25 N, Range 5 E or W, Thurston County, and is in the process of constructing and/or maintaining on the above described real estate a livestock facility which shall include a livestock manure storage structure.
2. That the Nebraska Department of Environmental Quality (NDEQ) has required that the owner of the livestock operation have adequate land available to apply collected manure. The manure must be applied in an environmentally sound manner in accordance with NDEQ guidelines. The livestock owner/operator shall take full responsibility for any runoff of manure applied by his control which may enter waters of the State of Nebraska.
3. The livestock owner shall analyze the manure for nutrient content. Rates of application will be in accordance with acceptable agronomic practices.

That the Landowner is the owner of the following real estate (legal description): SW 40, NW 1/4, Section 24, Township 25 N, Range 5 E or W, Thurston County, 40 acres.

5. That the Landowner does hereby agree to make the above land available for the application of manure from the above referenced livestock facility for a period of 15 years. That said manure shall be applied upon the land in a manner consistent with the Landowner's farming operation and timeliness as directed by the Landowner for the most efficient use of the manure. The Landowner's farming operations shall be consistent with fair and usual farming practices. Only manure produced on the livestock owner's property is included in this agreement.

Dated this 28 day of August, 2012.

BY: Landowner (Signature) Randall J Bowder

Address 1028 12th Rd Pender

Phone No. 385-2126

Livestock Operator (Signature) [signature]

B5½ 5

Field # 8

LAND APPLICATION AGREEMENT

This agreement is made this by and between the Livestock operator (Please Print) Tom Reppert and the Landowner (Please Print) Randall Bowder / Liesa Bowder

1. That Tom Reppert is the livestock operation owner of the following described real estate (legal description): SE 1/4, SW 1/4, Section 25, Township 25 N, Range 5 E or W, Thurston County, and is in the process of constructing and/or maintaining on the above described real estate a livestock facility which shall include a livestock manure storage structure.

2. That the Nebraska Department of Environmental Quality (NDEQ) has required that the owner of the livestock operation have adequate land available to apply collected manure. The manure must be applied in an environmentally sound manner in accordance with NDEQ guidelines. The livestock owner/operator shall take full responsibility for any runoff of manure applied by his control which may enter waters of the State of Nebraska.

3. The livestock owner shall analyze the manure for nutrient content. Rates of application will be in accordance with acceptable agronomic practices.

That the Landowner is the owner of the following real estate (legal description): NW 1/4, NE 1/4, Section 7, Township 24 N, Range 6 E or W, Cuming County, 40 acres.

5. That the Landowner does hereby agree to make the above land available for the application of manure from the above referenced livestock facility for a period of 15 years. That said manure shall be applied upon the land in a manner consistent with the Landowner's farming operation and timeliness as directed by the Landowner for the most efficient use of the manure. The Landowner's farming operations shall be consistent with fair and usual farming practices. Only manure produced on the livestock owner's property is included in this agreement.

Dated this 28 day of August, 2012.

BY: Landowner (Signature) Randall J Bowder

Address 1028 12th Rd Pender

Phone No. 385-2126

Livestock Operator (Signature) [signature]

Marys

Field # 9

LAND APPLICATION AGREEMENT

This agreement is made this by and between the Livestock operator (Please Print) Tom Appert and the Landowner (Please Print) Mary Graber.

1. That Tom Appert is the livestock operation owner of the following described real estate (legal description): SE 1/4, SW 1/4, Section 25, Township 25 N, Range 5 E or W, Thurston County, and is in the process of constructing and/or maintaining on the above described real estate a livestock facility which shall include a livestock manure storage structure.
2. That the Nebraska Department of Environmental Quality (NDEQ) has required that the owner of the livestock operation have adequate land available to apply collected manure. The manure must be applied in an environmentally sound manner in accordance with NDEQ guidelines. The livestock owner/operator shall take full responsibility for any runoff of manure applied by his control which may enter waters of the State of Nebraska.
3. The livestock owner shall analyze the manure for nutrient content. Rates of application will be in accordance with acceptable agronomic practices.
4. That the Landowner is the owner of the following real estate (legal description): N 1/2, SW 1/4, Section 35, Township 25 N, Range 5 E or W, Thurston County, 80 acres.
5. That the Landowner does hereby agree to make the above land available for the application of manure from the above referenced livestock facility for a period of 1 years. That said manure shall be applied upon the land in a manner consistent with the Landowner's farming operation and timeliness as directed by the Landowner for the most efficient use of the manure. The Landowner's farming operations shall be consistent with fair and usual farming practices. Only manure produced on the livestock owner's property is included in this agreement.

Dated this 28 day of August, 2012.

BY: Landowner (Signature) Mary L Graber

Address 1709 Ave A Circle Wisner, NE 68791

Phone No. 529-6431

Livestock Operator (Signature) Tom

Section 3.3 Nutrient Accounting Land Estimator

Getting Started

Step 1a. Enter name and contact information for producer and/or consultant

Producer's Name:	Tom Reppert Livestock	Farm Name:	
Address:		Phone:	
Address:		Fax:	
Town, State, Zip:	Thurston	e-mail:	
Consultant's Name:	Reece Sukovaty	Business Name:	JES Environmental Services Inc.
Address:	5535 Wilderness View	Phone:	402-423-8054, 402-730-4800
Address:		Fax:	
Town, State, Zip:	Lincoln NE	e-mail:	

Open lot or feedlot - scrap

Step 1b. Manure Sources: Briefly describe the primary sources of manure and associated manure management system(s) utilized on your livestock farm. Up to four different systems may be entered in the aqua colored cells.

	Producer's description of animal facility or location	Identify most closely matching manure management system:	
	Example: South Farm Feedlot	*Open lot or feedlot - scraped or stockpiled solids*	Is Runoff Collected? ☐ NO
1	Holding Pond	Open lot or feedlot - scraped or stockpiled solids	Is Runoff Collected? ☑ YES
2			☐
3			☐
4			☐

Step 1c. Click on

Manure Nutrient and Solids Excretion by Beef Feeder Cattle - Data Inputs

Producer's Name: Tom Reppert Livestock

Step 2a: Describe Farm or Conditions to be Evaluated:

Step 2b: Enter animal performance characteristics or click on for typical charateristics (feed & performance).

	Your Value	Default	Units
Feeder Cattle Group 1:			English
Live Weight of Cattle....			
Entering Feedlot (lbs.):	600	660	lb
Exiting Feedlot (lbs.):	1,200	1210	lb
Targeted Grade for Marketed Beef:	Choice	Choice	
Number of Cattle (Single Turn):	1,500	1	beef feeder
Number of Cattle Finished per Year:	1,500	1	beef feeder
Average Days on Feed	153	150	days
Average Daily Gain	3.9		lb gain/day
Feed Use Efficiency	5.0		lb feed / lb gain
Feeder Cattle Group 2: B			
Live Weight of Cattle....			
Entering Feedlot (lbs.):		660	lb
Exiting Feedlot (lbs.):		1210	lb
Targeted Grade for Marketed Beef:		Choice	
Number of Cattle (Single Turn):		1	beef feeder
Number of Cattle Finished per Year:		1	beef feeder
Average Days on Feed		150	days
Average Daily Gain			lb gain/day
Feed Use Efficiency			lb feed / lb gain
	Barn 2		
Feeder Cattle Group 3: C			
Live Weight of Cattle....			
Entering Feedlot (lbs.):		660	lb
Exiting Feedlot (lbs.):		1210	lb
Targeted Grade for Marketed Beef:		Choice	
Number of Cattle (Single Turn):		1	beef feeder
Number of Cattle Finished per Year:		1	beef feeder
Average Days on Feed		150	days
Average Daily Gain			lb gain/day
Feed Use Efficiency			lb feed / lb gain

Step 2c. Enter ration information for each distinct feed program.

Ration ID	Days on Feed	Feed Intake (lb dry wt. /head /day)	Feed Characteristics: No Input	Dry Basis: Dry Matter Digesti-bility (% DB)	Dry Basis: Organic Matter Digesti-bility[2] (% DB)	Dry Basis: Ash[2] (% Dry Basis)	Dry Basis: Dietary Crude Protein (% Dry Basis)	Dry Basis: Dietary Phos-phorus (% Dry Basis)
Receiving Diet								
Finishing Diet(s)								
A	153	19.70	---	80.0%	83.0%	4.0%	13.5%	0.31%

Liquid or Solid? Liquid or slurry

Receiving Diet								
Finishing Diet(s)								

Liquid or Solid?

Receiving Diet								
Finishing Diet(s)								

Liquid or Solid?

Step 2d. Enter Manure Management System Information

Facility Housing Animals? Holding Pond

Total Solids (%)[1]: 10.0%

Ash (% of Total Solids) Default: 50% 50%

Facility Housing Animals?

Total Solids (%)[1]:

Ash (% of Total Solids) Default: 20%

Facility Housing Animals?

Total Solids (%)[1]:

Ash (% of Total Solids) Default: 20%

1. User estimate of total solids in harvested manure.

2. Optional...If unknown, a VS to TS ratio is assumed to be 85%

Step 2e. Click on

Manure Nutrient and Solids Excretion by Beef Feeder Cattle - Results of Calculations

Farm Name:

Conditions Evaluated:

Producer's Name: *Tom Reppert Livestock*

Metric Measurements

Nitrogen	Phos-phorus	Total Solids	Volatile Solids	Manure Mass[1]	Manure Volume[1,2]
kilograms/year					liters/year
Feeder Cattle Group 1			**1,500**	**finished animals**	
36,225	4,430	524,271	430,252	8,388,336	8,388,336
Feeder Cattle Group 2			**-**	**finished animals**	
-	-	-	-	-	-
Feeder Cattle Group 3			**-**	**finished animals**	
-	-	-	-	-	-
TOTALS			**1,500**	**finished animals**	
36,225	4,430	524,271	430,252	8,388,336	8,388,336
36,225	4,430	524,271	430,252	8,388,336	8,388,336
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-

kilograms/animal-day					l/animal-d
Feeder Cattle Group 1					
0.1578	0.0193	2.284	1.875	36.55	36.55
Feeder Cattle Group 2					
-	-	-	-	-	-
Feeder Cattle Group 3					
-	-	-	-	-	-

kilograms/1000 kilogram body weight/day					l/1000 kg/d
Feeder Cattle Group 1					
0.387	0.0473	5.60	4.59	89.53	89.5
Feeder Cattle Group 2					
-	-	-	-	-	-
Feeder Cattle Group 3					
-	-	-	-	-	-

All Systems Holding Pond

English Measurements

Nitrogen	Phos-phorus	Total Solids	Volatile Solids	Manure Mass[1]	Manure Volume[1,2]
(lb/year)					(ft^3/yr)
Feeder Cattle Group 1			**1,500**	**finished animals**	
79,861	9,766	1,155,808	948,533	18,492,926	296,276
Feeder Cattle Group 2			**-**	**finished animals**	
-	-	-	-	-	-
Feeder Cattle Group 3			**-**	**finished animals**	
-	-	-	-	-	-
TOTALS			**1,500**	**finished animals**	
79,861	9,766	1,155,808	948,533	18,492,926	296,276
79,861	9,766	1,155,808	948,533	18,492,926	296,276
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-

lbs/animal-day					ft^3/animal-d
Feeder Cattle Group 1					
0.3480	0.0426	5.036	4.133	80.58	1.291
Feeder Cattle Group 2					
-	-	-	-	-	-
Feeder Cattle Group 3					
-	-	-	-	-	-

lbs/1000 lbs body weight/day					ft^3/1000 lb/d
Feeder Cattle Group 1					
0.387	0.0473	5.60	4.59	89.53	1.43
Feeder Cattle Group 2					
-	-	-	-	-	-
Feeder Cattle Group 3					
-	-	-	-	-	-

1. Manure mass and volume may include water addition or evaporation depending upon estimated total solids entered. No reduction in solids due to treatment processes or increases due to feed or bedding additions is assumed.

Change in Nitrogen Excretion Resulting from Dietary Crude Protein Concentration Changes

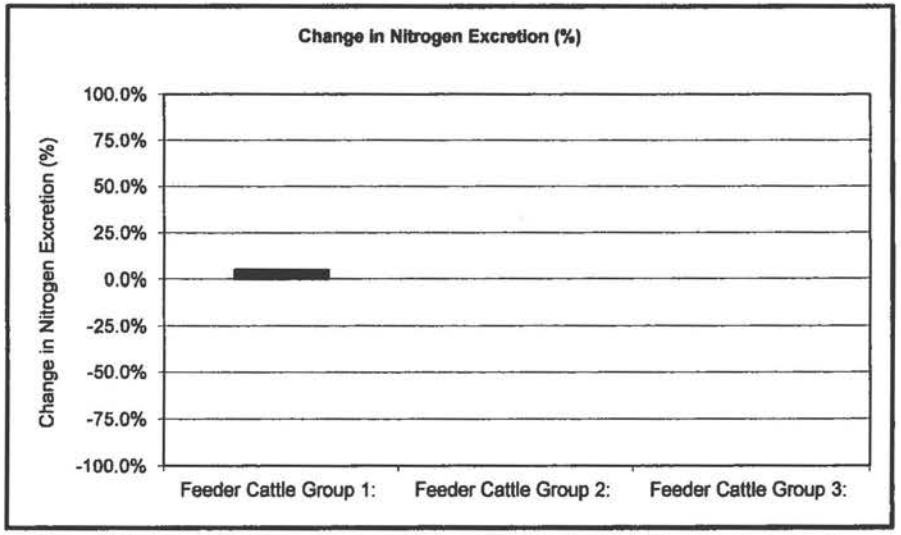
Purpose: This page allows a comparison of nitrogen excretion levels for the originally proposed dietary protein concentration (Current Diet) with alternative dietary protein levels (Modified Diet).

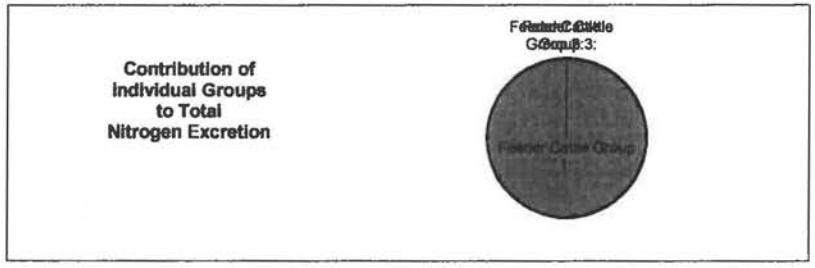
Conditions Evaluated:

Farm Name:

Producer's Name: *Tom Reppert Livestock*

Current Diet		Modified Diet			Increase
Dietary Protein (% DB)	Nitrogen Excretion (lb N/year)	Dietary Protein (% DB)	Nitrogen Intake (lb N/year)	Nitrogen Excretion (lb N/year)	(Decrease) In Excretion
Feeder Cattle Group 1:		**Receiving Diet**			
		14.0% 140.00			
		Finishing Diet(s)			
13.45%		14.0% 140.00	101,274		
		14.0% 140.00			
	79861	14.0% 140.00		83,840	5%
		14.0% 140.00			
		14.0% 140.00			
		14.0% 140.00			
		14.0% 140.00			
Feeder Cattle Group 2:		**Receiving Diet**			
		14.0% 140.00			
		Finishing Diet(s)			
		14.0% 140.00			
		14.0% 140.00			
	#VALUE!	14.0% 140.00		FALSE	#VALUE!
		14.0% 140.00			
		14.0% 140.00			
		14.0% 140.00			
		14.0% 140.00			
Feeder Cattle Group 3:		**Receiving Diet**			
		14.0% 140.00			
		Finishing Diet(s)			
		14.0% 140.00			
		14.0% 140.00			
	#VALUE!	14.0% 140.00		FALSE	#VALUE!
		14.0% 140.00			
		14.0% 140.00			
		14.0% 140.00			
		14.0% 140.00			





Change in Phosphorus Excretion Resulting from Dietary Phosphorus Concentration Changes

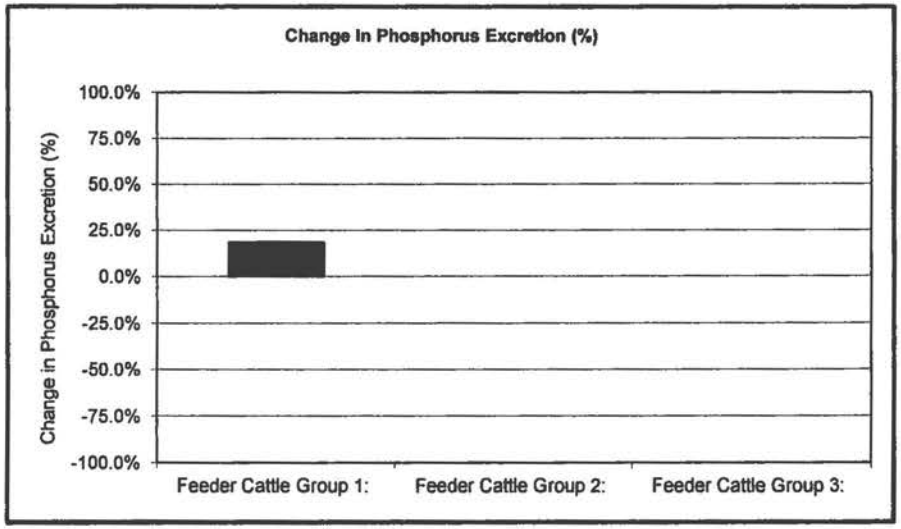
Purpose: This page allows a comparison of phosphorus excretion levels for the originally proposed dietary phosphorus concentration (Current Diet) with alternative dietary phosphorus levels (Modified Diet).

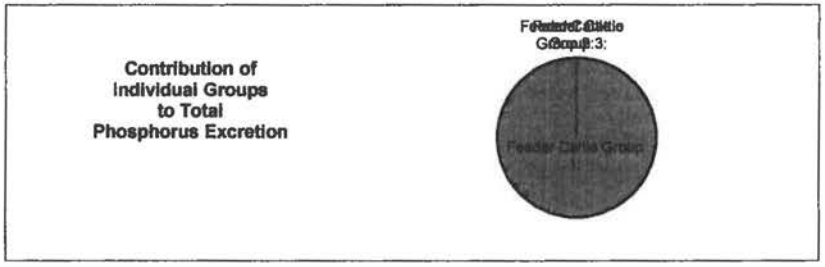
Farm Name:

Conditions Evaluated:

Producer's Name:

Current Diet		Modified Diet			Increase
Dietary Phosphorus (% DB)	Phosphorus Excretion (lb P/year)	Dietary Phosphorus (% DB)	Phosphorus Intake (lb P/year)	Phosphorus Excretion (lb P/year)	(Decrease) In Excretion
Feeder Cattle Group 1:		**Receiving Diet**			
		0.35% 35.00			
		Finishing Diet(s)			
0.31%		0.35% 35.00	15,824		
		0.35% 35.00			
	9,766	0.35% 35.00		11,574	19%
		0.35% 35.00			
		0.35% 35.00			
		0.35% 35.00			
		0.35% 35.00			
Feeder Cattle Group 2:		**Receiving Diet**			
		0.35% 35.00			
		Finishing Diet(s)			
		0.35% 35.00			
		0.35% 35.00			
	#VALUE!	0.35% 35.00		FALSE	#VALUE!
		0.35% 35.00			
		0.35% 35.00			
		0.35% 35.00			
		0.35% 35.00			
Feeder Cattle Group 3:		**Receiving Diet**			
		0.35% 35.00			
		Finishing Diet(s)			
		0.35% 35.00			
		0.35% 35.00			
	#VALUE!	0.35% 35.00		FALSE	#VALUE!
		0.35% 35.00			
		0.35% 35.00			
		0.35% 35.00			
		0.35% 35.00			





Producer Name: Tom Reppert Livestock

Farm Name:

Table 1. Nitrogen to be managed annually after losses from housing, storage and land application.

Name of Animal Facility and Associated Manure Management System		Manure Nitrogen Excreted	Available N after Housing and Storage Losses		Available N after Land Application Losses (Ammonia-N) and Crop Availability (Organic-N) Is Considered					
Facility Name	Manure Management System		% Retained	Amount Retained	Application Method	Days - Application to Incorporation (Broadcast Only)	Soil Conditions (Broadcast Only)	N Availability to Crop Organic-N (%)	N Availability to Crop Ammonium N (%)	Crop Available N (lb/year)
In Example: South Farm Feedlot	*Open lot or feedlot - scraped or stockpiled solids*	*50,000*	*50%*	*25,000*	***Injection***		***Warm, Dry Soils***	*50%*	*95%*	*14,750*
1 Holding Pond	Open lot or feedlot - scraped or stockpiled solids	79,861	50%	39,931	Surface Broadcast	0	Cool Soils	50%	100%	23,958
2										
3										
4										
Runoff Collection System from Open Lot			5%	3,993	Surface Broadcast		Cool Soils	70%		
TOTAL: Facilities 1 through 4		79,861		39,931	lbs. N/yr. retained after storage losses					23,958 lbs. of crop available N/yr
Runoff collected from facilities 1 through 4		lbs. N/yr.		3,993	lbs. N/yr. retained in runoff					0 lbs. of crop available N/yr

Table 1 Instructions

Table 2 Instructions

Table 2. Phosphorus to be managed annually after losses from housing, storage and land application.

Name of Animal Facility and Associated Manure Management System		Manure Phosphorus Excreted	Available N after Housing and Storage Losses		Available P after Land Application Losses	
Facility Name	Manure Management System		% Retained	Amount Retained	P Availability to Crop	Crop Available P (lb/year)
Example: South Farm Feedlot	*Open lot or feedlot - scraped or stockpiled solids*	*70,000*	*95%*	*66,500*	*100%*	66,500
1 Holding Pond	Open lot or feedlot - scraped or stockpiled solids	9,766	95%	9,278	100%	9,278
2						
3						
4						
Runoff Collection System from Open Lot			5%	488	100%	488
TOTAL: Facilities 1 through 4		9,766		9,278 lbs P/yr.		9,278 lbs. P/yr.
Runoff collected from facilities 1 through 4.		lbs. P/yr.		488 lbs P/yr.		488 lbs. P/yr.

Alternative values for nutrient retention can be found in Table 11-5 of NRCS Agricultural Waste Management Field Handbook.

Table 3. Phosphorus retained as settled solids or sludge by an anaerobic treatment lagoon. [1, 2]

Table 3 - Instructions

	Total Pounds Produced Annually (Table 1)	1-Cell & Multiple Cell Treatment Lagoon		
		Years Between Sludge Removal	% Retained in Lagoon	Total P in settled solids
P_2O_5 in settled solids or lagoon sludge	0	5	#DIV/0!	0

1. Phosphorus split between effluent (Table 2) and settled solids (Table 3) applies to an anaerobic lagoon with a permanent pool and no agitation during effluent removal.
2. This calculation does not apply to manure storage facilities and open lot runoff holding ponds.

Table 4. Land requirements if manure nutrients from facilities 1 through 4 are distributed according to crop nutrient removal rates.[1]

Producer Name: Tom Reppert Livestock

Individual Field Data					Crop Nutrient Credits from Other Sources (lbs./acre)			Nitrogen After Losses			23,958 lb.	Phosphorus (P_2O_5) After Losses[3]			21,246 lb.
								Approximate N Required (lbs./acre)[2]		Manure N Use by	Remaining	P_2O_5 Removal Rate (lbs./acre)		Manure P_2O_5 Use by	Remaining
Field ID	Crop Acres	Crop	Yield	units	N	P_2O_5		Book Value	Your Value	Field (lbs.)	Nutrients (lbs.)	Book Value	Your Value	Field (lbs.)	Nutrients (lbs.)
2	63.8	Corn	164.2	bu/ac				160		10,216	13,742	50		3,199	18,047
3	117.1	Corn	164.2	bu/ac				160		18,751	0	50		5,871	12,176
4	152.12	Corn	164.2	bu/ac				160				50		7,627	4,548
5	156.06	Corn	164.2	bu/ac				160				50		7,825	0
6	75.9	Corn	164.2	bu/ac				160				50			
7	30.76	Soybeans	47.5	bu/ac				101				38			
8	39.12	Soybeans	47.5	bu/ac				101				38			
9	81.69	Soybeans	47.5	bu/ac				101				38			
All fields are dryland															
Summary	717									23,958	0			21,246	0
								181 acres to utilize N				489 acres to utilize P			

1. Caution: Crop removal rates may not accurately estimate nutrient needs and are used strictly for advanced planning purposes when soil test data is not available. Individual year manure and fertilizer application rates should be estimated based upon a comprehensive nutrient budget that includes soil testing, crediting of residual soil nutrients, and crediting of nitrogen from legumes and irrigation water. Refer to state land grant university, USDA Natural Resource Consevation Service, or environmental regulatory agency resources for assistance in developing a nutrient budget.
2. Approximate N Required is estimated by multiplying crop removal of nitrogen by a crop nitrogen efficiency factor. Crop nitrogen efficiency is assumed to be 1.3 for corn, small grains and forages; 2.0 for warm season grasses; 1.0 for cool season grasses; 0.6 for soybeans; and 0.5 for other legumes. Also assumes that soybeans will remove 2 lbs. of N per bushel and that all other legumes will remove 50% of the crops nitrogen content.
3. Phosphorus estimates reported in previous tables as elemental P have been converted to a P2O5 equivalent (elemental P X 2.29).

Table 5. Land requirements if manure nutrients collected from feedlot runoff are distributed according to crop nutrient removal rates.[1]

Producer Name: Tom Reppert Livestock

Individual Field Data					Crop Nutrient Credits from Other Sources (lbs./acre)			Nitrogen After Losses			2,076 lb.	Phosphorus (P_2O_5) After Losses[3]			1,118 lb.
								Approximate N Required (lbs./acre)[2]		Manure N Use by	Remaining	P_2O_5 Removal Rate (lbs./acre)		Manure P_2O_5 Use by	Remaining
Field ID	Crop Acres	Crop	Yield	units	N	P_2O_5		Book Value	Your Value	Field (lbs.)	Nutrients (lbs.)	Book Value	Your Value	Field (lbs.)	Nutrients (lbs.)
Field # 1	100	Corn	164.2	bu/ac				160		16,013	0	50		5,014	0
Summary	100									2,076	0			1,118	0
								100 acres to utilize N				100 acres to utilize P			

1. Caution: Crop removal rates may not accurately estimate nutrient needs and are used strictly for advanced planning purposes when soil test data is not available. Individual year manure and fertilizer application rates should be estimated based upon a comprehensive nutrient budget that includes soil testing, crediting of residual soil nutrients, and crediting of nitrogen from legumes and irrigation water. Refer to state land grant university, USDA Natural Resource Consevation Service, or environmental regulatory agency resources for assistance in developing a nutrient budget.
2. Approximate N Required is estimated by multiplying crop removal of nitrogen by a crop nitrogen efficiency factor. Crop nitrogen efficiency is assumed to be 1.3 for corn, small grains and forages; 2.0 for warm season grasses; 1.0 for cool season grasses; 0.6 for soybeans; and 0.5 for other legumes. Also assumes that soybeans will remove 2 lbs. of N per bushel and that all other legumes will remove 50% of the crops nitrogen content.
3. Phosphorus estimates reported in previous tables as elemental P have been converted to a P2O5 equivalent (elemental P X 2.29).

Summary of Nutrient Excretion, Nutrient Remaining After Storage and Field Losses, and Land Requirements For Agronomic Application

Producer's Name:	Tom Reppert Livestock	Address:		Phone:	
Farm Name:		Address:		Fax:	
		Town:	Thurston	e-mail:	
Contact Person Who Completed Worksheet:		Reece Sukovaty		Phone:	402-423-8054, 402-730-4E

Herd/Flock Summary: Species and Animal Facility	One-Time Capacity	Animals Finished per Year	Average Weight
Beef, Feeder Cattle: Holding Pond	1,500	1,500	900 lb
:			
:			
:			
:			
:			
:			
:			
:			
:			
:			
:			
:			

Notes on Livestock System (e.g. Feed Program, Animal Performance, Animal Housing)

Nutrient Excretion by Livestock Summary

1. Holding Pond	79,861	lbs. N/year	9,766	lbs. P/year
2.				
3.				
4.				
TOTAL	**79,861**	**lbs. N/year**	**9,766**	**lbs. P/yr.**

Nutrients Remaining After Storage Losses

	Amount Retained		% Retained	Amount Retained		% Retained
1. Holding Pond	39,931	lbs. N/year	50%	9,278	lbs. P/year	95%
2.						
3.						
4.						
Collected Runoff	3,993	lbs. N/year	5%	488	lbs. P/year	5%
TOTAL	**39,931**	**lbs. N/year**		**9,278**	**lbs. P/yr.**	

Nutrients Remaining After Field Application Losses

	Amount Retained		% Retained Org -N	% Retained NH_4-N	Amount Retained		% Retained
1. Holding Pond	23,958	lbs. N/year	50%	100%	9,278	lbs. P/year	100%
2.							
3.							
4.							
Collected Runoff			70%		488	lbs. P/year	100%
TOTAL	**23,958**	**lbs. N/year**			**9,278**	**lbs. P/yr.**	

Crop Land Requirements if Manure Nutrients are Distributed According to Crop Nutrient Removal Rates (Land Base worksheet).

Land Base Identified	Nitrogen Available	Utilized	Remaining	P_2O_5 Available	Utilized	Remaining
717 ac	23,958 lb	23,958 lb	0 lb	21,246 lb	21,246 lb	0 lb
	181 acres to utilize N			489 acres to utilize P		

Crop Land Requirements if Runoff Nutrients are Distributed According to Crop Nutrient Removal Rates (Land-Runoff worksheet).

Land Base Identified	Nitrogen Available	Utilized	Remaining	P_2O_5 Available	Utilized	Remaining
191 ac	0 lb	0 lb	0 lb	1,118 lb	1,118 lb	0 lb
	191 acres to utilize N			191 acres to utilize P		

Crop Land Requirements for Accumulated Phosphorus in Settled Solids and Sludge of an Anaerobic Lagoon

Land Base Identified	P_2O_5 Available	Utilized	Remaining
0 ac	0 lb	0 lb	0 lb
	0 acres to utilize P		

Developed by Rick Koelsch, Livestock Environmental Engineer, University of Nebraska-Lincoln.

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the USDA.
Elbert Dickey, Director of Cooperative Extension, University of Nebraska, Institute of Agriculture and Natural Resources.

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Section 3.4 Land Application Area Field maps

Field # 1

JES ENVIRONMENTAL SERVICES, INC.
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map center: 42° 6' 43.94, 96° 47' 39.24
scale: 8770

25-25N-5E
Thurston County
Nebraska

N
W E
S

Field borders provided by Farm Service Agency as of 5/21/2008. Aerial photography provided by Aerial Photograpy Field Office.

Field # 2

JES ENVIRONMENTAL SERVICES, INC.
www.jesenv.com

map center: 42° 6' 43.64, 96° 45' 19.52
scale: 8802

N
W E
S

29-25N-6E
Thurston County
Nebraska

www.AgriDataInc.com

Field borders provided by Farm Service Agency as of 5/21/2008. Aerial photography provided by Aerial Photograpy Field Office.

Field # 3

JES ENVIRONMENTAL SERVICES, INC.
www.Jesenv.com

map center: 42° 5' 51.78, 96° 48' 49.69
scale: 8736

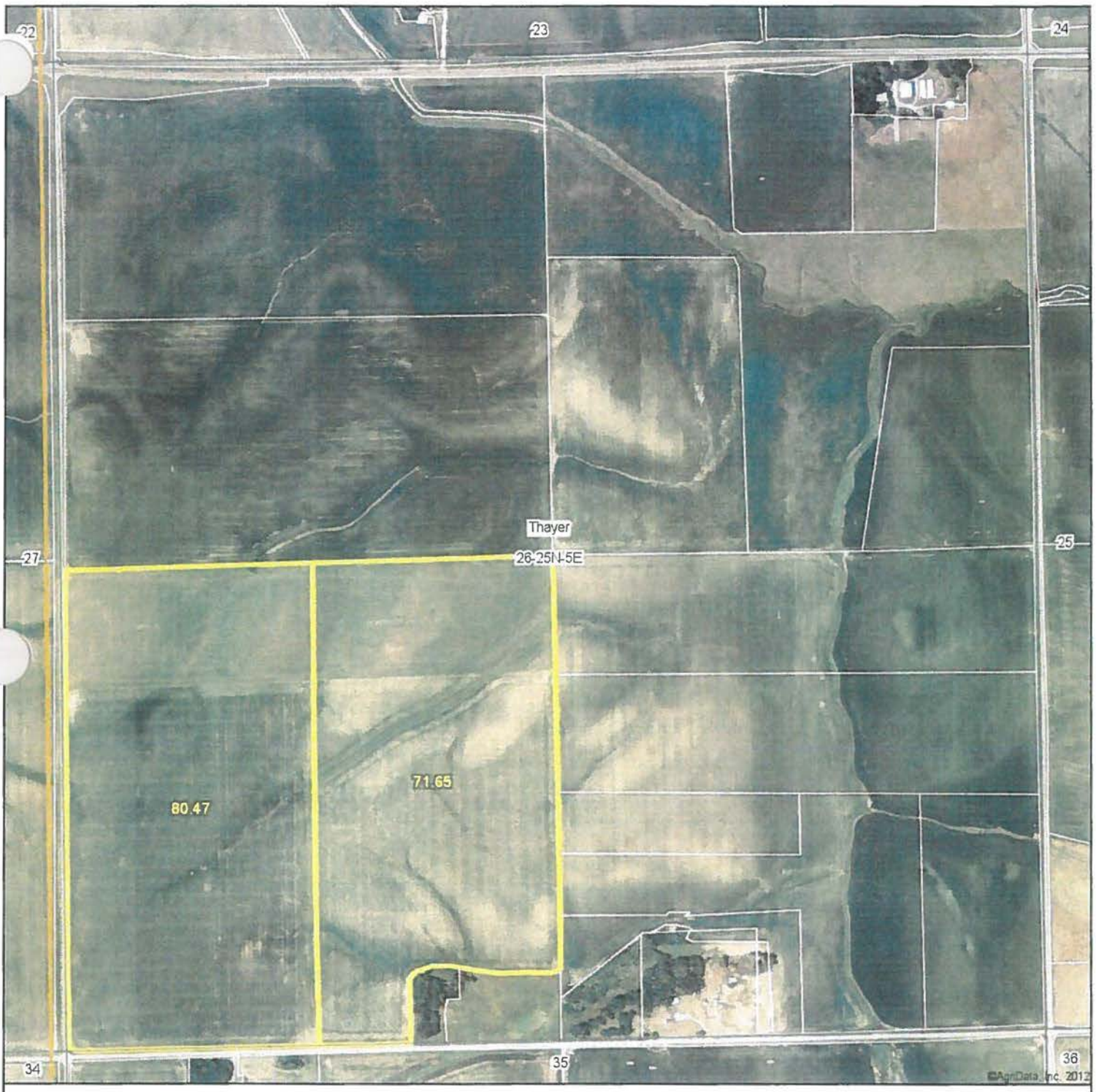
35-25N-5E
Thurston County
Nebraska

N
W E
S

www.AgriDataInc.com

Field borders provided by Farm Service Agency as of 5/21/2008. Aerial photography provided by Aerial Photograpy Field Office.

Field # 4



JES ENVIRONMENTAL SERVICES, INC.
www.jesenv.com

map center: 42° 6' 44.54, 96° 48' 49.35
scale: 8857

26-25N-5E
Thurston County
Nebraska

N
W E
S

Field borders provided by Farm Service Agency as of 5/21/2008. Aerial photography provided by Aerial Photograpy Field Office.

Field # 5

JES ENVIRONMENTAL SERVICES, INC
www.jesenv.com

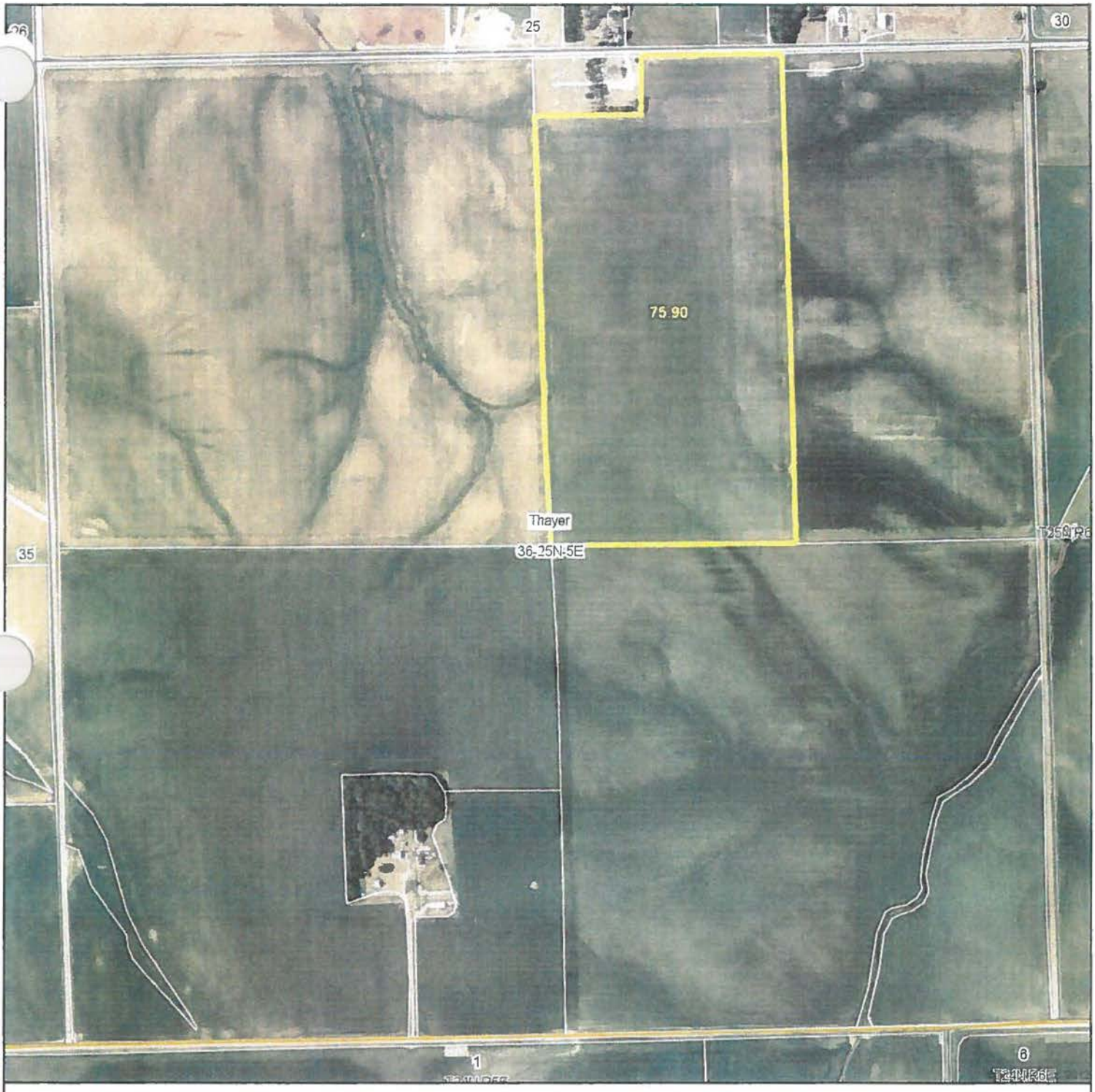
map center: 42° 5' 51.53, 96° 47' 39.12
scale: 8786

36-25N-5E
Thurston County
Nebraska

N
W E
S

Field borders provided by Farm Service Agency as of 5/21/2008. Aerial photography provided by Aerial Photograpy Field Office.

Field # 6



JES ENVIRONMENTAL SERVICES, INC.
www.jesenv.com

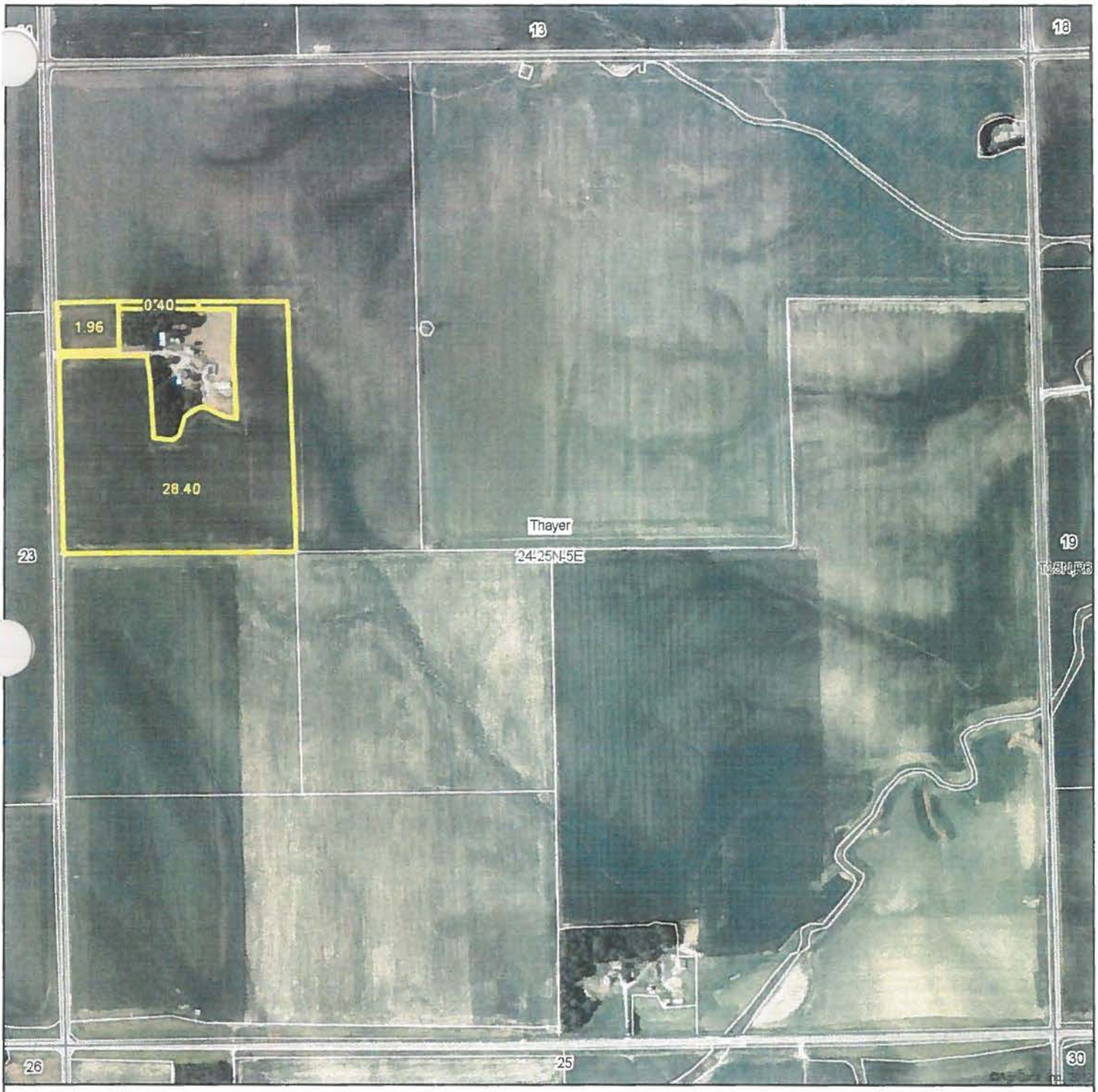
map center: 42° 5' 51.53, 96° 47' 39.12
scale: 8786

36-25N-5E
Thurston County
Nebraska

N
W E
S

Field borders provided by Farm Service Agency as of 5/21/2008. Aerial photography provided by Aerial Photograpy Field Office.

Field # 7



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map center: 42° 7' 36.28, 96° 47' 38.98
scale: 8794

24-25N-5E
Thurston County
Nebraska

N
W E
S

www.AgriDataInc.com

Field borders provided by Farm Service Agency as of 5/21/2008. Aerial photography provided by Aerial Photograpy Field Office.

Field # 8

JES ENVIRONMENTAL SERVICES, INC.
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map center: 42° 4' 7.7, 96° 46' 38.9
scale: 8774

7-24N-6E
Cuming County
Nebraska

N
W E
S

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Field borders provided by Farm Service Agency as of 5/21/2008. Aerial photography provided by Aerial Photograpy Field Office.

Field # 9

JES ENVIRONMENTAL SERVICES, INC
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map center: 42° 5' 51.78, 96° 48' 49.69
scale: 8736

35-25N-5E
Thurston County
Nebraska

N
W E
S

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Field borders provided by Farm Service Agency as of 5/21/2008. Aerial photography provided by Aerial Photograpy Field Office.

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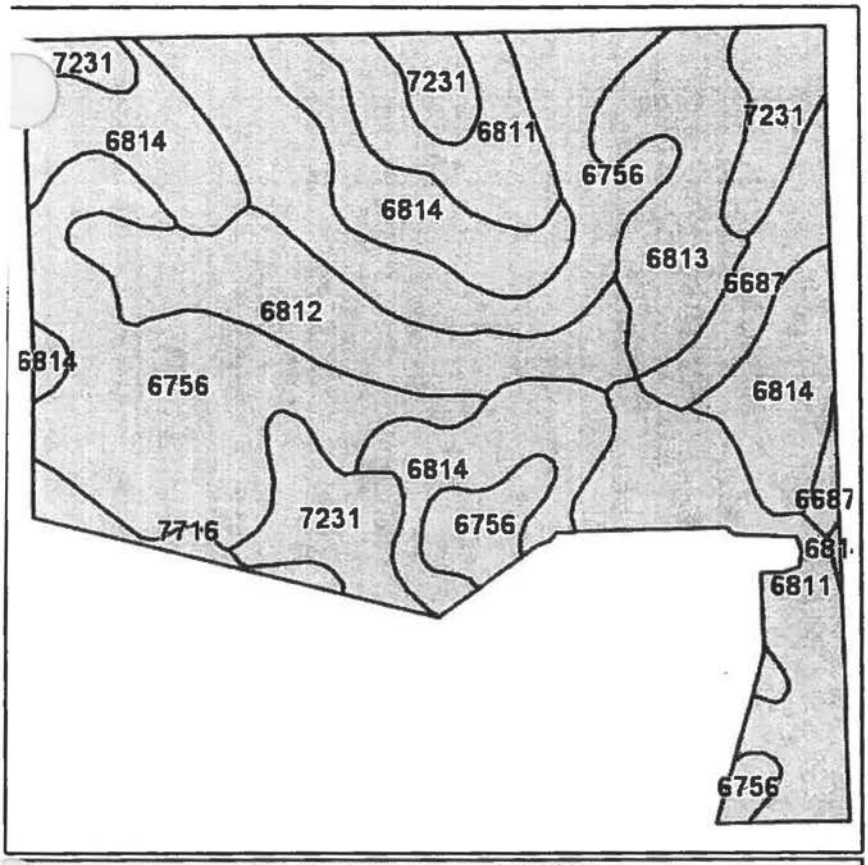
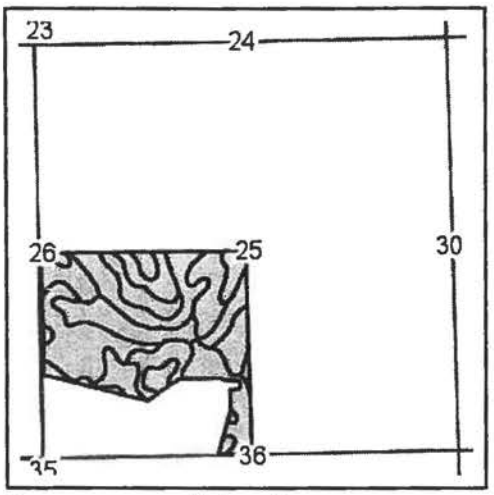
Section 3.5 Soil Maps & Descriptions

Soils Map Field # 1



d borders provided by Farm Service Agency as of 5/21/2008.
data provided by USDA and NRCS.



State: **Nebraska**
County: **Thurston**
Location: **25-25N-5E**
Township: **Thayer**
Acres: **109.6**

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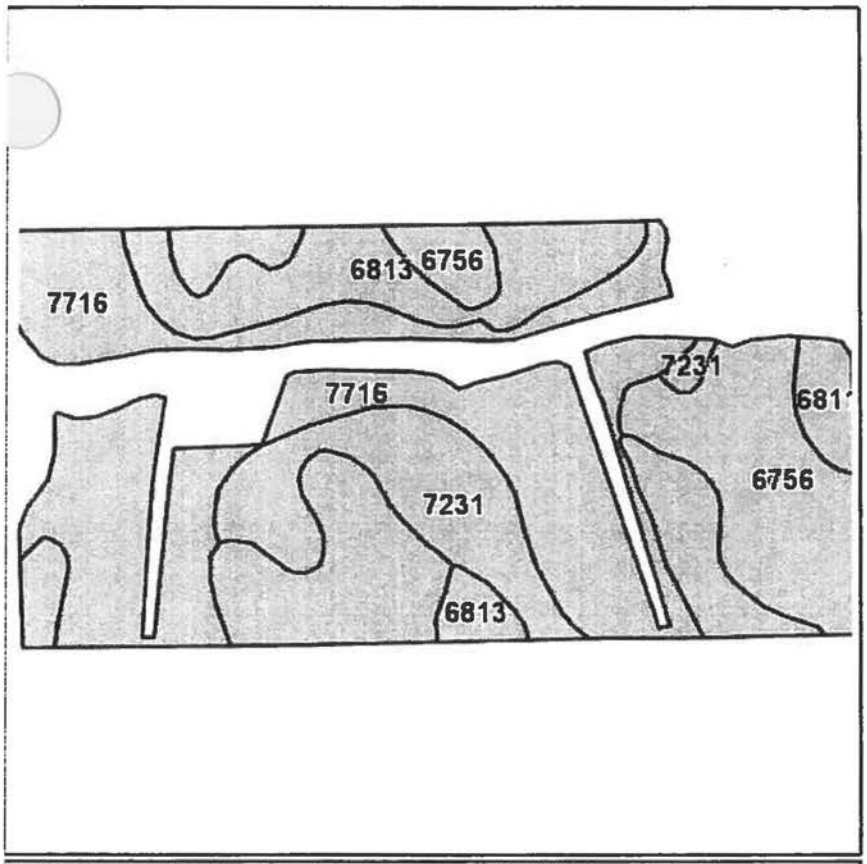
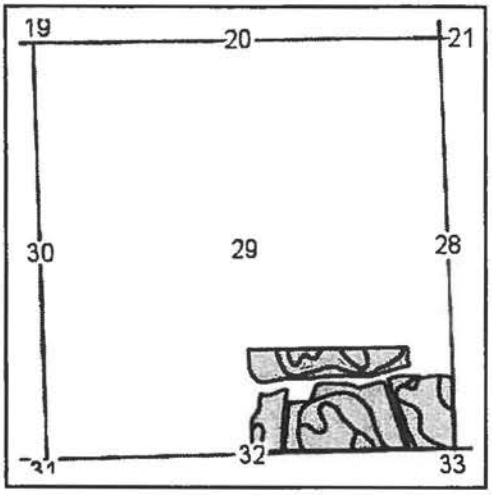
Code	Soil Description	Acres	Percent of field	Restrictive Layer	Non-Irr Class	Irr Class	SRPG
6756	Nora silt loam, 6 to 11 percent slopes, eroded	33.7	30.9%	> 6.5ft.	IIIe	IVe	55
6814	Moody silty clay loam, 6 to 11 percent slopes, eroded	23.6	21.5%	> 6.5ft.	IIIe	IVe	66
6811	Moody silty clay loam, 2 to 6 percent slopes	15.9	14.5%	> 6.5ft.	IIe	IIIe	74
6812	Moody silty clay loam, 2 to 6 percent slopes, eroded	11	10.0%	> 6.5ft.	IIe	IIIe	71
7231	Judson silt loam, 2 to 6 percent slopes	10.8	9.8%	> 6.5ft.	IIe	IIIe	74
6813	Moody silty clay loam, 6 to 11 percent slopes	8.2	7.5%	> 6.5ft.	IIIe	IVe	69
6687	Crofton silt loam, 6 to 11 percent slopes, eroded	4.5	4.1%	> 6.5ft.	IVe	IVe	41
7716	McPaul silt loam, occasionally flooded	1.8	1.6%	> 6.5ft.	IIw	IIw	47
						Weighted Average	**63.9**

Soils Map Field # 2



Field borders provided by Farm Service Agency as of 5/21/2008.
Soil data provided by USDA and NRCS.



State: **Nebraska**
County: **Thurston**
Location: **29-25N-6E**
Township: **Thayer**
Acres: **63.8**

JES ENVIRONMENTAL SERVICES, INC.
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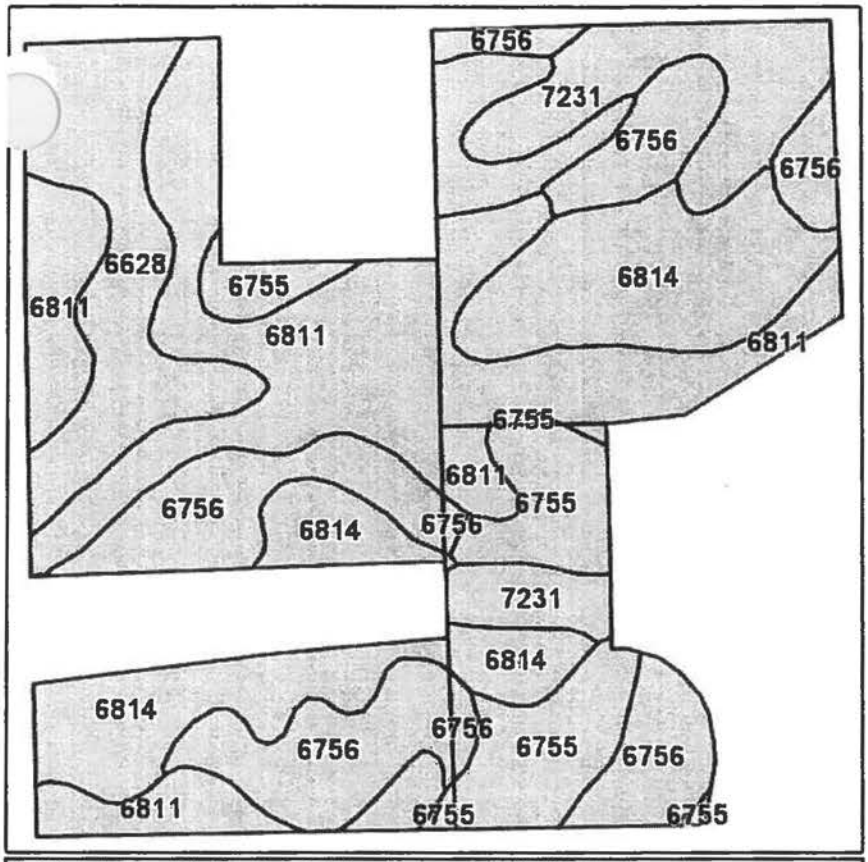
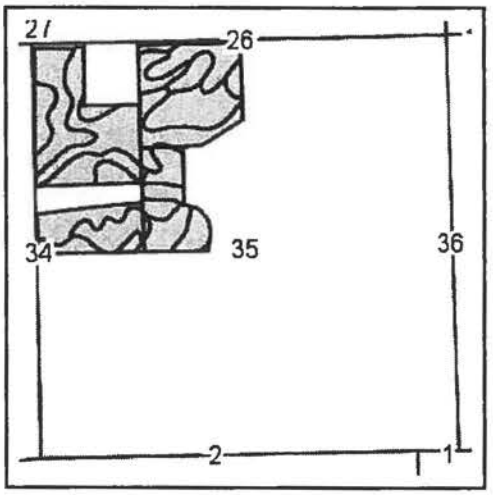
Code	Soil Description	Acres	Percent of field	Restrictive Layer	Non-Irr Class	Irr Class	SRPG
7716	McPaul silt loam, occasionally flooded	24.4	38.3%	> 6.5ft.	IIw	IIw	47
6756	Nora silt loam, 6 to 11 percent slopes, eroded	18.6	29.1%	> 6.5ft.	IIIe	IVe	55
7231	Judson silt loam, 2 to 6 percent slopes	11	17.3%	> 6.5ft.	IIe	IIIe	74
6813	Moody silty clay loam, 6 to 11 percent slopes	8.3	13.0%	> 6.5ft.	IIIe	IVe	69
6811	Moody silty clay loam, 2 to 6 percent slopes	1.5	2.3%	> 6.5ft.	IIe	IIIe	74
						Weighted Average	**57.5**

Soils Map Field # 3



Field borders provided by Farm Service Agency as of 5/21/2008.
Soil data provided by USDA and NRCS.

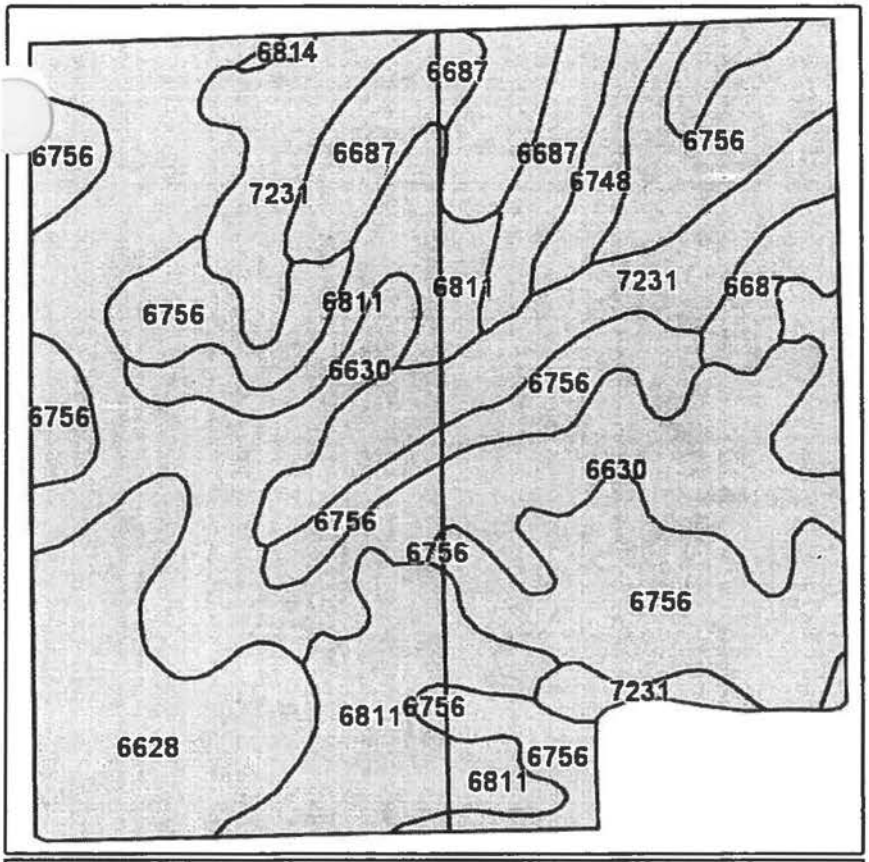


State: **Nebraska**
County: **Thurston**
Location: **35-25N-5E**
Township: **Thayer**
Acres: **117.1**

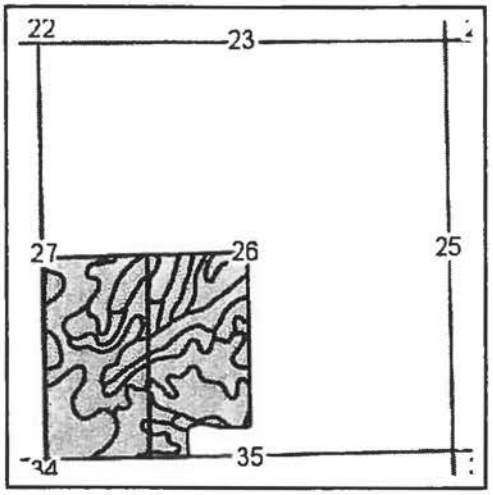
JES ENVIRONMENTAL SERVICES, INC.
www.jesenv.com

Code	Soil Description	Acres	Percent of field	Restrictive Layer	Non-Irr Class	Irr Class	SRPG
6811	Moody silty clay loam, 2 to 6 percent slopes	32.8	28.0%	> 6.5ft.	IIe	IIIe	74
6814	Moody silty clay loam, 6 to 11 percent slopes, eroded	23.7	20.2%	> 6.5ft.	IIIe	IVe	66
6756	Nora silt loam, 6 to 11 percent slopes, eroded	23.1	19.8%	> 6.5ft.	IIIe	IVe	55
6755	Nora silt loam, 6 to 11 percent slopes	15.2	12.9%	> 6.5ft.	IIIe	IVe	59
6628	Belfore silty clay loam, 0 to 2 percent slopes	11.7	10.0%	> 6.5ft.	I	I	74
7231	Judson silt loam, 2 to 6 percent slopes	10.6	9.1%	> 6.5ft.	IIe	IIIe	74
						Weighted Average	**66.7**

Soils Map Field # 4



Field borders provided by Farm Service Agency as of 5/21/2008.
's data provided by USDA and NRCS.



State: **Nebraska**
County: **Thurston**
Location: **26-25N-5E**
Township: **Thayer**
Acres: **152.1**

JES ENVIRONMENTAL SERVICES, INC.
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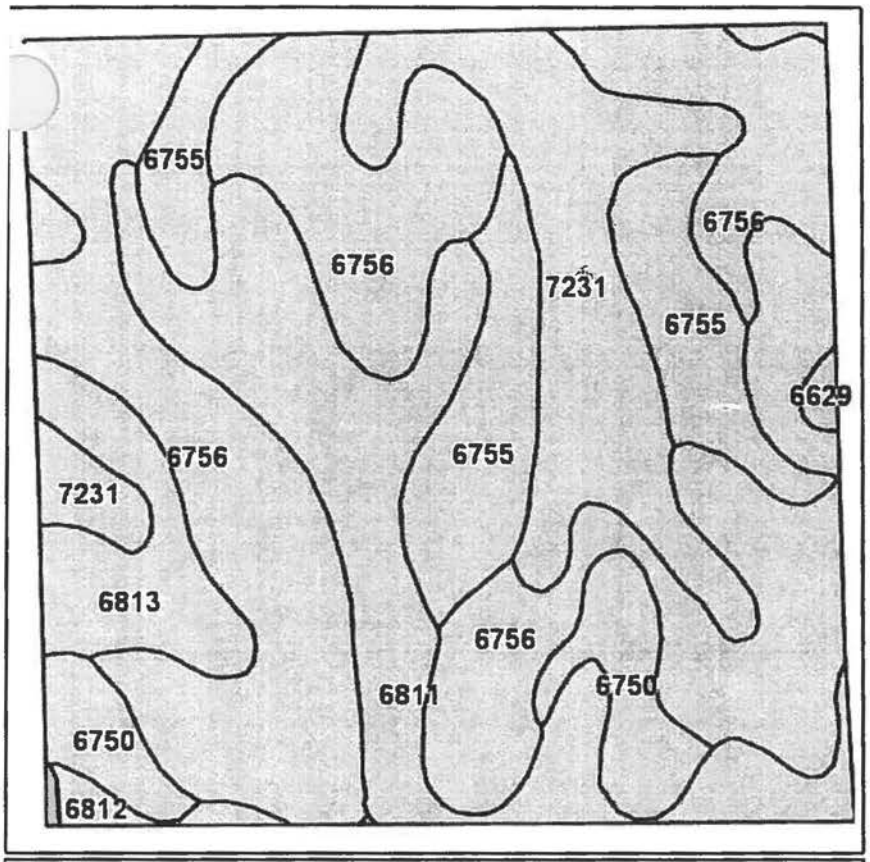
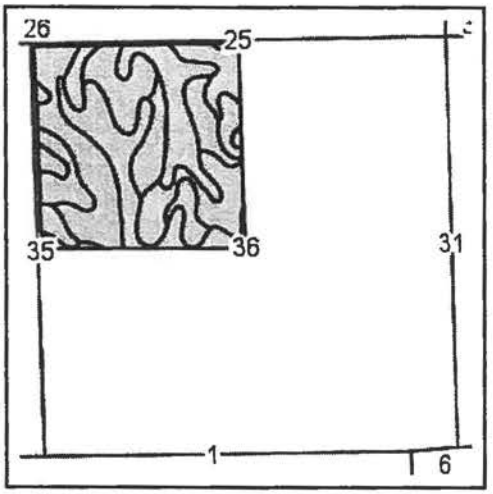
de	Soil Description	Acres	Percent of field	Restrictive Layer	Non-Irr Class	Irr Class	SRPG
6756	Nora silt loam, 6 to 11 percent slopes, eroded	39.5	26.0%	> 6.5ft.	IIIe	IVe	55
6630	Belfore-Moody silty clay loams, 1 to 3 percent slopes	38.2	25.1%	> 6.5ft.	IIe	IIe	73
7231	Judson silt loam, 2 to 6 percent slopes	24.6	16.2%	> 6.5ft.	IIe	IIIe	74
6811	Moody silty clay loam, 2 to 6 percent slopes	18.9	12.4%	> 6.5ft.	IIe	IIIe	74
6628	Belfore silty clay loam, 0 to 2 percent slopes	15.8	10.4%	> 6.5ft.	I	I	74
6687	Crofton silt loam, 6 to 11 percent slopes, eroded	11.9	7.8%	> 6.5ft.	IVe	IVe	41
6748	Nora silt loam, 1 to 6 percent slopes, eroded	2.9	1.9%	> 6.5ft.	IIe	IIIe	63
6814	Moody silty clay loam, 6 to 11 percent slopes, eroded	0.3	0.2%	> 6.5ft.	IIIe	IVe	66
						Weighted Average	**66**

Soils Map Field # 5



d borders provided by Farm Service Agency as of 5/21/2008.
) data provided by USDA and NRCS.

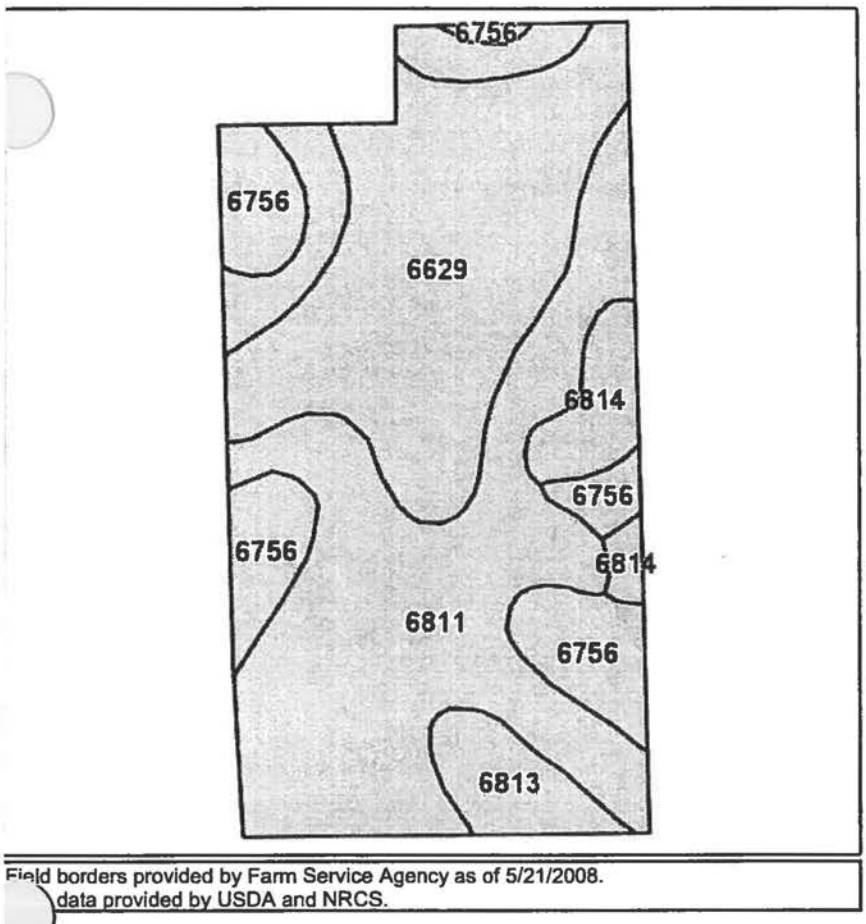


State: **Nebraska**
County: **Thurston**
Location: **36-25N-5E**
Township: **Thayer**
Acres: **156.1**

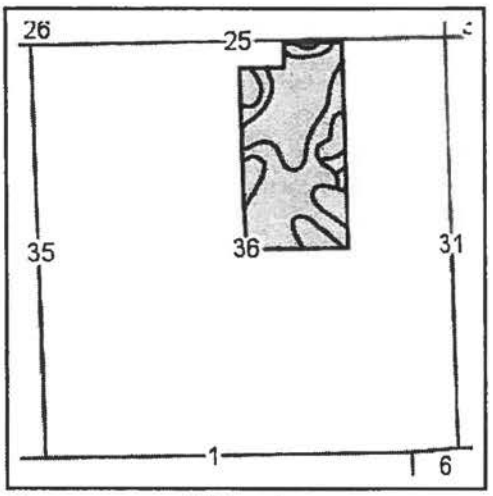
JES ENVIRONMENTAL SERVICES, INC.
www.jesenv.com

Code	Soil Description	Acres	Percent of field	Restrictive Layer	Non-Irr Class	Irr Class	SRPG
6756	Nora silt loam, 6 to 11 percent slopes, eroded	65.6	42.0%	> 6.5ft.	IIIe	IVe	55
6811	Moody silty clay loam, 2 to 6 percent slopes	29.6	19.0%	> 6.5ft.	IIe	IIIe	74
7231	Judson silt loam, 2 to 6 percent slopes	21.9	14.0%	> 6.5ft.	IIe	IIIe	74
6755	Nora silt loam, 6 to 11 percent slopes	19.5	12.5%	> 6.5ft.	IIIe	IVe	59
6813	Moody silty clay loam, 6 to 11 percent slopes	9.2	5.9%	> 6.5ft.	IIIe	IVe	69
6750	Nora silt loam, 11 to 17 percent slopes, eroded	8.4	5.4%	> 6.5ft.	IVe		51
6812	Moody silty clay loam, 2 to 6 percent slopes, eroded	1.3	0.8%	> 6.5ft.	IIe	IIIe	71
6629	Belfore-Moody silty clay loams, 0 to 1 percent slopes	0.6	0.4%	> 6.5ft.	I	I	73
						Weighted Average	**62.6**

Soils Map Field # 6



Field borders provided by Farm Service Agency as of 5/21/2008.
data provided by USDA and NRCS.



State: **Nebraska**
County: **Thurston**
Location: **36-25N-5E**
Township: **Thayer**
Acres: **75.9**

JES ENVIRONMENTAL SERVICES, INC.
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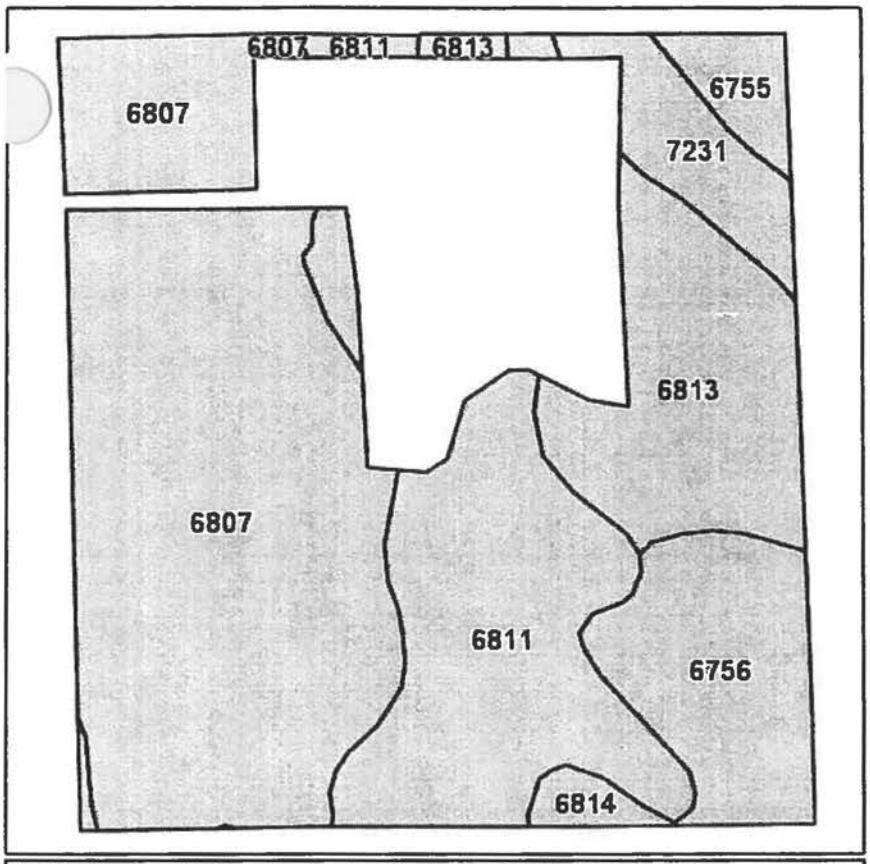
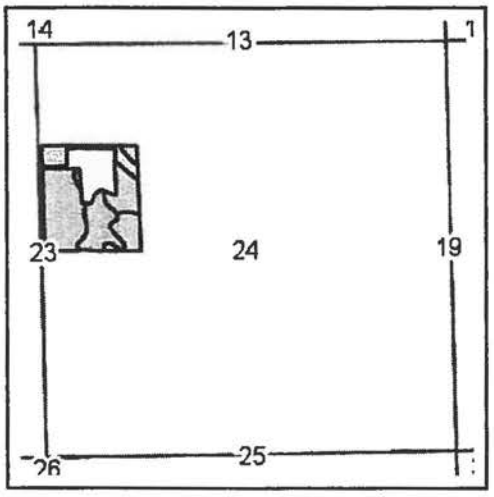
Code	Soil Description	Acres	Percent of field	Restrictive Layer	Non-Irr Class	Irr Class	SRPG
6811	Moody silty clay loam, 2 to 6 percent slopes	34.7	45.6%	> 6.5ft.	IIe	IIIe	74
6629	Belfore-Moody silty clay loams, 0 to 1 percent slopes	23.9	31.5%	> 6.5ft.	I	I	73
6756	Nora silt loam, 6 to 11 percent slopes, eroded	10.2	13.5%	> 6.5ft.	IIIe	IVe	55
6814	Moody silty clay loam, 6 to 11 percent slopes, eroded	3.6	4.7%	> 6.5ft.	IIIe	IVe	66
6813	Moody silty clay loam, 6 to 11 percent slopes	3.5	4.7%	> 6.5ft.	IIIe	IVe	69
						Weighted Average	**70.5**

Soils Map Field # 7



Field borders provided by Farm Service Agency as of 5/21/2008.
Soil data provided by USDA and NRCS.



State: **Nebraska**
County: **Thurston**
Location: **24-25N-5E**
Township: **Thayer**
Acres: **30.8**

JES ENVIRONMENTAL SERVICES, INC.
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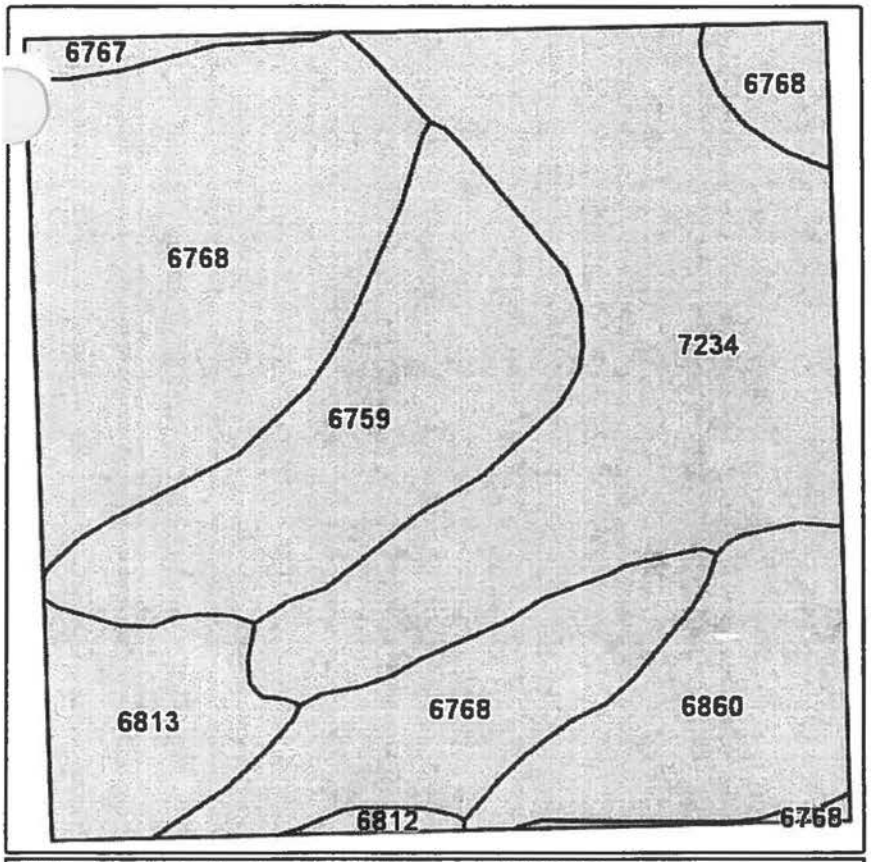
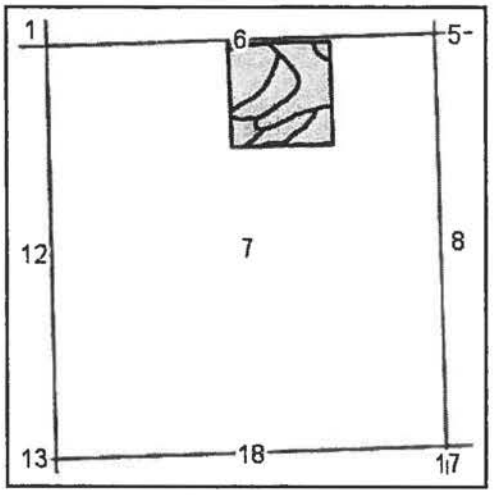
Code	Soil Description	Acres	Percent of field	Restrictive Layer	Non-Irr Class	Irr Class	SRPG
6807	Moody silty clay loam, 0 to 1 percent slopes	13.8	44.8%	> 6.5ft.	I	I	77
6811	Moody silty clay loam, 2 to 6 percent slopes	6.6	21.6%	> 6.5ft.	IIe	IIIe	74
6813	Moody silty clay loam, 6 to 11 percent slopes	4.5	14.6%	> 6.5ft.	IIIe	IVe	69
6756	Nora silt loam, 6 to 11 percent slopes, eroded	3.3	10.7%	> 6.5ft.	IIIe	IVe	55
7231	Judson silt loam, 2 to 6 percent slopes	1.5	4.8%	> 6.5ft.	IIe	IIIe	74
6755	Nora silt loam, 6 to 11 percent slopes	0.7	2.3%	> 6.5ft.	IIIe	IVe	59
6814	Moody silty clay loam, 6 to 11 percent slopes, eroded	0.4	1.2%	> 6.5ft.	IIIe	IVe	66
						Weighted Average	**72.1**

Soils Map Field # 8



Field borders provided by Farm Service Agency as of 5/21/2008.
Soil data provided by USDA and NRCS.

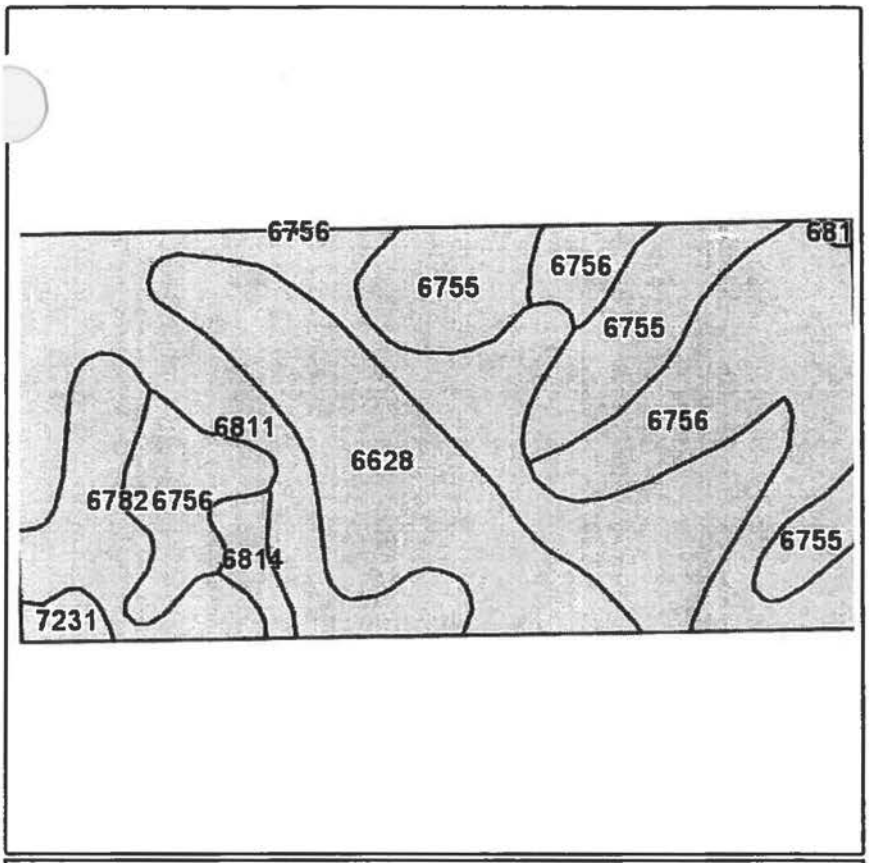


State: **Nebraska**
County: **Cuming**
Location: **7-24N-6E**
Township: **Cleveland**
Acres: **39.1**

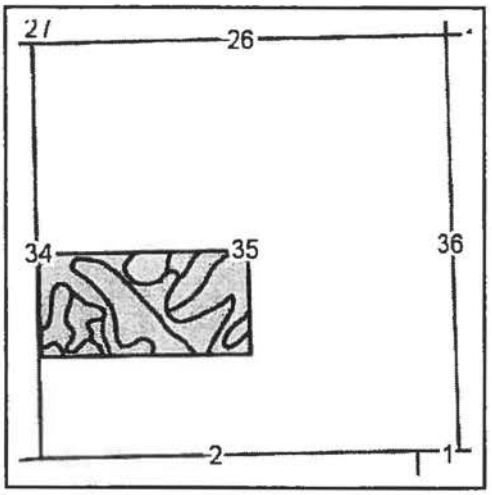
JES ENVIRONMENTAL SERVICES, INC.
www.jesenv.com

Code	Soil Description	Acres	Percent of field	Restrictive Layer	Non-Irr Class	Irr Class	SRPG
6768	Nora silty clay loam, 6 to 11 percent slopes, eroded	13.3	34.1%	> 6.5ft.	IIIe	IVe	61
7234	Judson silty clay loam, 2 to 6 percent slopes	11.9	30.4%	> 6.5ft.	IIe	IIIe	76
6759	Nora silty clay loam, 11 to 17 percent slopes, eroded	6.6	16.8%	> 6.5ft.	IVe		56
6860	Crofton silt loam, 8 to 17 percent slopes, eroded	4.1	10.4%	> 6.5ft.	IVe		
6813	Moody silty clay loam, 6 to 11 percent slopes	2.6	6.8%	> 6.5ft.	IIIe	IVe	69
6767	Nora silty clay loam, 6 to 11 percent slopes	0.4	1.0%	> 6.5ft.	IIIe	IVe	65
6812	Moody silty clay loam, 2 to 6 percent slopes, eroded	0.2	0.5%	> 6.5ft.	IIe	IIIe	75
						Weighted Average	**59**

Soils Map Field # 9



Field borders provided by Farm Service Agency as of 5/21/2008.
Soil data provided by USDA and NRCS.



State: **Nebraska**
County: **Thurston**
Location: **35-25N-5E**
Township: **Thayer**
Acres: **81.7**

JES ENVIRONMENTAL SERVICES, INC.
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Code	Soil Description	Acres	Percent of field	Restrictive Layer	Non-Irr Class	Irr Class	SRPG
6811	Moody silty clay loam, 2 to 6 percent slopes	25.9	31.9%	> 6.5ft.	IIe	IIIe	74
6756	Nora silt loam, 6 to 11 percent slopes, eroded	20.2	24.7%	> 6.5ft.	IIIe	IVe	55
6628	Belfore silty clay loam, 0 to 2 percent slopes	14.8	18.1%	> 6.5ft.	I	I	74
6755	Nora silt loam, 6 to 11 percent slopes	11.7	14.3%	> 6.5ft.	IIIe	IVe	59
6782	Nora-Moody silty clay loams, 6 to 11 percent slopes	6.5	8.0%	> 6.5ft.	IIIe	IVe	65
6814	Moody silty clay loam, 6 to 11 percent slopes, eroded	1.5	1.8%	> 6.5ft.	IIIe	IVe	66
7231	Judson silt loam, 2 to 6 percent slopes	0.9	1.1%	> 6.5ft.	IIe	IIIe	74
6813	Moody silty clay loam, 6 to 11 percent slopes	0.2	0.2%	> 6.5ft.	IIIe	IVe	69
						Weighted Average	**66.4**

Map Unit Text

Cuming County, Nebraska

Map unit: 6628 - Belfore silty clay loam, 0 to 2 percent slopes

Text kind/Category: Nontechnical description/SOI

Be=Belfore Silty Clay Loam, 0 To 2 Percent Slopes
Belfore soils make up 100 percent of the map unit. This map unit is in the Loess Uplands Major Land Resource Area. This soil occurs on a nearly level broad interstream divide on upland with a medium runoff class. The parent material consists of clayey noncalcareous loess. It is well drained. The slowest permeability is moderately slow. It has a high available water capacity and a high shrink swell potential. This soil is not flooded and is not ponded. The water table depth is greater than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Silty - Veg. Zone 4 range site. This soil is in the irrigated land capability class 1. It is in the nonirrigated land capability class 1.

Map unit: 6630 - Belfore-Moody silty clay loams, 1 to 3 percent slopes

Text kind/Category: Nontechnical description/SOI

BmB=Belfore-Moody Silty Clay Loams, 1 To 3 Percent Slopes
Belfore soils make up 60 percent of the map unit. This map unit is in the Loess Uplands Major Land Resource Area. This soil occurs on a gently sloping ridge on upland with a medium runoff class. The parent material consists of clayey noncalcareous loess. It is well drained. The slowest permeability is moderately slow. It has a high available water capacity and a high shrink swell potential. This soil is not flooded and is not ponded. The water table depth is greater than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Silty - Veg. Zone 3 range site. This soil is in the irrigated land capability class 2e. It is in the nonirrigated land capability class 2e.

Moody soils make up 40 percent of the map unit. This map unit is in the Loess Uplands Major Land Resource Area. This soil occurs on a gently sloping hillslope on upland with a medium runoff class. The parent material consists of fine-silty calcareous loess. It is well drained. The slowest permeability is moderately slow. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The water table depth is greater than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Silty - Veg. Zone 3 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability class 2e.

Map unit: 6716 - Thurman-Valentine loamy fine sands, 0 to 2 percent slopes

Text kind/Category: Nontechnical description/SOI

TvB=Thurman And Valentine Loamy Fine Sands, 0 To 3 Percent Slopes
Thurman soils make up 60 percent of the map unit. This map unit is in the Loess Uplands Major Land Resource Area. This soil occurs on a nearly level to very gently sloping hillslope on upland with a negligible runoff class. The parent material consists of sandy eolian deposits. It is somewhat excessively drained. The slowest permeability is rapid. It has a moderate available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The water table depth is greater than 6 feet. This soil is in the Sandy - Veg. Zone 4 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability class 3e.

Valentine soils make up 40 percent of the map unit. This soil occurs on a nearly level to very gently sloping ridge on upland with a negligible runoff class. The parent material consists of eolian sands. It is excessively drained. The slowest permeability is rapid. It has a moderate available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The water table depth is greater than 6 feet. This soil is in the Sandy - Veg. Zone 4 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability class 4e.

Map Unit Text

Cuming County, Nebraska

Map unit: 6717 - Thurman-Valentine loamy fine sands, 2 to 6 percent slopes

Text kind/Category: Nontechnical description/SOI

TyC=Thurman And Valentine Loamy Fine Sands, 3 To 6 Percent Slopes
Thurman soils make up 50 percent of the map unit. This map unit is in the Loess Uplands Major Land Resource Area. This soil occurs on a gently sloping hillslope on upland with a negligible runoff class. The parent material consists of sandy eolian deposits. It is somewhat excessively drained. The slowest permeability is rapid. It has a moderate available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The water table depth is greater than 6 feet. This soil is in the Sandy - Veg. Zone 4 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability class 4e.

Valentine soils make up 50 percent of the map unit. This soil occurs on a gently sloping ridge on upland with a negligible runoff class. The parent material consists of eolian sands. It is excessively drained. The slowest permeability is rapid. It has a moderate available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The water table depth is greater than 6 feet. This soil is in the Sands - Veg. Zone 4 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability class 6e.

Map unit: 6750 - Nora silt loam, 11 to 17 percent slopes, eroded

Text kind/Category: Nontechnical description/SOI -

NoE2=Nora Silt Loam, 11 To 17 Percent Slopes, Eroded
Nora Variant soils make up 100 percent of the map unit. This map unit is in the Loess Uplands Major Land Resource Area. This soil occurs on a moderately steep hillslope on upland with a medium runoff class. The parent material consists of fine-silty calcareous loess. It is well drained. The slowest permeability is moderately slow. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The water table depth is greater than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Silty - Veg. Zone 3 range site. It is in the nonirrigated land capability class 4e.

Map unit: 6756 - Nora silt loam, 6 to 11 percent slopes, eroded

Text kind/Category: Nontechnical description/SOI

NoD2=Nora Silt Loam, 7 To 11 Percent Slopes, Eroded
Nora Variant soils make up 100 percent of the map unit. This map unit is in the Loess Uplands Major Land Resource Area. This soil occurs on a strongly sloping hillslope on upland with a medium runoff class. The parent material consists of fine-silty calcareous loess. It is well drained. The slowest permeability is moderately slow. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The water table depth is greater than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Silty - Veg. Zone 3 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability class 3e.

Map unit: 6767 - Nora silty clay loam, 6 to 11 percent slopes

Text kind/Category: Nontechnical description/SOI

NoD=Nora Silty Clay Loam, 6 To 11 Percent Slopes
Nora soils make up 100 percent of the map unit. This map unit is in the Loess Uplands Major Land Resource Area. This soil occurs on a strongly sloping hillslope on upland with a medium runoff class. The parent material consists of fine silty calcareous loess. It is well drained. The slowest permeability is moderate. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The water table depth is greater than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Silty - Veg. Zone 4 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability class 3e.

Map unit: 6768 - Nora silty clay loam, 6 to 11 percent slopes, eroded

Text kind/Category: Nontechnical description/SOI

NoD2=Nora Silty Clay Loam, 6 To 11 Percent Slopes, Eroded
Nora soils make up 100 percent of the map unit. This map unit is in the Loess Uplands Major Land Resource Area. This soil occurs on a strongly sloping hillslope on upland with a medium runoff class. The parent material consists of fine silty calcareous loess. It is well drained. The slowest permeability is moderate. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The water table depth is greater than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Silty - Veg. Zone 4 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability class 3e.

Map Unit Text

Cuming County, Nebraska

Map unit: 6811 - Moody silty clay loam, 2 to 6 percent slopes

Text kind/Category: Nontechnical description/SOI

MoC=Moody Silty Clay Loam, 2 To 6 Percent Slopes
Moody soils make up 100 percent of the map unit. This map unit is in the Loess Uplands Major Land Resource Area. This soil occurs on a gently sloping hillslope on upland with a medium runoff class. The parent material consists of fine silty calcareous loess. It is well drained. The slowest permeability is moderately slow. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The water table depth is greater than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Silty - Veg. Zone 4 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability class 2e.

Map unit: 6814 - Moody silty clay loam, 6 to 11 percent slopes, eroded

Text kind/Category: Nontechnical description/SOI

MoD2=Moody Silty Clay Loam, 6 To 11 Percent Slopes, Eroded
Moody soils make up 100 percent of the map unit. This map unit is in the Loess Uplands Major Land Resource Area. This soil occurs on a strongly sloping hillslope on upland with a high runoff class. The parent material consists of fine silty calcareous loess. It is well drained. The slowest permeability is moderately slow. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The water table depth is greater than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Silty - Veg. Zone 4 range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability class 3e.

Map unit: 7231 - Judson silt loam, 2 to 6 percent slopes

Text kind/Category: Nontechnical description/SOI

JuC=Judson Silt Loam, 2 To 7 Percent Slopes
Judson soils make up 100 percent of the map unit. This map unit is in the Loess Uplands Major Land Resource Area. This soil occurs on a gently sloping stream terrace on river valley with a low runoff class. The parent material consists of fine-silty colluvium. It is well drained. The slowest permeability is moderate. It has a very high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The water table depth is greater than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Silty - Veg. Zone 3 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability class 2e.

Map unit: 7234 - Judson silty clay loam, 2 to 6 percent slopes

Text kind/Category: Nontechnical description/SOI

JuC=Judson Silty Clay Loam, 2 To 6 Percent Slopes
Judson soils make up 100 percent of the map unit. This map unit is in the Loess Uplands Major Land Resource Area. This soil occurs on a gently sloping drainageway on upland with a low runoff class. The parent material consists of fine-silty colluvium. It is well drained. The slowest permeability is moderate. It has a very high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The water table depth is greater than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Silty - Veg. Zone 4 range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability class 2e.

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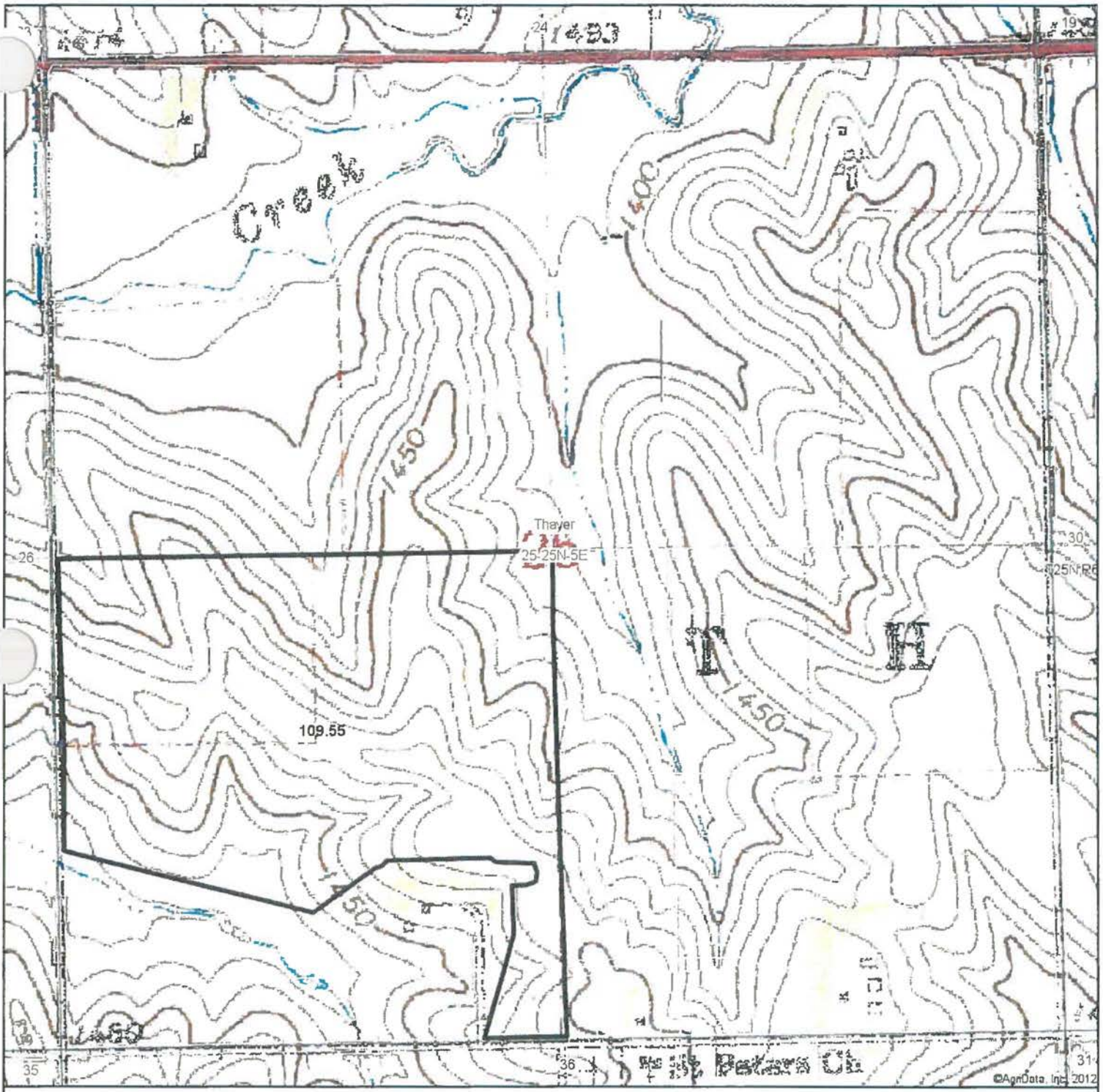
Section 3.6 Topography Maps & Setbacks

Topography Map Field # 1



JES ENVIRONMENTAL SERVICES, INC
www.jesenv.com

map center: 42° 6' 43.94, 96° 47' 39.24
scale: 8770

25-25N-5E
Thurston County
Nebraska

N
W E
S

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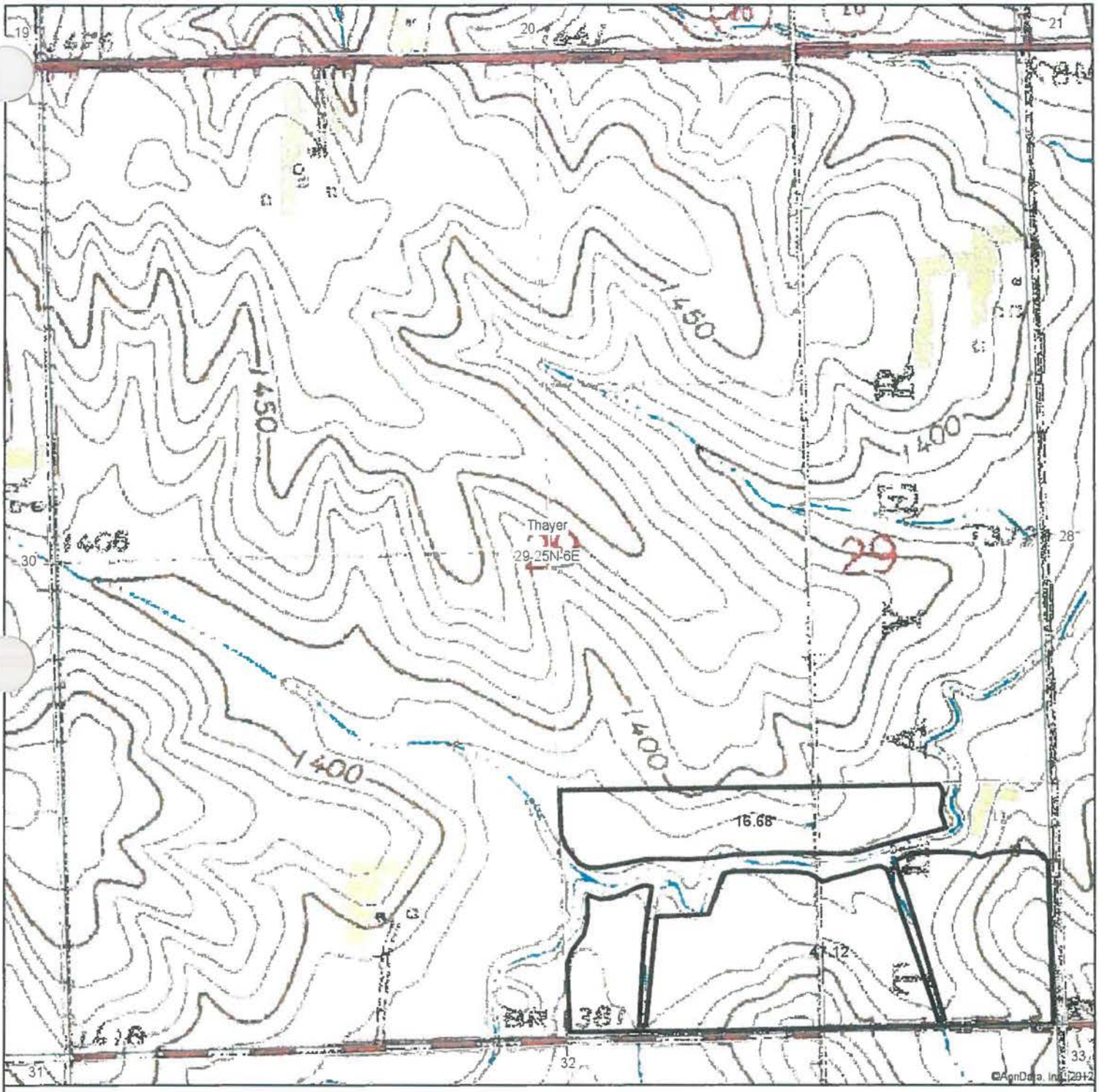
www.AgriDataInc.com

Field borders provided by Farm Service Agency as of 5/21/2008. Aerial photography provided by Aerial Photograpy Field Office.

Topography Map Field # 2



JES ENVIRONMENTAL SERVICES, INC
www.jesenv.com

map center: 42° 6' 43.64, 96° 45' 19.52
scale: 8802

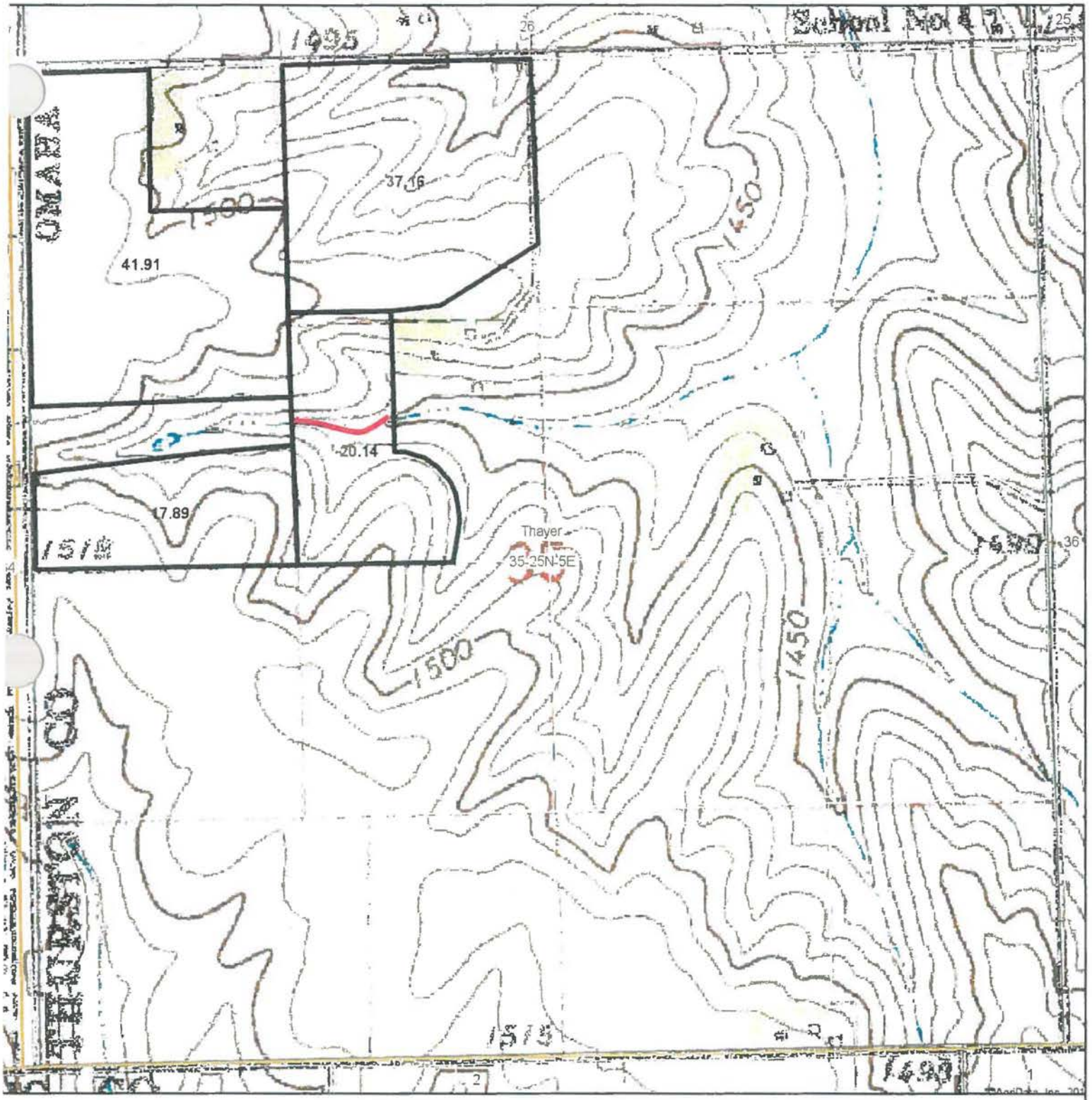
29-25N-6E
Thurston County
Nebraska

N
W E
S

griData, Inc. 2012
www.AgriDataInc.com

Field borders provided by Farm Service Agency as of 5/21/2008. Aerial photography provided by Aerial Photograpy Field Office.

Topography Map Field # 3



JES ENVIRONMENTAL SERVICES, INC.
www.jesenv.com

Setbacks

map center: 42° 5' 51.78, 96° 48' 49.69
scale: 8736

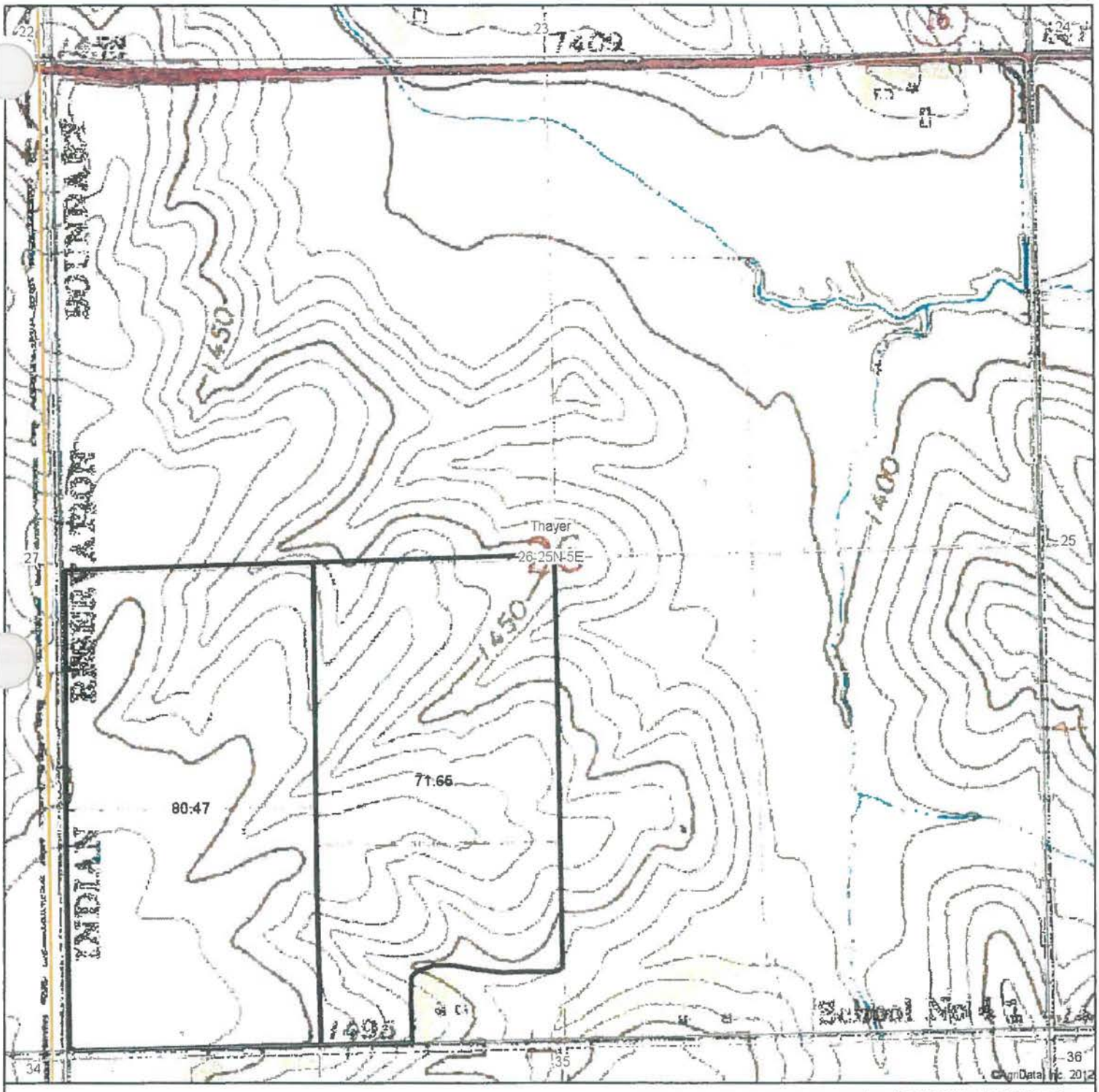
35-25N-5E
Thurston County
Nebraska

N
W E
S

www.AgriDataInc.com

Field borders provided by Farm Service Agency as of 5/21/2008. Aerial photography provided by Aerial Photograpy Field Office.

Topography Map Field # 4



JES ENVIRONMENTAL SERVICES, INC.
www.jesenv.com

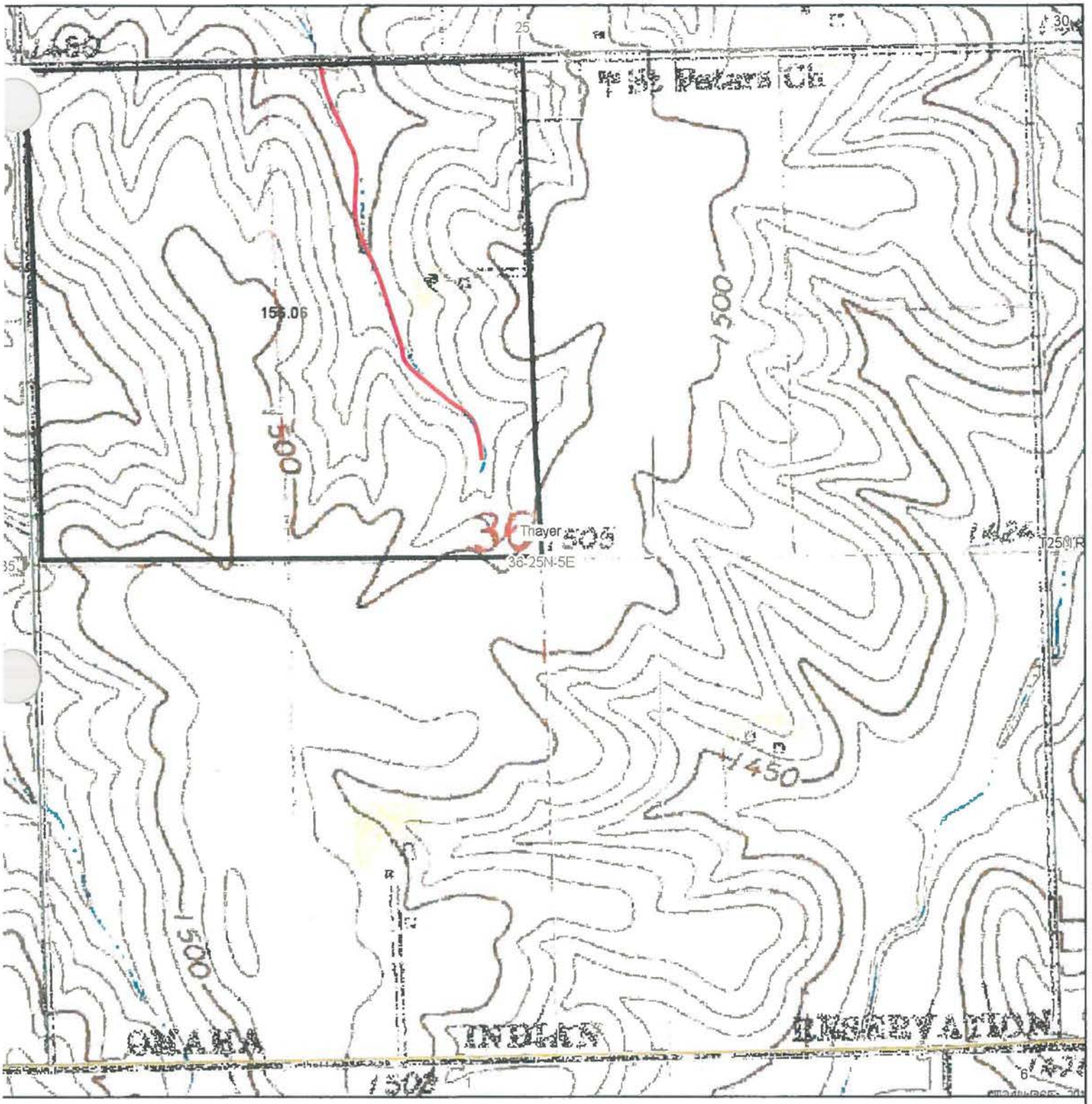
map center: 42° 6' 44.54, 96° 48' 49.35
scale: 8857

26-25N-5E
Thurston County
Nebraska

N
W E
S

Field borders provided by Farm Service Agency as of 5/21/2008. Aerial photography provided by Aerial Photograpy Field Office.

Topography Map Field # 5



JES ENVIRONMENTAL SERVICES, INC.
www.jesenv.com

map center: 42° 5' 51.53, 96° 47' 39.12
scale: 8786

Setbacks

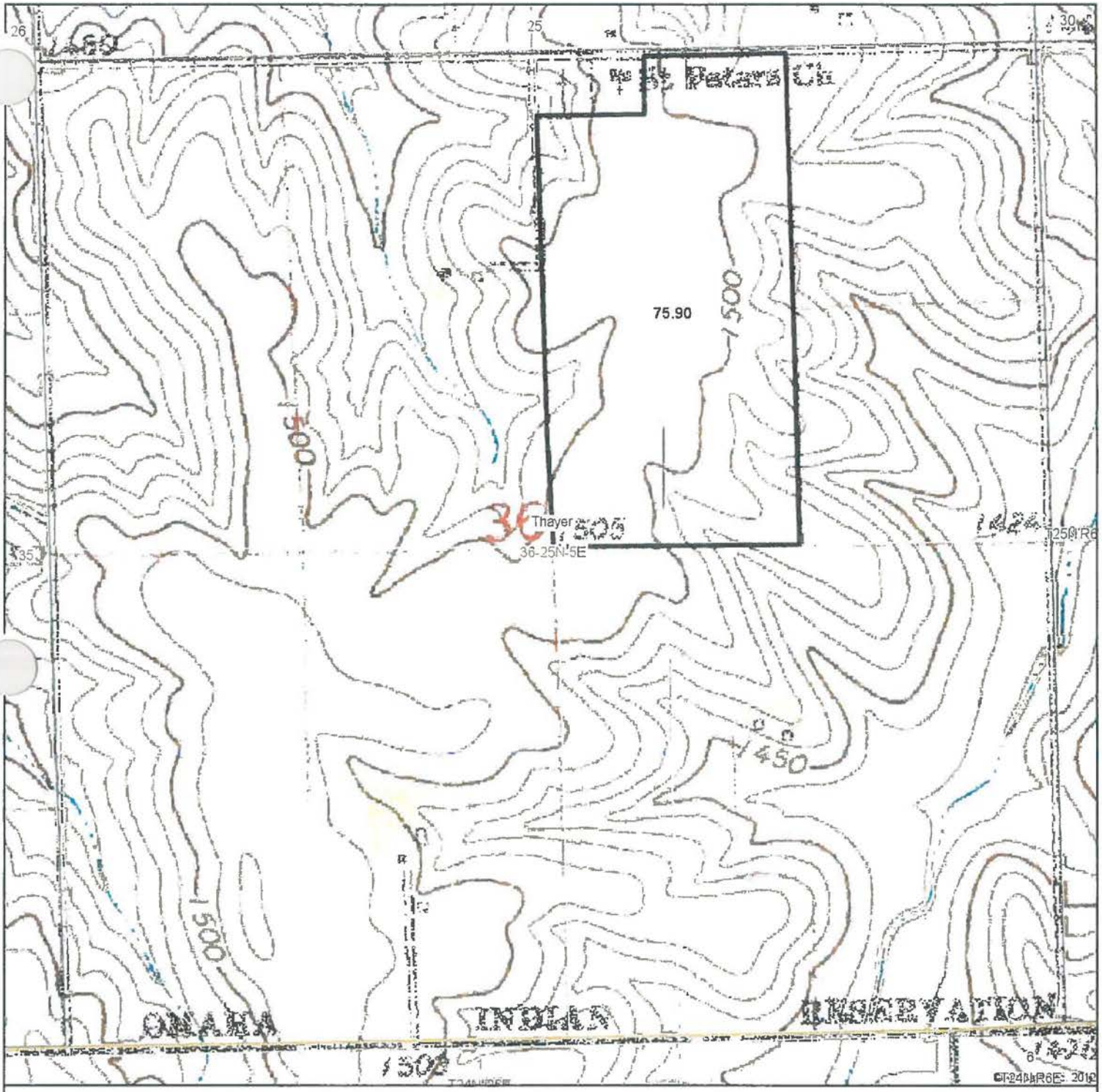
36-25N-5E
Thurston County
Nebraska

N
W E
S

www.AgriDataInc.com

ield borders provided by Farm Service Agency as of 5/21/2008. Aerial photography provided by Aerial Photograpy Field Office.

Topography Map Field # 6



JES ENVIRONMENTAL SERVICES, INC.
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map center: 42° 5' 51.53, 96° 47' 39.12
scale: 8786

36-25N-5E
Thurston County
Nebraska

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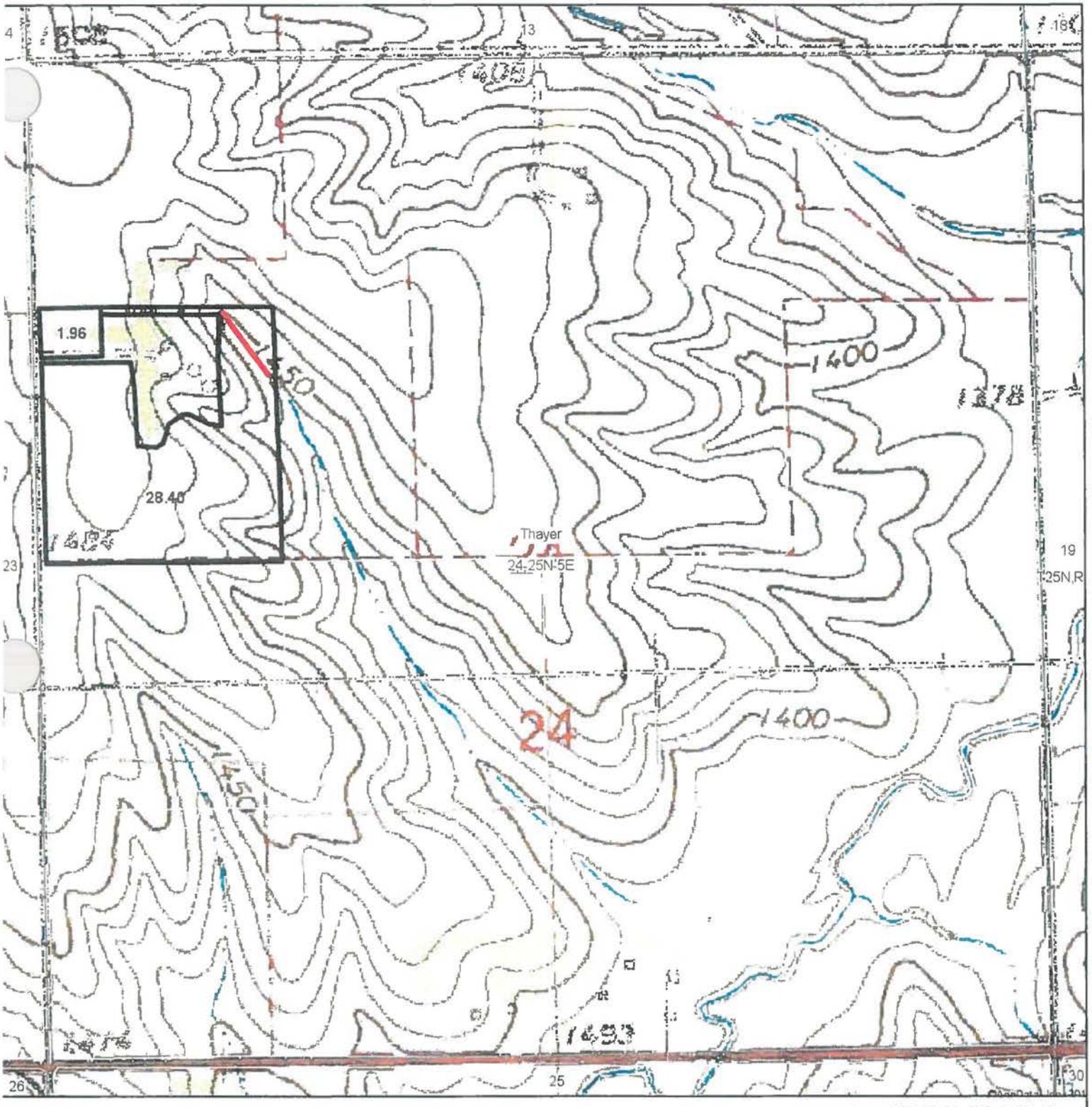
Field borders provided by Farm Service Agency as of 5/21/2008. Aerial photography provided by Aerial Photograpy Field Office.

Topography Map Field # 7



JES ENVIRONMENTAL SERVICES, INC.
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Setbacks

map center: 42° 7' 36.28, 96° 47' 38.98
scale: 8794

24-25N-5E
Thurston County
Nebraska

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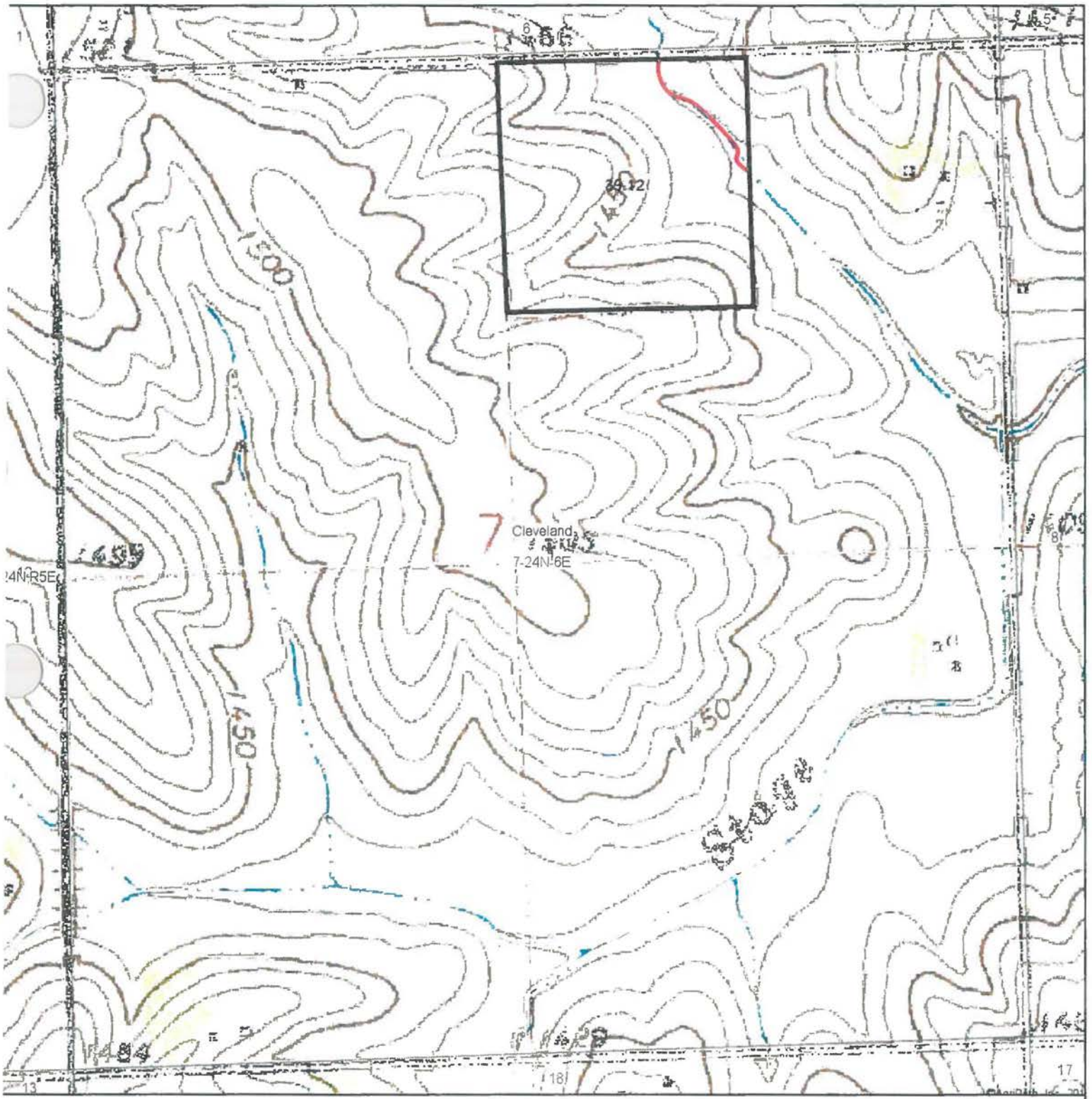
ield borders provided by Farm Service Agency as of 5/21/2008. Aerial photography provided by Aerial Photograpy Field Office.

Topography Map Field # 8



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map center: 42° 4' 7.7, 96° 46' 38.9
scale: 8774

7-24N-6E
Cuming County
Nebraska

N
W E
S

Setbacks

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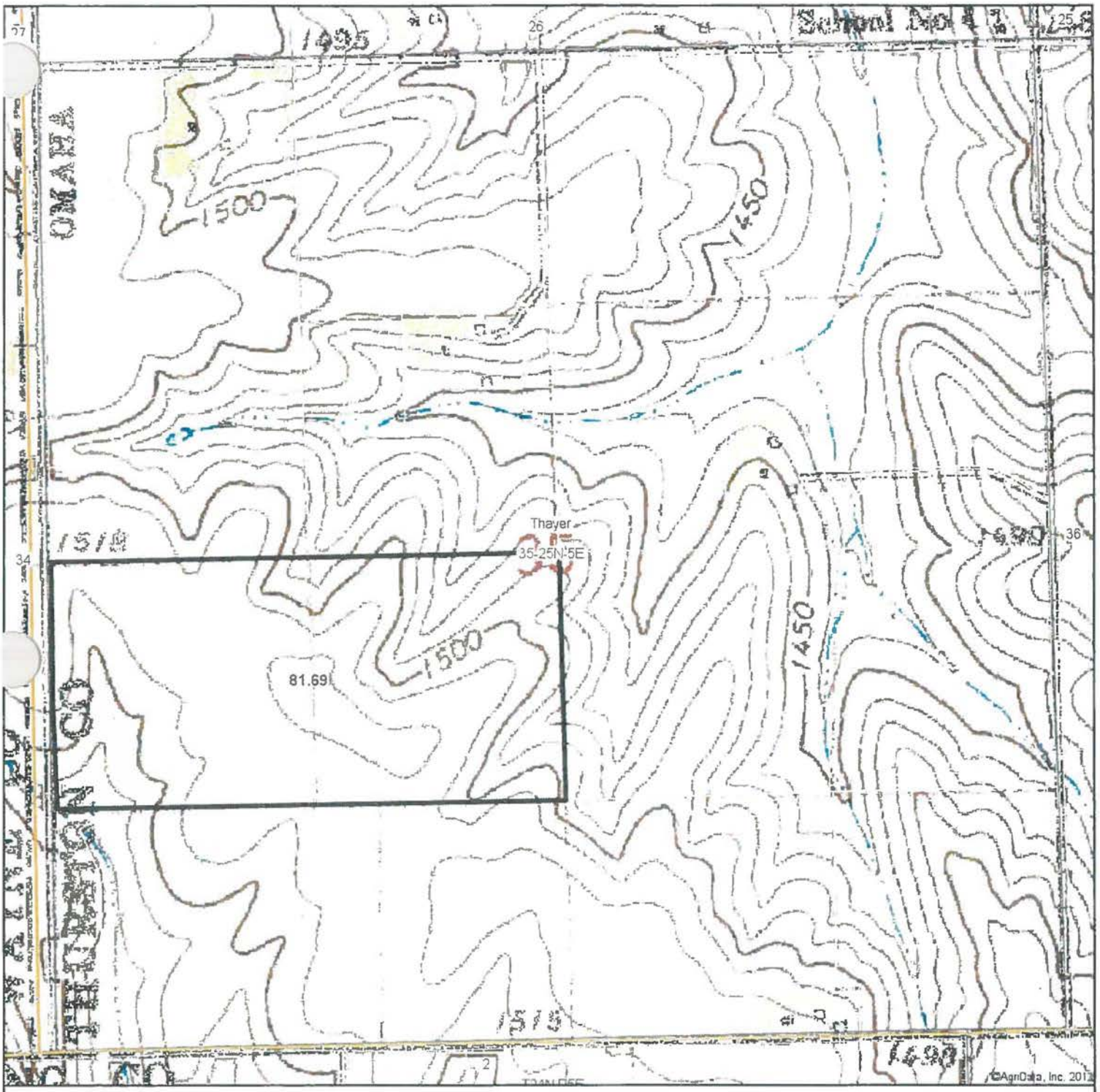
ield borders provided by Farm Service Agency as of 5/21/2008. Aerial photography provided by Aerial Photograpy Field Office.

Topography Map Field # 9



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map center: 42° 5' 51.78, 96° 48' 49.69
scale: 8736

35-25N-5E
Thurston County
Nebraska

N
W E
S

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Field borders provided by Farm Service Agency as of 5/21/2008. Aerial photography provided by Aerial Photograpy Field Office.

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Section 3.7 Phosphorus Index

USDA NRCS

Nebraska Phosphorus Index

University of Nebraska Lincoln EXTENSION

Prepared by: *JES Enviornmental Inc.*
Prepared for: *Tom Reppert Livestock*

County	Thurston	Thurston	Thurston
Field	Field # 1	Field # 2	Field # 3
Option			
Erosion, S&R	8.1	2.1	3.3
Sediment trap	None	None	None
Field radius	2000.0	500.0	1200.0
Filter width	0-10 ft	20-35 ft.	10-20 ft.
Enrichment	Tillage	Tillage	Tillage
Land use	No-Till and Conservation Till with contouring	No-Till and Conservation Till with contouring	No-Till and Conservation Till with contouring
	Row crop High Residue/Low residue Crops - ntmtc	Row crop High Residue/Low residue Crops - ntmtc	Row crop High Residue/Low residue Crops - ntmtc
Soil type	Nora silt loam, 7 to 11 percent slopes, eroded	McPaul silt loam	Moody silty clay loam, 1 to 7 percent slopes
Soil P (ppm)	32.0	23.0	51.8
Applied P lbs	20.0	20.0	20.0
	Incorporate or Inject Within 24 Hours	Incorporate or Inject Within 24 Hours	Incorporate or Inject Within 24 Hours
Irrigation	None	None	None
Rate gpm			
Furrow slope%			
Manure	1	1	1
P-Index Value	2.9	1.2	1.7

County	Thurston	Thurston	Thurston
Field	Field # 4	Field # 5	Field # 6
Option			
Erosion, S&R	7.5	7.5	3.3
Sediment trap	None	None	None
Field radius	1200.0	2500.0	2500.0
Filter width	0-10 ft	0-10 ft	0-10 ft
Enrichment	Tillage	Tillage	Tillage
Land use	No-Till and Conservation Till with contouring	No-Till and Conservation Till with contouring	No-Till and Conservation Till with contouring
	Row crop High Residue/Low residue Crops - ntmtc	Row crop High Residue/Low residue Crops - ntmtc	Row crop High Residue/Low residue Crops - ntmtc
Soil type	Nora silt loam, 7 to 11 percent slopes	Nora silt loam, 7 to 11 percent slopes	Moody silty clay loam, 1 to 7 percent slopes
Soil P (ppm)	24.5	23.0	27.0
Applied P lbs	20.0	20.0	20.0
	Incorporate or Inject Within 24 Hours	Incorporate or Inject Within 24 Hours	Incorporate or Inject Within 24 Hours
Irrigation	None	None	None
Rate gpm			
Furrow slope%			
Manure	1	1	1
P-Index Value	2.9	2.5	1.4

P -Index Value 0 to 2 = Low risk, 2 to 5 = Medium risk, 5 to 15 = High risk, 15+ = Very high risk

USDA NRCS

Nebraska Phosphorus Index

University of Nebraska Lincoln EXTENSION

Prepared by: *JES Enviornmental Inc.*
Prepared for: *Tom Reppert Livestock*

County	Thurston	Thurston	Thurston
Field	Field # 7	Field # 8	Field # 9
Option			
Erosion, S&R	0.8	11.1	4.9
Sediment trap	None	None	None
Field radius	2500.0	1000.0	1500.0
Filter width	0-10 ft	10-20 ft.	10-20 ft.
Enrichment	Tillage	Tillage	Tillage
Land use	No-Till and Conservation Till without contouring	No-Till and Conservation Till without contouring	No-Till and Conservation Till without contouring
	High Residue Crop/Low residue Crop - ntmt	High Residue Crop/Low residue Crop - ntmt	High Residue Crop/Low residue Crop - ntmt
Soil type	Moody silty clay loam, 0 to 1 percent slopes	Nora silt loam, 7 to 11 percent slopes	Moody silty clay loam, 1 to 7 percent slopes
Soil P (ppm)	35.0	11.0	20.5
Applied P lbs	20.0	20.0	20.0
	Incorporate or Inject Within 24 Hours	Incorporate or Inject Within 24 Hours	Incorporate or Inject Within 24 Hours
Irrigation	None	None	None
Rate gpm			
Furrow slope%			
Manure	1	1	1
P-Index Value	0.7	3.5	1.8

County			
Field			
Option			
Erosion, S&R			
Sediment trap			
Field radius			
Filter width			
Enrichment			
Land use			
Soil type			
Soil P (ppm)			
Applied P lbs			
Irrigation			
Rate gpm			
Furrow slope%			
Manure			
P-Index Value	1.8		

P -Index Value 0 to 2 = Low risk, 2 to 5 = Medium risk, 5 to 15 = High risk, 15+ = Very high risk

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Section 3.8 Nitrogen Leaching

NITRATE LEACHING RISK ASSESSMENT SUMMARY

PRODUCER:	**Tom Reppert Livestock**
COUNTY:	**Thurston**

FIELD #	LAND APPLICATION SITES (ac)				SOIL	TEXTURE	LEACHING POTENTIAL (See Table 1)		
	IRRIGATED CROPLAND	DRYLAND CROPS	PASTURE	Native			[1]Fall Applicaton	Spring / pre-plant	Sidedres or split
1	0	109.55	0	0	Nora Sitl loam 6- 11 %	Medium	Medium - Low	Medium - Low	Low
2	0	63.8	0	0	McPaul Silt Loam	Medium	Medium - Low	Medium - Low	Low
3	0	117.1	0	0	Moody Sitly Clay Loam 1-7%	Fine	Low	Low	Low
4	0	152.12	0	0	Nora Sitl loam 6- 11 %	Medium	Medium - Low	Medium - Low	Low
5	0	156.06	0	0	Nora Sitl loam 6- 11 %	Medium	Medium - Low	Medium - Low	Low
6	0	75.9	0	0	Moody Sitly Clay Loam 1-7%	Fine	Low	Low	Low
7	0	30.76	0	0	Moody sitl Clay Loam 0-1%	Medium	Medium - Low	Medium - Low	Low
8	0	39.12	0	0	Nora Sitl loam 6- 11 %	Medium	Medium - Low	Medium - Low	Low
9	0	81.69	0	0	Moody Sitly Clay Loam 1-7%	Fine	Low	Low	Low
Sub Total	0	826.1	0	0					
	826.1	TOTAL ACRES							

Note: This table gives the user an indication of leaching potential based on soil texture and application timing

Table 1. Nitrogen Leaching Potential

Timing of Application	*Soil Texture* *		
	Coarse	*Medium*	*Fine*
[1]Fall Application	**High**	**Medium - Low**	**Low**
Spring Application, Pre-plant	**High - Medium**	**Medium - Low**	**Low**
Side Dress or Split Application	**Medium - Low**	**Low**	**Low**
Texture Soils Include:	Sand; Loamy Sand & Sandy Loams	Silt; Silt Loam & Loam	Clay, Silty Clay Laom; Silty Clay; Clay Loam; Sandy Clay Loam; & Sandy Clay

[1]Fall applications should occur after soil temperature is 50 degrees or less, or a nitrification inhibitor is advised.

Section 3.9 Average Crop Yield

United States Department of Agriculture
National Agricultural Statistics Service

Quick STATS

research survey data census

Home | Other Publications | 2002 Census | 1997 Census | 1992 Census | Contact Us

Soybeans 5 Year Average								
Commodity	**Practice**	**Year**	**State**	**County**	**District**	**Yield**	**Yield_Unit**	**Production**
	Not reported	2007						
Soybeans	Non-Irrigated	2008	Nebraska	Northeast NE	90	44.5	bushel	1,914,000 bushel
Soybeans	Non-Irrigated	2009	Nebraska	Northeast NE	90	53.5	bushel	1,926,600 bushel
Soybeans	Non-Irrigated	2010	Nebraska	Northeast NE	90	50.5	bushel	1,867,000 bushel
Soybeans	Non-Irrigated	2011	Nebraska	Northeast NE	90	41.5	bushel	1,963,000 bushel
				5 Year average		47.5		

Corn 5 Yield Averages								
Commodity	**Practice**	**Year**	**State**	**County**	**District**	**Yield**	**Yield_Unit**	**Production**
	Not reported	2007						
Corn For Grain	Non-Irrigated	2008	Nebraska	Northeast NE	90	159	bushel	8,543,200 bushel
Corn For Grain	Non-Irrigated	2009	Nebraska	Northeast NE	90	174	bushel	7,735,000 bushel
Corn For Grain	Non-Irrigated	2010	Nebraska	Northeast NE	90	174.4	bushel	8,831,000 bushel
Corn For Grain	Non-Irrigated	2011	Nebraska	Northeast NE	90	149.2	bushel	8,065,000 bushel
				5 Year average		164.15		

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Section 4. Engineering Report and Site Plan Map

Producer:	Tom Reppert Livestock	County	Thurston
Address:	1241 M Avenue	Location.	SW 1/4, Sec 25, T25N, R5E
	Pender, NE 68047		
Phone:	(402) 385-2305		

E/A Project No. Y12195 Date: 08-May-13

25yr/24hr Rainfall

Appendix A, Title 130 Rules and Regulations Pertaining to Livestock Waste Control

25yr/24hr storm event: 5.0 inches

Month of June Rainfall

USDA National Climate Center

Month of June Rainfall: 4.25 inches

25 yr/24hr and Month of June Runoff

Nebraska DEQ Guidance Document 05-048 (Sample Application for LWCF Permit)
Figure 1. Expected Runoff from a 25yr/24hr storm, plus expected runoff for the month of June

Runoff Amount: 6.0 inches

Month of June Runoff

Month of June Runoff: 2.12 inches

25 yr/24hr Runoff Amount

25yr/24hr Runoff Amount 3.88 inches

Solids Accumulation Allowance

Solids accumulation depth 0.5 acre-inches

Summary of Holding Pond Calculations

*Feedlot Drainage Area:	21.75 acres	
**Pond Drainage Area:	3.5 acres	
Solids Accumulation:	10.9 acre-inches	39,476 ft^3
Month of June Rainfall & Runoff:	61.0 acre-inches	221,376 ft^3
25yr/24hr Rainfall & Runoff:	101.9 acre-inches	369,861 ft^3
Total Storage Volume Required:	173.8 acre-inches	630,713 ft^3
Total Storage Available:	186.1 acre-inches	675,530 ft^3

*Feedlot drainage area includes all drainage for the lots, sedimentation basins, and any roadways that ultimately flow through the sedimentation basin and into the holding pond
**Pond Drainage Area includes areas where rainfall flows directly on holding pond

Summary of Key Elevations

	Holding Pond (feet)
Pond Bottom Elevation	1464.0
Solids Accumulation Depth Elevation at Top of Solids Accumulation Level	1465.0
Pre-Winter Drawdown Elevation at top of Full Pond Marker	1465.0
Must Pump Level Elevation at top of Full Pond Marker	1467.5
Maximum Operating Level Elevation at top of Full Pond Marker	1471.0
Top of Freeboard (Top of Dike) Elevation of Lowest Point on Top of Berm	1473.8

Holding Pond Clay Liner Computations

Constant Head Permeability Computations

$i = h / d$

where h = Drop in liquid head (cm)
d = Distance in which liquid head drop occurs (cm)
i = Hydraulic Gradient

$v = ki$

where v = Fluid Velocity (cm / sec)
k = Coefficient of Permeability of Clay Liner Material (cm / sec)
i = Hydraulic Gradient

Properties of Material selected for Clay Liner

Permeability of Constructed Clay Liner Material (k): 5.50E-09 cm / sec (See attached Soils Report)

Permeability of Material based on 95 % compaction of Standard Proctor

Clay Liner Thickness Determination

Maximum Velocity Allowed: 3.82E-06 cm / sec (0.13 inch / day)

Drop in Liquid Head (Liquid Depth) 7.0 feet

Clay Liner Thickness d (inches)	Liquid Depth h (cm)	Hydraulic Gradient i	Seepage Velocity v (cm/sec)
6	213.4	14.0	7.70E-08
9	213.4	9.3	5.13E-08
12	213.4	7.0	3.85E-08
15	213.4	5.6	3.08E-08
18	213.4	4.7	2.57E-08
21	213.4	4.0	2.20E-08
24	213.4	3.5	1.93E-08
27	213.4	3.1	1.71E-08
30	213.4	2.8	1.54E-08
48	213.4	1.8	9.63E-09

Theoretical Minimum Clay Liner Thickness (from computations above): 6 inches

Minimum Allowable Clay Liner Thickness: 12 inches

Proposed Liner Thickness: 12 inches

Required Compaction of Clay Liner: 95 %

PROFESSIONAL AGRICULTURAL ENGINEER
BRADLEY S. WOERNER
10921
5/9/13
STATE OF NEBRASKA

Tom Reppert Livestock

E/A Project No: Y12195

Holding Pond

	Elevation	Depth, FT	Area, SF	Volume, CF	Volume minus Solids
Bottom	1464.0	-	96,100	-	-
	1464.1	0.1	96,499	9,620	-
	1464.2	0.2	96,897	19,290	-
	1464.3	0.3	97,296	29,000	-
	1464.4	0.4	97,694	38,750	-
	1464.5	0.5	98,093	48,540	-
	1464.6	0.6	98,492	58,370	-
	1464.7	0.7	98,890	68,240	-
	1464.8	0.8	99,289	78,150	-
	1464.9	0.9	99,687	88,100	-
Solids / Pre-Winter	1465.0	1.0	100,086	98,090	-
	1465.1	1.1	100,492	108,110	10,020
	1465.2	1.2	100,898	118,180	20,090
	1465.3	1.3	101,304	128,290	30,200
	1465.4	1.4	101,710	138,440	40,350
	1465.5	1.5	102,116	148,640	50,550
	1465.6	1.6	102,521	158,870	60,780
	1465.7	1.7	102,927	169,140	71,050
	1465.8	1.8	103,333	179,450	81,360
	1465.9	1.9	103,739	189,810	91,720
	1466.0	2.0	104,145	200,200	102,110
	1466.1	2.1	104,558	210,630	112,540
	1466.2	2.2	104,971	221,110	123,020
	1466.3	2.3	105,384	231,620	133,530
	1466.4	2.4	105,797	242,180	144,090
	1466.5	2.5	106,211	252,780	154,690
	1466.6	2.6	106,624	263,430	165,340
	1466.7	2.7	107,037	274,110	176,020
	1466.8	2.8	107,450	284,830	186,740
	1466.9	2.9	107,863	295,600	197,510
	1467.0	3.0	108,276	306,410	208,320
	1467.1	3.1	108,696	317,250	219,160
	1467.2	3.2	109,117	328,140	230,050
	1467.3	3.3	109,537	339,080	240,990
	1467.4	3.4	109,957	350,050	251,960
June/Must Pump	1467.5	3.5	110,378	361,070	262,980
	1467.6	3.6	110,798	372,130	274,040
	1467.7	3.7	111,218	383,230	285,140
	1467.8	3.8	111,638	394,370	296,280
	1467.9	3.9	112,059	405,560	307,470
	1468.0	4.0	112,479	416,780	318,690
	1468.1	4.1	112,907	428,040	329,950
	1468.2	4.2	113,334	439,360	341,270
	1468.3	4.3	113,762	450,710	352,620
	1468.4	4.4	114,189	462,110	364,020
	1468.5	4.5	114,617	473,550	375,460
	1468.6	4.6	115,045	485,030	386,940
	1468.7	4.7	115,472	496,560	398,470
	1468.8	4.8	115,900	508,130	410,040
	1468.9	4.9	116,327	519,740	421,650

	1469.0	5.0	116,755	531,390	433,300
	1469.1	5.1	117,190	543,080	444,990
	1469.2	5.2	117,625	554,820	456,730
	1469.3	5.3	118,059	566,610	468,520
	1469.4	5.4	118,494	578,430	480,340
	1469.5	5.5	118,929	590,310	492,220
	1469.6	5.6	119,364	602,220	504,130
	1469.7	5.7	119,799	614,180	516,090
	1469.8	5.8	120,233	626,180	528,090
	1469.9	5.9	120,668	638,230	540,140
	1470.0	6.0	121,103	650,310	552,220
	1470.1	6.1	121,545	662,440	564,350
	1470.2	6.2	121,987	674,610	576,520
	1470.3	6.3	122,429	686,830	588,740
	1470.4	6.4	122,871	699,100	601,010
	1470.5	6.5	123,313	711,410	613,320
	1470.6	6.6	123,755	723,760	625,670
	1470.7	6.7	124,197	736,160	638,070
	1470.8	6.8	124,639	748,600	650,510
	1470.9	6.9	125,081	761,090	663,000
Top of 25/24 / Max. Oper.	1471.0	7.0	125,523	773,620	675,530
	1471.1	7.1	125,972	786,190	688,100
	1471.2	7.2	126,422	798,810	700,720
	1471.3	7.3	126,871	811,470	713,380
	1471.4	7.4	127,320	824,180	726,090
	1471.5	7.5	127,770	836,940	738,850
	1471.6	7.6	128,219	849,740	751,650
	1471.7	7.7	128,668	862,580	764,490
	1471.8	7.8	129,117	875,470	777,380
	1471.9	7.9	129,567	888,410	790,320
	1472.0	8.0	130,016	901,380	803,290
	1472.1	8.1	130,472	914,400	816,310
	1472.2	8.2	130,929	927,470	829,380
	1472.3	8.3	131,385	940,590	842,500
	1472.4	8.4	131,842	953,750	855,660
	1472.5	8.5	132,298	966,950	868,860
	1472.6	8.6	132,754	980,210	882,120
	1472.7	8.7	133,211	993,500	895,410
	1472.8	8.8	133,667	1,006,850	908,760
	1472.9	8.9	134,124	1,020,240	922,150
	1473.0	9.0	134,580	1,033,670	935,580
	1473.1	9.1	134,997	1,047,140	949,050
	1473.2	9.2	135,414	1,060,660	962,570
	1473.3	9.3	135,831	1,074,230	976,140
	1473.4	9.4	136,248	1,087,830	989,740
	1473.5	9.5	136,665	1,101,480	1,003,390
	1473.6	9.6	137,082	1,115,160	1,017,070
	1473.7	9.7	137,499	1,128,890	1,030,800
Lowest Top of Berm	1473.8	9.8	137,916	1,142,660	1,044,570

	Elevation	Depth, FT	Area, SF	Volume, CF	Volume minus Solids
Bottom	1464.0	-	96,100	-	-
Solids / Pre-Winter	1465.0	1.0	100,086	98,090	-
June/Must Pump	1467.5	3.5	110,378	361,070	262,980
Top of 25/24 / Max. Oper.	1471.0	7.0	125,523	773,620	675,530
Lowest Top of Berm	1473.8	9.8	137,916	1,142,660	1,044,570

Design Report
Tom Reppert Livestock

The Tom Reppert Livestock Waste Control Facility is located in the SW¼ of Section 25, T25N, R5E, Thurston County, NE. The site consists of existing and proposed pens, 1 holding pond and 6 sediment basins for the proposed expansion to 1,500 head of feeder cattle. The contact information for the LWCF is as follows: Tom Reppert, 1241 "M" Avenue, Pender, NE 68047, phone (402) 385-2305.

Runoff from Pens 1 thru 7 will be directed to the sediment basin E. From there, it will be pumped to the holding pond. Shop drawings for the proposed lift station (housing and pump) will be obtained from the supplier and provided to the NDEQ for their acceptance. Pens 1 thru 7, Sediment Basin E, and the holding pond will be constructed as part of Phase 1 of this project.

Pens 8 thru 12, along with the sediment basins for those pens, will be constructed in Phase 2. The balance of the pens (13 thru 19) and the remaining sediment basins will be constructed in Phase 3.

Due to possible variances in soil types/conditions, a tolerance of 15% (+ or -) shall be allowed for the proposed improvements. The proposed improvements shall be within 5' vertically and 100' horizontally of the locations identified within the permit application. The constructed items, however, shall comply with NDEQ requirements.

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Section 4.1 Engineering Design Report

Design Report
Tom Reppert Livestock

The Tom Reppert Livestock Waste Control Facility is located in the SW¼ of Section 25, T25N, R5E, Thurston County, NE. The site consists of existing and proposed pens, 1 holding pond and 6 sediment basins for the proposed expansion to 1,500 head of feeder cattle. The contact information for the LWCF is as follows: Tom Reppert, 1241 "M" Avenue, Pender, NE 68047, phone (402) 385-2305.

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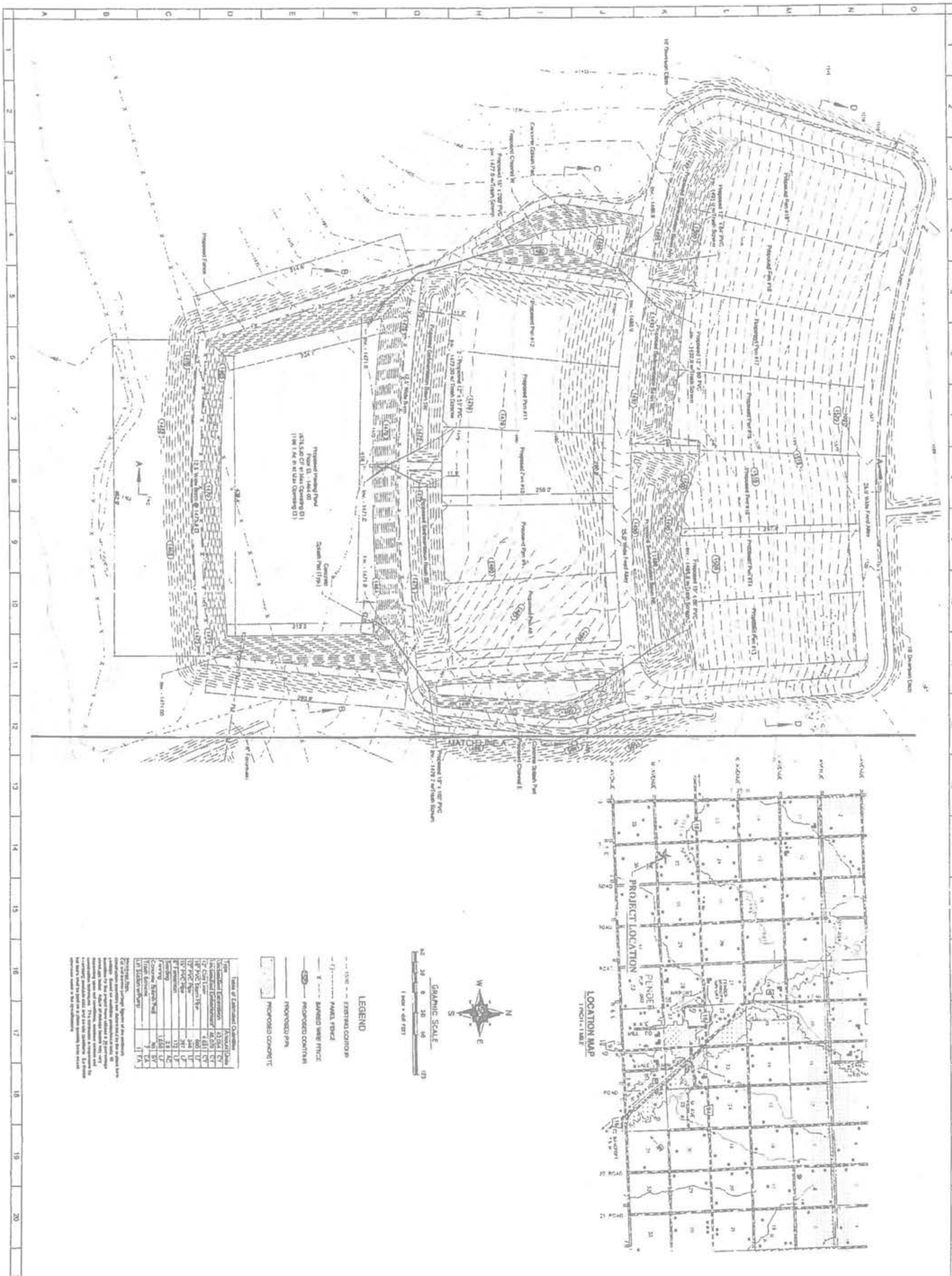
Eisenbraun & Associates, Inc.
E/A Project No: Y12195



SITE PLAN

C-101

Tom Reppert Livestock
SW 1/4, Section 25, T 25 N, R 5 E,
Thurston County, Nebraska

Tom Reppert Animal Feeding Operation
1241 "M" Avenue, Pender, Nebraska 68047

REVISIONS		
REV NO.	DATE	DESCRIPTION

Eisenbraun & Associates
Professional Engineers & Surveyors
Innovative Solutions - Long-Term Value

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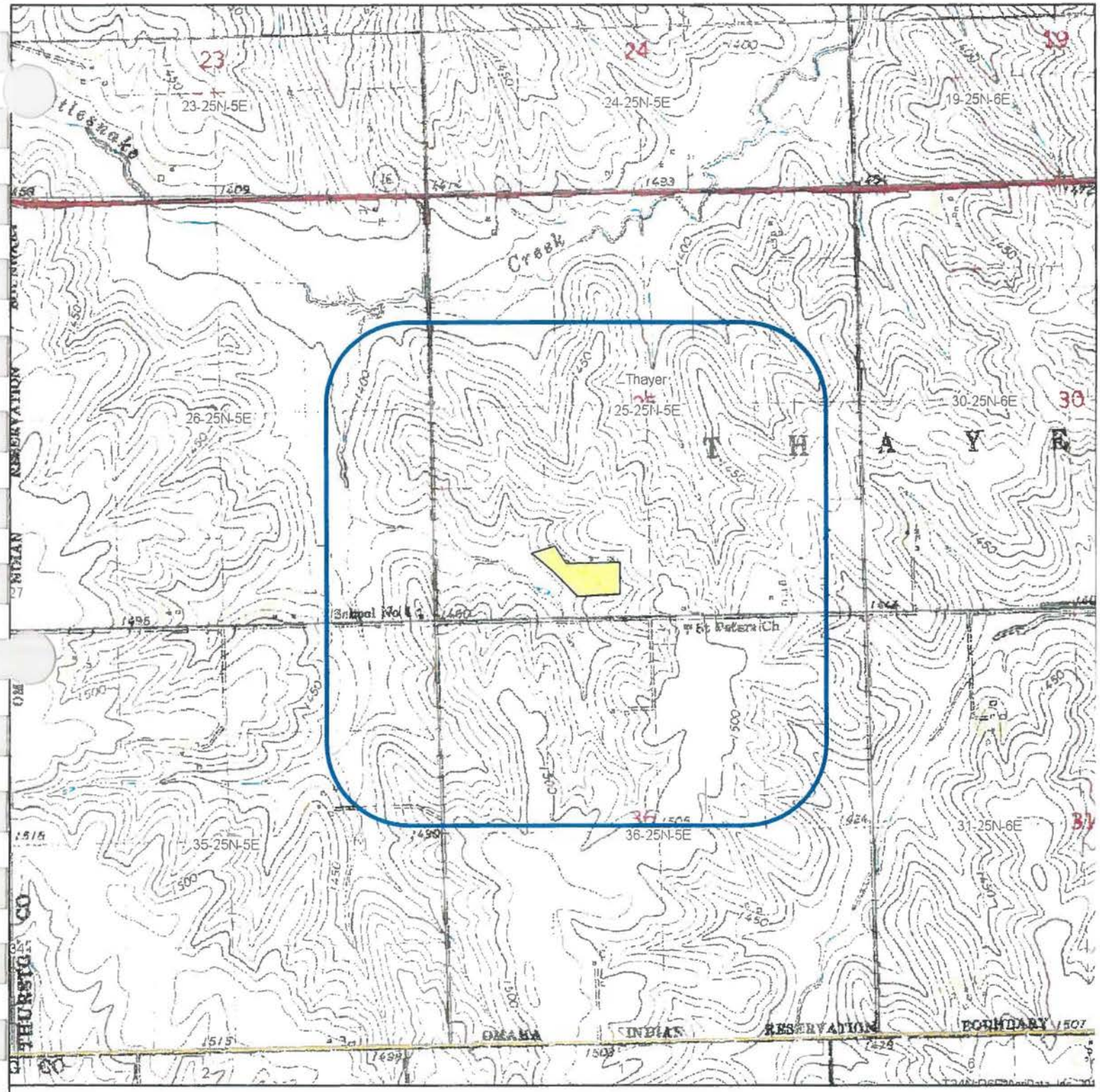
Section 5.1 2000' Radius Map

2,000 foot Radius



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2,000' Radius

map center: 42° 6' 26.09, 96° 47' 54.28
scale: 20463

25-25N-5E
Thurston County
Nebraska

N
W E
S

www.AgriDataInc.com

Field borders provided by Farm Service Agency as of 5/21/2008. Aerial photography provided by Aerial Photograpy Field Office.

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Section 5.2 Well Logs and Registrations

Processed by State of Nebraska Department of Natural Resources Data(Bank) 9/1/2012 8:27:53 AM
Subsection: SESW Section: 25 Township: 25 Range: 5E
Footage: 659 feet from the South section line and 2024 feet from the West section line.
Latitude: 42° 6' 24.32" Longitude: -96° 47' 47.68"

Legend

Zooming – 3 options

- Double click on Map to zoom in
- Plus(+) and minus(-) signs in upper left corner of map also zoom in and out. Hover with mouse over area and when pointer disappears, click. Plus is on top and minus is below it.
- Click on map and use mouse wheel to zoom in or out.

Panning – Moving around map
Click on map and hold, drag mouse direction to move map

DISCLAIMER
The well location computations are based on calculated section corners, and not surveyed information or GPS coordinates. Therefore, **ALWAYS** check with the water well owner for the land description (including Footage, Quarter/Quarter, Section, Township, Range and County) of the property where the well is located. This computed well location information is for checking purposes only.

Return to Search Page

Nebraska Department of Natural Resources
Database Through: 8/31/2012
Processed: 9/1/2012 8:26:15 AM

REGISTERED GROUNDWATER WELLS DATA RETRIEVAL

Note:
Information on Public Water Supply Wells is not available through this interface. Contact the Department of Natural Resources (Data Bank) at 402-471-2363 for more information. All registration documentation for water wells registered after January 1, 1997, except Public Water Supply wells, are now available.

Due to possibility of a well being in more than one series, an individual well might be listed more than once.

0 Records found.

Registration# Well ID Permit Number Well Log	Use Status	County Name NRD Name Well Location Footage Latitude Longitude	Completion Date Filing Date Decommission Date Times Replaced	Acres Irrig Gallons/Min Static Level Pumping Level Series	Pump Col Dia Pump Depth Well Depth	Owner's Name and Address Owner ID

Data copy of requested wells.
Data copy of Geo Logs for requested wells.
Data copy of Casing Screen for requested wells.
Data copy of Grout Gravel for requested wells.

Legend and Notes

Processed by State of Nebraska Department of Natural Resources Data(Bank) 9/1/2012 8:24:11 AM
Subsection: SWSW Section: 26 Township: 25 Range: 5E
Footage: 600 feet from the South section line and 20 feet from the West section line.
Latitude: 42° 6' 23.93" Longitude: -96° 49' 24.29"

Legend

Zooming – 3 options

- Double click on Map to zoom in
- Plus(+) and minus(-) signs in upper left corner of map also zoom in and out. Hover with mouse over area and when pointer disappears, click. Plus is on top and minus is below it.
- Click on map and use mouse wheel to zoom in or out.

Panning – Moving around map
Click on map and hold, drag mouse direction to move map

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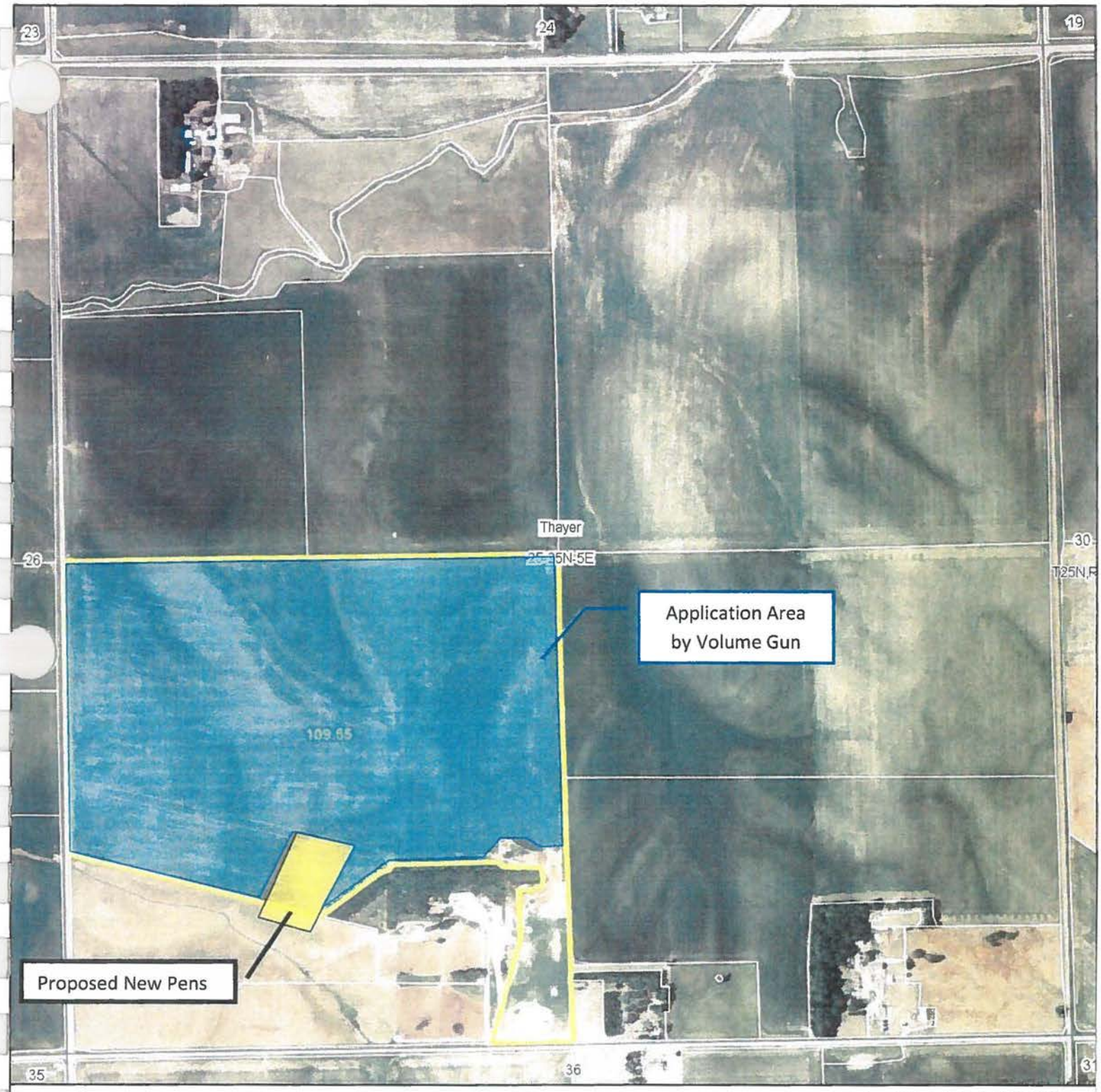
Section 5.3 Irrigation Distribution Plan

Irrigation Distribution Plan



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map center: 42° 6' 43.94, 96° 47' 39.24
scale: 8770

25-25N-5E
Thurston County
Nebraska

N
W E
S

Field borders provided by Farm Service Agency as of 5/21/2008. Aerial photography provided by Aerial Photograpy Field Office.

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Section 5.4 Notification of Discharge Form

NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY
Water Quality Division, Agriculture Section
1200 N Street, Suite 400 * Lincoln, NE 68509
Tel: (402) 471-4239 Fax: (402) 471-2909 Email: www.ndeq.state.ne..us

00-049 June 2008

NOTIFICATION OF DISCHARGE OF LIVESTOCK WASTE

(Please print legibly)

NAME OF OPERATION: _____

OWNER: _____

ADDRESS: _____
P.O. Box, Street Address

_____
City, State and Zip Code

LEGAL DESCRIPTION OF OPERATION:

_____, _____, of _____, _____N, _____ ☐ E or ☐ W, _____County
1/4 *1/4* *Section* *Township* *Range*

Do you have an NPDES Permit? ☐ No ☐ Yes If yes, Permit No. _____

COMPLETE THE FOLLOWING INFORMATION AND SUBMIT A MAP OR DRAWING OF THE OPERATION, LIVESTOCK WASTE CONTROL FACILITY (LWCF), DISCHARGE FLOW PATTERN AND STREAM:

1. List reason(s) for discharge: _____
   _____
   _____
2. The discharge flowed into _____ and
   (ditch, drainage way, stream name)
   into _____.
   (name of primary stream)
3. Did the discharge: ☐flow directly into surface water? ☐ flow over crop land prior to discharging to surface water?
4. The approximate width & depth of the surface water (which the discharge entered): _____ (width in feet); _____ (depth in feet).
5. Discharge started on _____ at _____
   Date (mm/dd/yy) Time (indicate a.m. or p.m.)
6. Discharge ended on _____ at _____
   Date (mm/dd/yy) Time (indicate a.m. or p.m.)

7. Was the start time: ☐ Actual start time? ☐ When discharge was discovered?

8. Average flow of the discharge was: _____(gallons/minute)

9. Estimated total volume of discharge: _____ (gallons or cu. feet)

10. Was LWCF damaged? ☐ Yes ☐ No If yes, describe damage to the LWCF:

_____

11. Describe actions taken: _____

_____

_____

12. What factors and conditions helped minimize adverse effects to the environment from the discharge? _____

_____

_____

13. Describe any obvious or known impacts to the environment from the discharge:

_____

_____

_____

14. On a case-by-case basis, the Department may require sampling. If sampling is conducted, the following procedure should be followed as outlined below. *(If necessary, use a separate sheet of paper to provide the following information.)*

✓ When were the samples collected? DATE: _____ TIME:_____

✓ When did the lab receive the samples? DATE: _____ TIME: _____

✓ What quality control procedures were used for handling the samples? *(You may want to contact the lab for special sampling & handling instructions to prevent contamination of the samples.)*

_____

_____

_____

✓ Was sample kept cool (with ice) during the delivery/holding time? ☐ Yes ☐No

✓ At what locations were samples taken? *(At a minimum, samples must be taken at the point of discharge, 100 feet upstream and 100 feet downstream of the discharge point, and at the location where the discharge mixed with the surface water.)* **A map must be provided with collections sites marked.**

✓ The analysis should include the following items:

a. total ammonia as nitrogen;
b. nitrate-nitrite as nitrogen;
c. Kjeldahl nitrogen;
d. pH;
e. temperature of the effluent (field measurement);
f. temperature of the receiving stream (field measurement);
g. total phosphorus as phosphorus (unfiltered);
h. chlorides.

CERTIFICATION

I certify that, to the best of my knowledge and belief, I have the authority under the laws of the State of Nebraska to sign this form. I also certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision, in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations

X_____ _____

Signature of Authorized Representative Date

Title 130, *"Livestock Waste Control Regulations,"* requires verbal notification to the Department within **24 hours** of becoming aware of a discharge or an anticipated discharge, at (402) 471-4239; or after business hours or weekends, at (402) 471-2186.

A written notification and report of the discharge must be submitted to the Department within **5 days** of the discharge. The written report should be submitted to the address at the bottom of this page.

If you observe dead fish that could have resulted from the discharge, contact the Nebraska Game and Parks Commission immediately at (402) 471-0641. After hours, call (402) 471-4545.

"Authorized Representative" means, for:
A Corporation: a principal executive officer in charge of a principal business function and of at least the level of vice president; or
A Limited Liability Company: a manager or principal executive officer; or
A Partnership: a general partner; or
A Sole Proprietorship: the proprietor; or
A Municipal, state or other public entity: a principal executive officer or ranking elected official

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Section 5.5 Guidance Documents

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Guidance Documents Provided to Producers

1. Nitrogen Leaching
2. Sampling Manures for Nutrient Analysis NebGuide G-1450
3. Guidelines for Soil Sampling UNL G91-1000-A
4. Practice Specifications – Nutrient Management NRCS S-590
5. NRCS – Annual Nutrient Budget/Management Plan NE-CPA-58
6. UNL Publication – Manure Calibration Kit
7. Biosecurity – NebGuide G1694
8. Biosecurity – NebGuide G1411

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