

BROOKINGS COUNTY PLANNING & ZONING COMMISSION

BROOKINGS CITY & COUNTY GOVERNMENT CENTER
520 3rd St, 310 Chambers, Brookings, SD 57006

AGENDA

1. **7:00 PM: Call to Order**
2. **Approval of Minutes from December 5th, 2016 Special Meeting & December 6th, 2016 Meeting**
Documents:

[December 5th, 2016 DRAFT Minutes.pdf](#)
[December 6th, 2016 DRAFT Minutes.pdf](#)
3. **Items to be Added to Agenda by Commission Members or Staff**
4. **Invitation for Citizens to Schedule Time on the Commission Agenda for an Item Not Listed**
(Time limited to 5-minutes per person to address the commission.)
5. **Approval of Agenda**
6. **Election of Officers for 2017**
7. **Convene as Brookings County Board of Adjustment**
(The Board of Adjustment needs 2/3 approval of the full board to approve any agenda item.)
8. **Appeal of Building Permit #6089**
Appeal of Building Permit #6089 – Postponed from December 6th, 2016 meeting. Appeal by Brad Olson regarding the issuance of Building Permit #6089 on September 15, 2016 by the Brookings County Development Office.
9. **2017var001**
Old Tree Farms by Frido Verpaalen has made an application 2017var001 to the Brookings County Board of Adjustment, for a variance. Article 22: Section 22.01: Concentrated Animal Feeding Operation Regulations: Concentrated Animal Feeding Operation Control Requirements: # 6) Required Setback and Separation Distance. The property is described as: "S1470' of W1481.36' Exc S295' of E295' of W1248' in SW1/4 of Sec. 34, T110N, R51W (Volga Township)" ~~ located at 46316 214th St, Volga, SD 57071.

Documents:

[2017var001 Staff Report.pdf](#)

A. **Comments received**

Documents:

10. **2017var002**

Old Tree Farms by Frido Verpaalen has made an application 2017var002 to the Brookings County Board of Adjustment, for a variance. Article 22: Section 22.01: Concentrated Animal Feeding Operation Regulations: Concentrated Animal Feeding Operation Control Requirements: # 6) Required Setback and Separation Distance. The property is described as: "S1470' of W1481.36' Exc S295' of E295' of W1248' in SW1/4 of Sec. 34, T110N, R51W (Volga Township)" ~~ located at 46316 214th St, Volga, SD 57071.

Documents:

[2017var002 Staff Report.pdf](#)

A. **Comments received**

Documents:

[Jerry Nelson 12-28-2016.pdf](#)
[Jeraldine Weinacht 1-2-2017.pdf](#)

11. **Convene as Brookings County Planning and Zoning Commission**

12. **2017cu003**

Old Tree Farm by Frido Verpaalen has made an application, 2017cu003, to the Brookings County Planning and Zoning Commission for a conditional use. Article 11: Section 11.01: "A" Agricultural District: Conditional Use Permit # 11: Class A, B, C and D Concentrated Animal Feeding Operation. The property is described as: "S1470' of W1481.36' Exc S295' of E295' of W1248' in SW1/4 of Sec. 34, T110N, R51W (Volga Township)" ~~ located at 46316 214th St, Volga, SD 57071.

Documents:

[2017cu003 Staff Report.pdf](#)
[Engineer Report-2017cu003.pdf](#)

A. **Comments received**

Documents:

[Jerry Nelson 12-28-2016.pdf](#)
[Jeraldine Weinacht 1-2-2017.pdf](#)

13. **2017cu001**

2017cu001: Ryan Winter has made an application, 2017cu001, to the Brookings County Planning and Zoning Commission for a conditional use. Article 11: Section 11.01: "A" Agricultural District, Conditional Use # 4: "Sand, gravel or quarry operation, mineral exploration and extraction". The property is described as: "SE1/4 Exc. H-3 & H-4 of Section 18, T109N, R49W (Trenton Township) ~~ located at 21675 473rd Ave, Brookings, SD 57006.

Documents:

[2017cu001 Staff Report.pdf](#)

14. **2017cu002**

Ryan Winter has made an application, 2017cu002, to the Brookings County Planning and Zoning Commission for a conditional use. Article 11: Section 11.01: "A" Agricultural District, Conditional Use # 5 A: "Rock crushers". The property is described as: "SE1/4 Exc. H-3 & H-4 of Section 18, T109N, R49W (Trenton Township) ~~ located at 21675 473rd Ave, Brookings, SD 57006.

Documents:

[2017cu002 Staff Report.pdf](#)

15. **Consideration of Plats**

16. **Department Reports**

17. **Adjourn**

18. **Public Notices**

Brookings County Zoning Office * Brookings City & County Government Center * 520 3rd Street, Suite 200 * (605) 696-8350 * www.brookingscountysd.gov

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December 5th, 2016 Special Meeting Minutes

Brookings County Planning & Zoning Commission
December 5th, 2016 – 7:00 PM
Brookings City & County Government Center
310 Chambers

Chair Robbins called the special meeting to order at 7:03 PM. Commission members present were: Lee Ann Pierce, Robert Rochel, Kimberly Elenkiwich, Darrell Nelson, Darrel Kleinjan, Terrell Spence, Michael Vande Weerd, Randy Jensen, and alternate board members Tom Davis and Roger Erickson.

Robert Hill, Brookings County Development Director explained to the audience why the meeting was scheduled on a special night and not on the regular monthly day.

Chair Robbins read **agenda item # 2: Items to be added to agenda by commission members or staff.** None added.

Chair Robbins read **agenda item #3: Invitation for citizen to schedule time on the commission agenda for an item not listed. Time limited to 5 minutes per person to address the board.** No one scheduled time to address the board.

Chair Robbins read **agenda item # 4: Approval of Agenda.** Terrell Spence moved to approve the agenda. Darrel Kleinjan second. Chair Robbins called for a voice vote. 9-ayes and 0-nays, motion carried.

Chair Robbins turned the meeting to Robert Hill and stepped down from the Chair position due to conflict of interest. Michael Vande Weerd also stepped down due to conflict of interest. Mr. Hill noted that Kimberly Elenkiwich, Vice Chair would assume the chair seat and alternates Tom Davis and Roger Erickson assumed the vacated seats.

Chair Elenkiwich noted that she would be in the chair position for the following 2 agenda items and reminded audience members that testimony would be limited to 5 minutes per person.

Chair Elenkiwich stated, "We are now acting as the Brookings County Board of Adjustment" read the opening statement and **agenda item # 5: 2016var021: Killeskillen LLC by Michael Crinion has made an application**

2016var021 to the Brookings County Board of Adjustment, for a variance. Article 22: Concentrated Animal Feeding Operation, Section 22.01: Concentrated Animal Feeding Operation Regulations: Concentrated Animal Feeding Operation Control Requirements: # 6) Required Setback and Separation Distance. The property is described as: "NE1/4 of Section 10, T112N, R48W (Oak Lake Township)" -- located at 48187 197th St, Astoria, SD 57213.

Robert Rochel moved to approve the variance request. Darrell Nelson second. Chair Elenkiwich opened up for discussion and asked Mr. Haugen for his staff report. Mr. Haugen stated, "Killeskillen LLC by Michael Crinion has applied for a variance to build a Class "A" Concentrated Animal Feeding Operation (CAFO), 1,400 feet from a private well. A variance distance of 1,240 feet. Brookings County Zoning Ordinance Article 22: Concentrated Animal Feeding Operation: Section 22.01: Concentrated Animal Feeding Operation Regulations: Concentrated Animal Feeding Operation and Control Requirements: # 6 Required Setback and Separation Distance: Private Wells other than the operator is 2,640 feet. The well is not on record with the South Dakota Department of Environment and Natural Resources - Water Well Completion Reports, meaning the well was dug before well completion records were required. The well is located below an old windmill tower that does not have the windmill wheel or windmill head on top of the tower to enable it to pump water." Mr. Haugen presented visuals of the well and the surrounding site noting the condition of the equipment, vegetation and surrounding ground near the tower. Mr. Haugen also noted: 1) Jay Gilbertson with East Dakota Water Development District had reviewed the materials and viewed it as an abandoned well and should be properly sealed. 2) Letters were sent to adjoining landowners, Oak Lake Township Chairman and clerk, Brookings County Highway Department, Brookings-Deuel Rural Water and the current landowner. 3) Public notices were published in the Brookings Register on November 22nd and 29th, 2016, White Tri-City Star on November 24th and December 1st, 2016 and Hendricks Pioneer on November 23rd and 30th, 2016. 4) Two comments regarding the variance application were received by the office and were on file. He then presented a visual presentation containing: the application, Beacon images, well log from the South Dakota DENR Water Well Completion Report and photos of the windmill tower, well, casing cover and the casing. Chair Elenkiwich asked the applicant to come forward and address the board. Brian Donahue attorney from Donahue law firm introduced himself as the attorney representing Killeskillen LLC and gave a brief history regarding the proposed CAFO. Mr. Donahue noted that per the ordinance this would not qualify or meet the criteria as being a well as it has been abandoned, not put in use for some time and it was currently in disrepair. Michael Crinion stated, "We are applying for a new conditional use permit, we don't believe this is an existing well but to cover all bases we decided to apply for a variance if you decided it was a well. The site meets all the criteria of a good dairy site. It is on a county blacktopped road, there is very good farm ground all around." Mr. Crinion noted the benefits to the area: jobs and crop ground being more profitable in the area of a dairy. Brian Friedrichsen, Engineer with Dakota

Environmental read a letter dated November 18, 2016 that had been sent to the Zoning office regarding the well and distance from the proposed CAFO. The letter ended noting the inactive status of the well and stated, "The distance to the proposed manure storage would not likely result in substantial detriment to the adjacent property (the well)". Chair Elenkiwich opened up for questions from the board, hearing none she opened up to the audience asking that a main proponent come forward first and then others in the audience would be given 5 minutes per person for comments. Bradley Olson came forward and presented the board with a 49 second video of the well and pictures. Mr. Olson noted the well pumped out 15 gallons of cold, clear water a minute. Mitch Peterson, Attorney from Sioux Falls, and represented the opposition presented the board with a thumb drive, hand-outs, pictures and a summary. Mr. Peterson then stated, "This well is a well, and if you look at the setbacks it has to be a privately owned well that doesn't belong to the applicant. It doesn't have to be operational, it doesn't have to be active that is not part of the setback, not part of the rules that must be followed in this case." Mr. Peterson noted that a variance is for use when there is a hardship that is not of the applicants making and a new operation like the dairy does not qualify. Ralph Siverson a Lake Hendricks resident stated, "It all comes down to the well – get the well recorded. The issue is too many cattle, too close to potential drainage in and around Lake Hendricks. We are objecting to 5,500 cattle too many in too small of an area. We are concerned with down the road - the potential water quality and smell." Frank Gwerder a dairyman from California stated, "We have been looking for sites in South Dakota for several years and this particular site grabbed our interest. We operate 2 – 900 cow dairies in California. One attraction to South Dakota is how they want things done and we like this site. In regards to the well, the way manure is managed in modern day dairies and the rules and regulations, I don't see how a well could become contaminated with the rules South Dakota has in place. We are looking to move our entire operation and are actually looking at purchasing and moving into a house on Lake Hendricks. We want to be part of the community, part of this county." Jay Gilbertson of East Dakota Water Development District stated, "It was my conclusion that although that could be a well, it was equally clear that it was a well that had not been used in some time. It was a well in very poor condition (casing at the surface cracked, holes in it), it struck me that if the concern was protecting the water resource at that location for future use, indications were that was no longer a consideration. It was an old well out in a field that had been ignored, no maintenance. It certainly represents a significant environmental risk, not as a result of what might happen but simply as a result of the farming practices that were clearly taking place in and around the well itself. I would stand by my original conclusion that it is an abandoned well. The reason the set-backs are there are to protect existing, functioning, private wells and that well at that time did not meet the requirement. As such I concur with the applicant that the variance is not entirely necessary." David Church expressed concern with possibility of rain and contamination. Norris Patrick was concerned with possibility of disease, concerned with the aquifer and contamination. Dan Little a licensed Veterinarian from Brookings noted that he did not know of any scientific

cases that dairy cows have contaminated land. He stated, "In working with livestock it would be of great concern to me, the well that is out there, with a broken casing and since nitrogen is used in fertilizing crops, it is highly probable that that well is contaminated already. Probably running high nitrate levels. It has already been contaminated in my opinion." James Eggen noted he was concerned with E-coli and water quality. Wesley Tschetter spoke of past experience regarding old wells and maintenance. He closed in stating, "Whether it's this well or another well, you have got that aquifer punched and there is value in preserving that aquifer." Chair Elenkiwich hearing no more comments from the audience closed the public portion of the hearing called the applicant up and opened for questions from the board. Board member Darrel Kleinjan asked a question regarding topographical maps – well location, if dairy location was downstream. Brian Donahue referred to the topographical map included in the packet. And stated, "We have to start from the premise that this is a proposed operation that would need to meet the requirements for the South Dakota Department of Environment and Natural Resources Conditional Use and CAFO permit. This particular facility will be a zero discharge facility. This means it would not overflow within the design criteria and in addition to that there is a significant amount of extra capacity built into the lagoons. Also, in regards to the animal units, they are looking at a 2,000 head dairy operation. The well itself is probably located at a specific elevation that would be lower than the elevation of the proposed dairy, we are not disputing that, but it would be difficult for there to be a discharge to start with and even if there was a discharge it would be very unlikely that it would get to the well head site because of the road ditch and the other topography in the area." In closing Mr. Donahue noted the situation was unique and met all the requirements regarding requesting a variance. He also stated, "If this is considered to be a well, we have a situation that is in fact specific to this particular area and its setback, we are requesting a variance from the setback for a private well, if this is a private well." He further noted a well could be located on the CAFO site itself and meet all requirements. He also noted the variance requested would not be a detriment to the area. Chair Elenkiwich requested that Mr. Friedrichsen expand on the ability to have a well on a CAFO site. Mr. Friedrichsen noted that both the county ordinance and the State general permit both have setbacks from wells differentiated by ownership other than the operator and the operator themselves. He stated, "Under the current general permit a well on a CAFO property is required to be 150 feet from any manure containment structure - the state requirement. This is the differential of owned vs. not owned." Chair Elenkiwich asked for further comments or questions from the board. Board member Lee Ann Pierce asked Mr. Olson to come forward to address a question she had in regards to when the last time water ran from the well before all the litigation. Mr. Olson noted he was not sure but it had been some time ago. Ms. Pierce also requested that Mr. Gilbertson come forward for a question. Ms. Pierce requested for the record that Jay Gilbertson state his credentials as relates to water. Mr. Gilbertson stated, "I am the Manager, Executive Director of the East Dakota Water Development District a position I have held for 22 ½ years, prior to that I spent 10 ½ years as a Geologist &

Hydrologist with the South Dakota Geological Survey in Vermillion, I have undergraduate and graduate degrees in Earth Science and Hydrogeology.” Board member Pierce then asked, “Is there such a thing as legal vs. illegal wells?” Mr. Gilbertson noted that the state law in general requires/asks that when a well driller installs a well for a public individual or a private entity they file a copy of the well log and all information with the State (South Dakota Department of Environment and Natural Resources, Water Rights Division). He stated, “Well drillers have gotten better over the years at filing the logs, but a log for what appears to be a fairly old well/hole in the ground that it’s not on file was not a big surprise, it doesn’t surprise me.” Board member Pierce asked Mr. Gilbertson if he was aware of any wells becoming contaminated as a result of similar types of operation. Mr. Gilbertson noted he was not aware of any. Board members discussed with Mr. Gilbertson the titles of wells the state uses, procedure to plug a well and inspection of wells. Board member Randy Jensen posed a question to the applicant, Mr. Friedrichsen and Mr. Donahue. He inquired, “The site plan that you have here, is that what best fits the dairy itself or can things be shifted around – like the ponds moved further west and the buildings moved south, where we are not asking for such a big variance?” Mr. Friedrichsen noted it wouldn’t be impossible but would be tough due to high slope areas. Board member Lee Ann Pierce asked, “Have you considered applying for a Class B instead of a Class A CAFO as the setbacks from the well would not be an issue then.” Mr. Crinion noted that because a mature dairy cow was equal to 1.4 AU (Animal Units) 2,000 cows would be 2,800 Animal units so it would fall under a Class A permit. Mr. Crinion stated, “Frank and Marlen already have just short of 2,000 cows and their idea is to combine the two dairies and they would like to grow the dairy in the future.” Chair Elenkiwich asked for additional comments from the board, hearing none she asked Mr. Haugen to go over the findings of facts, with any additions, which are on file. Chair Elenkiwich called for each board member to express thoughts on the topic before the vote was called. Chair Elenkiwich then called for a roll-call vote: Rochel-aye, Davis-nay, Nelson-aye, Kleinjan-aye, Erickson-aye, Spence-nay, Jensen-nay, Pierce-aye, Elenkiwich-aye. 6-ayes, 3-nays, motion carried.

Chair Elenkiwich stated, “We are now acting as the Brookings County Planning and Zoning Commission” read the opening statement and **agenda item # 6: 2016cu022: Killeskillen LLC by Michael Crinion has made an application 2016cu022 to the Brookings County Planning and Zoning Commission for a conditional use. Article 11: Section 11.01: “A” Agricultural District: Conditional Use Permit #11: Class A, B, C and D Concentrated Animal Feeding Operation. The property is described as: “NE1/4 of Section 10, T112N, R48W (Oak Lake Township)” ~~ located at 48187 197th St, Astoria, SD 57213.** Roger Erickson moved to approve the conditional use request. Tom Davis second. Chair Elenkiwich opened up for discussion and asked Mr. Haugen for his staff report. Mr. Haugen went over the staff report with board and used visuals to further describe the proposed site. He also noted that the engineer’s report completed by Brian Friedrichsen with Dakota Environmental Inc. and the conditional use application contained all the required information per Article 22: Section 22.01. The Zoning Office had reviewed all documents and made a site visit to the December 5th, 2016

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proposed location. Letters were sent to the adjoining landowners, Oak Lake Township Chairman and Clerk, Brookings County Highway Department, Brookings-Deuel Rural Water and the current landowner. Mr. Haugen noted emails were received regarding the permit, all were posted online and given to the board members. – 7 in support of and 5 in opposition. Chair Elenkiwich asked the applicant to come forward and address the board. The appellant identified himself as Michael Crinion and stated, “I am applying for a conditional use permit for 5,500 Animal Units or over 3,900 dairy cows. I am a dairyman myself, I am 50% owner of Global Dairy, just east of Estelline. That dairy is 4,500 Animal Units on that permit. We put a lot of emphasis on cow comfort, because when we look after the cows the cows look after us. Besides being a dairyman myself, I work with others that want to move to South Dakota and that is the reason we are applying for this permit. I have been working with Frank and Marlen Gwerder from Modesto, CA. They like the site and it meets a lot of the requirements they are looking for. They currently operated two dairies both just short of 1,000 cows each but they are 100 miles apart and in California the dairy industry has been curtailed due to economics. Land that was once growing corn silage and alfalfa is now growing pistachio nuts, walnuts and other tree products. That is part of the reason Frank and Marlen are looking to move here.” Mr. Crinion described: the design of the building and its benefits, zero discharge and storage basin designs. Chair Elenkiwich opened up for questions from the board. The board discussed: manure plan, containment system, distance from Deer Creek and protecting, runoff and soil erosion, contamination and disease. Mr. Crinion noted manure plans are regulated by DENR and evolve over the years. Mr. Friedrichsen stated, “Pond 1 storage is below native ground level, the place you have got any embankments at all due to original topography is around sides or 2 and 3 (ponds), that is where secondary containment would be of most benefit.” Mr. Friedrichsen noted the site was required to be a zero discharge facility with all things routed into ponds. Mr. Crinion stated, “These are zero discharge facilities, we cannot discharge we have to account for everything.” Mr. Friedrichsen noted that concrete aprons and vegetation drainage areas would be in place around the buildings. Chair Elenkiwich asked a question regarding prevention from disease, Brian Donahue stated, “As a point of clarification the fly and odor plan also does address that and the fly control will insure these vectors or flies will not be anywhere near the areas where other animals could be exposed.” Chair Elenkiwich asked for further comments from the board, hearing none she opened up to the audience asking that a main spokesperson come forward and noted that the audience would be able to speak following with a limit of 5 minutes per person. Mitch Peterson, attorney from Sioux Falls noted that significant issues still existed and it had been 3 years since the project started. He cited: 1) Too much risk of contamination to the aquifer (Zone B), 2) Deer Creek stream too close, 3) Location of a well, 4) 7 control requirements. He closed in stating, “A no vote tonight is virtually bulletproof in court on appeal.” Chair Elenkiwich opened for public discussion. Catherine Carter presented a power point describing the site and expressing concern regarding aquifer zones, Deer Creek, and a limited number of soil borings. Ms. Carter closed in stating, “This is an accident waiting

to happen.” Brenda Boeve, Lake Hendricks Improvement Association President, expressed concern for the Deer Creek tributary and possible pollutants. She stated, “We have spent over \$4 million to clean the area, clean the lake.” Tom Landmark remarked, concern with phosphorus levels and the possible run-off from the CAFO site that would go into the tributary. Brad Olson presented the board with a Conditional Use Permit Opposition - Summary that was written by Mitch Peterson. Bill Schultze read a statement of opposition related to #6 noted in the Opposition to Conditional Use Permit (CUP) cu2016022 of Killeskillen LLC Dairy CAFO. Mr. Schultze noted various risks to animals such as: 144 Species of birds, Topeka Shiner, Northern Red Belly Snake, butterflies (Dakota Skipper & Poweshiek Skipperling). Jordan Olson expressed concern for potential pollution to the lake. Norris Patrick from Oak Lake Township stated, “When this thing fails or if it does, who is responsible (to clean it (spills) up)? I think if you are responsible enough to make the decision you are responsible enough to clean it up.” Frank Gwerder addressed the concerns of the people and stated, “Large CAFO’s concern a lot of the people because of the size. These large CAFO’s are engineered and designed to protect the environment.” He noted that they hoped to move themselves and their cows to area and would strive to protect the environment. Marlen Glattke-Gwerder noted their dairies had been environmental certified in California and they wanted to move to the area to combine their dairies. She stated, “We are moving the cows and ourselves, we will not be absentee owners.” James Eggen stated, “We are not opposed to CAFO’s just the location.” Marsha Olson area landowner opposed the CAFO due to the topography of the area. Noting the area was hilly with creeks that drained into the Deer Creek watershed, Floodplain, aquifer and location of a well. Jody Kuper, Milk Procurement Manager for Valley Queen Cheese Factory in Milbank, SD noted that milk is purchased from area CAFO’s and dairies in the area and are all subject to an animal healthcare inspection (Farmers Assuring Responsible Mangement). Mr. Kuper stated, “The bottom line is the better they’re cared for the more milk they will produce. He added, “I think there is a much greater risk of contamination from commercial fertilizer run-off than there is from containment ponds for manure lagoons.” Chair Elenkiwich then noted the public portion of the hearing was ended and called the applicant forward for final comments. Michael Crinion addressed various issues and comments made by the audience: (1) Soil borings – for county permit 4 extremities are looked at, if approved by county the State permit would require up to 30 different soil borings all going down 25 – 50 feet. (2) A dairy this size has an economic impact of over \$100 million per year. (3) Manure application – for CAFO’s soil tests are done to see what the nutrients are already in the ground and then the DENR will give a recommendation depending on the crop, the amount of manure that can be applied so that it isn’t over applied. (4) Regarding care of cows – in larger operations milk production goes up because better cow comfort for the cows. Animals are housed inside in a controlled environment. (5) Spills – CAFO’s are required to have insurance to cover if there ever is a spill. If a spill occurs, DENR is contacted, chopped straw is put in place, DENR inspects the site to certify no contamination and a fine is paid. Brian Friedrichsen added some additional comments regarding Soil

borings, state permit requirements and the Deer Creek tributary. Brian Donahue attorney for applicant made a few closing comments noting due to time constraint many supporters were in the audience but unable to testify in support. Mr. Donahue then stated, "I understand the concerns of the opponents and I want to make it clear that my client and the proposed operators of this facility have every intension of being excellent stewards of the land and protecting the environment to the best of their abilities regarding this particular site." He further noted the application fulfilled all the requirements of the proposed land use. He noted for the record, the 500 foot set-back for the streams would not apply to the unnamed tributary that is on the property. The site of where the actually dairy facility was to be located would not be in a shallow aquifer or Zone A or B aquifer protection area.

Chair Elenkiwich asked for further comments or questions from the board. Board member Darrel Nelson stated, "I would like to address a comment that was made – it was said that permitting this CAFO would not be generally compatible within the county. It is compatible with our ordinance as I see it, because our ordinance allows for it and it is compatible in our county." Mr. Nelson further stated, "The Ag District mainly exists for the purposes of agricultural activities and less to accommodate residential, and so agricultural activities do have a priority in the Ag District." Board member Robert Rochel directed a question to Mr. Friedrichsen regarding 100 year storm event and expanding storage ponds. Mr. Friedrichsen noted that a minimal design change of adding extra free board. Mr. Crinion stated, "The state permit requires 270 days storage and we are actually going to be in excess of 400 days storage, well in excess of what is required in the state permit. Attorney Donahue stated, "The facility would be a zero discharge facility regardless of whether we are talking about manure, the feed pad area or other parts of the operation." Chair Elenkiwich asked for further questions or comments from the board hearing none she asked Mr. Haugen to go over the findings of facts, with any additions, which are on file. Chair Elenkiwich polled each board member on the topic before the vote was called. Chair Elenkiwich then called for a roll-call vote: Kleinjan-aye, Erickson-aye, Spence-nay, Jensen-aye, Pierce-nay, Rochel-aye, Davis-nay, Nelson-aye, Elenkiwich-aye. 6- ayes, 3-nays. Motion carried

Chair Elenkiwich read **agenda item # 7: Department Reports**. Mr. Hill noted there were no department reports.

Chair Elenkiwich asked for a motion to adjourn. Tom Davis made a motion to adjourn the meeting, Roger Erickson second.

Chair Elenkiwich adjourned the meeting at 11:07 PM.

Rae Lynn Maher
Brookings County
Development Department.

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December 6th, 2016 Minutes

Brookings County Planning & Zoning Commission
December 6th, 2016 – 7:00 PM
Brookings City & County Government Center
310 Chambers

Chair Robbins called the meeting to order at 7:06 PM. Commission members present were: Lee Ann Pierce, Robert Rochel, Kimberly Elenkiwich, Darrell Nelson, Darrel Kleinjan, Terrell Spence, and alternate board members Tom Davis and Roger Erickson. Michael Vande Weerd and Randy Jensen were absent.

Chair Robbins read **agenda item # 2: Approval of minutes from November 1st, 2016 meeting.** Darrell Nelson moved to approve the minutes. Terrell Spence second. Chair Robbins called for a voice vote. 9-ayes and 0-nays, motion carried.

Chair Robbins read **agenda item # 3: Items to be added to agenda by commission members or staff.** Chair added assignments for the nominating committee. Mr. Hill and Mr. Haugen noted they had nothing to add to the agenda.

Chair Robbins read **agenda item # 4: Invitation for citizen to schedule time on the commission agenda for an item not listed. Time limited to 5 minutes per person to address the board.** No one was present in the audience.

Chair Robbins read **agenda item # 5: Approval of Agenda.** Roger Erickson moved to approve the agenda. Kimberly Elenkiwich second. Chair Robbins called for a voice vote. 9-ayes and 0- nays, motion carried.

Chair Robbins stated, "We are now acting as the Brookings County Board of Adjustment" read the opening statement. Chair Robbins asked for a motion to take the motion off the table regarding **agenda item # 6: Appeal of Building Permit #6089 – Tabled from November 1st, 2016 meeting. Appeal by Brad Olson regarding the issuance of Building Permit #6089 on September 15, 2016 by the Brookings County Development Office.** Lee Ann Pierce moved to take the motion off the table regarding the appeal of building permit # 6089. Kimberly Elenkiwich second. Chair Robbins asked staff for an update regarding the agenda item. Mr. Haugen stated, "An email was received today (December

6th, 2016) from Bradley Olson and he had requested it be read at the meeting.” Mr. Haugen read the emailed statement and presented the attached items to the board members. The emailed statement and attachments were placed on file. Mr. Haugen noted that Mr. Crinion’s lawyer, Mr. Donahue, had been in contact with the office and the States Attorney’s office. He stated, “They would like to have the item tabled until next month (January 2017) so that they could do some research on their end.” Mr. Hill asked to be recognized to make a statement, Chair Robbins granted. Mr. Hill identified himself and stated, “Today I discussed this particular building permit with the Brookings County Commission during a regularly scheduled meeting, during my department head report. The item was not properly noted on the agenda and a decision regarding possible refund of building permit fees and related things could not be made. It will be properly listed in the agenda for the December 20th, 2016 meeting so I feel it would be appropriate to table this particular motion until the January 2017 meeting as we would have a decision regarding the refunding of the building permit fees, which would be of interest to the applicant, not necessarily this board.” He noted per state law SDCL 11-2-55 an appeal can be made to the board of adjustment on things but not on an ad ministerial act. He stated, “I still consider this (building permit) as an ad ministerial act and thus it is not appealable to the board of adjustment.” Chair opened for questions or discussion from the board. Board members discussed options regarding tabling or postponing the agenda item. Roger Erickson moved to postpone the pending motion (Appeal of Building Permit #6089) until the January 3rd, 2017 meeting. Tom Davis second. Chair Robbins called for a voice vote. 9-ayes, 0-nays, motion to postpone carried.

Chair Robbins stated, “We are now acting as the Brookings County Planning and Zoning Commission” read the opening statement and **agenda item # 7: Consideration of Plats: a. 2016plat014: “Plat of Lots 1, 2 & 3 Gebhart Addn in NW1/4 Sec. 2, T109N, R48W of the 5th P.M., Brookings County, South Dakota.”** Darrell Nelson moved to approve the plat. Tom Davis second. Chair Robbins opened up for discussion and asked Mr. Haugen for his staff report. Mr. Haugen stated, “The Gebhart estate is platting an existing 154.92 acre parcel into three (3) separate lots. Lot 1 contains 47.8 acres of grass and pastureland, Lot 2 contains 76.1 acres of pastureland and Lot 3 contains 39.4 acres of farm land. An old railroad ROW goes thru the land has been purchased by them and is now part of this parcel. The Lots are coming up for auction, are all over 35 acres so they are all buildable lots.” Mr. Haugen used visuals to describe the plat. Chair Robbins opened up for questions/discussion from the board. Board discussed the Railroad ROW area and the sale that had taken place of the 3 lots. Chair Robbins opened up for discussion from the audience, hearing none (he noted there was no one in the audience this night). Chair Robbins asked the board for questions or comments, hearing none he called for a roll-call vote: Rochel-aye, Nelson-aye, Kleinjan-aye, Spence-aye, Davis-aye, Erickson-aye, Pierce-aye, Elenkiwich-aye, Robbins-aye. 9-ayes, 0-nays, motion carried.

Chair Robbins read **agenda item b. 2016plat015: “Plat of Lots 5B & 5C of Block 1 in Lake Park Second Addn in the E1/2 NE1/4 & Govt. Lot 7 all in Sec. 28, T109N, R50W, in Brookings County, South Dakota.”** Lee Ann Pierce

moved to approve the plat Darrell Nelson second. Chair Robbins opened up for discussion and asked Mr. Haugen for his staff report. Mr. Haugen stated, "D & B Properties III LLC are re-platting Lot 5A into Lots 5B and 5C. This lot (5A) was approved for a twin home to be built on it. They have sold one-half of the twin home so that is why they are re-platting at this time. This allows for the lot to be sold with the home when sale closes. The conditional use permit 2016cu010 was approved on June 7th, 2016 and allows for a twin home to be built. Originally this area was Lot 5, it was re-platted to Lot 5A on December 1st, 2015 for a property line adjustment and the sale of the twin homes on Lot 6A and 6B. Lot 5B is approximately 22,184 square feet and Lot 5C is approximately 21,906 square feet. Both lots meet/exceed the 20,000 square feet lot requirement in the Lake Park district." Mr. Haugen used visuals to describe the plat. Chair Robbins opened up for questions from the board, hearing none. Chair Robbins opened up for discussion from the audience, noting no one was in attendance. Chair Robbins asked the board for questions or comments. Board discussed the location of the twin home on the 2 lots, the way twin homes with land are divided, construction needs of common wall and setbacks. Mr. Haugen noted that the half of the twin home on Lot 5C was sold and complete twin home being constructed at this time. Chair Robbins asked the board for additional questions or discussion, hearing none he called for a roll-call vote: Elenkiwich-aye, Nelson-aye, Kleinjan-aye, Davis-aye, Spence-aye, Erickson-aye, Pierce-aye, Rochel-aye, Robbins-aye. 9-ayes, 0-nays, motion carried.

Chair Robbins referred back to **agenda item #3**. Chair Robbins announced the appointment of the nominating committee for the January 3rd, 2017 meeting. Terrell Spence and Michael Vande Weerd have accepted to be on the nominating committee for the election of the chair and vice chair for 2017. Board members interested in either position are to contact Mr. Spence or Mr. Vande Weerd.

Chair Robbins read **agenda item # 8: Department Reports**. Chair Robbins asked Mr. Hill for his Directors report. Mr. Hill announced the County Commission wanted to complement the board on the way the December 5th, 2016 meeting was run, the professionalism and extend a thank you to each of you. Mr. Hill also discussed with members winter preparedness: kits in vehicles, keeping cell phones charged and what to do if stranded. He closed his comments with extending Christmas greetings to each member from Brookings County and the County Commission. Mr. Haugen noted the past year had been a busy one, a good year and Happy Holiday's. Lee Ann Pierce added comments from the County Commission and a Thank you to the board members.

Chair Robbins asked for a motion to adjourn. Darrel Kleinjan made a motion to adjourn the meeting, Terrell Spence second. Chair Robbins called for a voice vote. 9-ayes, 0-nays.

Chair Robbins adjourned the meeting at 7:40 PM.

Rae Lynn Maher
Brookings County
Development Department.

December 6th, 2016
Meeting Minutes
Page 3 of 4

DRAFT

2017var001(Residence)

January 3rd, 2017

Prepared by Richard Haugen

Applicant/Owner: Old Tree Farms LLC by Frido Verpaalen, 46316 214th St, Volga, SD 57071.

Legal Description: "S1470' of W1481.36' Exc S295' of E295' of W1248' of SW1/4 of Sec. 34, T110N, R51W (Volga Township)"

Article 22: Section 22.01: Concentrated Animal Feeding Operation Regulations:
Concentrated Animal Feeding Operation Control Requirements: # 6) Required Setback and Separation Distance – Established Residences – 2,640 feet.

2017var001: Frido Verpaalen has applied for a variances to be 1,760 feet from a residence located in the NE1/4 of Section 4, T109N, R51W located to the southwest of his operation, a variance of 880 feet and 2,265 feet from a residence located in the SE1/4 of Section 33, T110N, R51W, a variance of 375 feet. The required setback distance is 2,640 feet. Both residences are on established, existing homesteads.

The dairy was permitted as a Class "B" CAFO on April 7th, 1998. He was approved to expand the dairy from a Class "B" to a Class "A" (CAFO) on April 5th, 2011 and variances were approved.

Letters were sent to the adjoining landowners, Volga Township Chairman and Clerk, Oslo Township Chairman and Clerk, Brookings County Highway Department, Kingbrook Rural Water.

The public notices were published in the Brookings Register on December 20th and 27th 2016, Volga Tribune on December 22nd, 2016.

Granting the variance would be an additional agricultural livestock use in rural Brookings County.

Denying the variance request allows the current permitted use to continue.

APPLICATION FOR VARIANCE
TO
ZONING REGULATIONS

Date of Application: 12-13-2016

Variance Number: 2017 var 001

To: Brookings County Board of Adjustment
520 3rd St, Suite 200
Brookings, South Dakota 57006

A.) I/We, the undersigned property owner (s), do hereby petition the Board of Adjustment of Brookings County, South Dakota, to grant a Variance to the Brookings County Zoning Regulations for the purpose of:

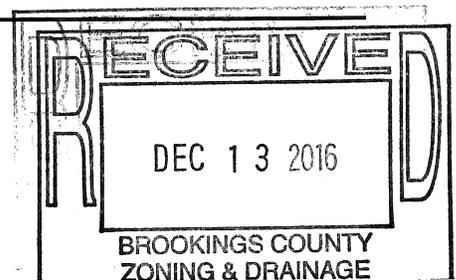
expansion of 950 calf and heifer units
a year of age. Having permitted before
current set back requirements

B.) Section(s) of Zoning Regulations to be exempted:

Article 22.00; Section 22.01 "Concentrated Animal Feeding Operation,"
Concentrated Animal Feeding Operations Control Requirements # 6
Required Setbacks and Separation Distance for New Concentrated Feeding
Operations and those Expanding by 500 or more Animal Units
after May 13, 1997

C.) Special conditions and circumstances that exist which are peculiar to the land, structure, or buildings in the same district: that literal interpretation of the provisions of this regulation would deprive the applicant of rights commonly enjoyed by other properties in the same district under terms of this regulation: that the special conditions and circumstances do not result from the actions of the applicant, and that granting the variance requested will not confer on the applicant, and privilege that is denied by this regulation to other lands, structures, or buildings in the same district.

Due to current operations site planning
variance is needed to meet set back
requirements.



D.) Legal Description of Property:

S 1470' of W 1481.36' Exc S 295' of W 1248' of
SW 1/4 Sec. 34, T110N R51W (Volga Twp)

Parcel # 220001105134305

Site addr: 46316 214th St Volga SD 57071

E.) Time and Date Set for
Hearing before Brookings
County Board of Adjustment.

Jan 3, 2017
Date

7:00 pm
Time

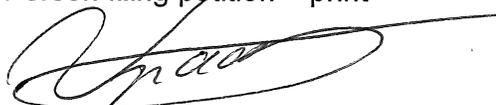
Approved

Rejected

Date

Chairman of Brookings County Board
of Adjustment

FRIDO VERPAALEN
Person filing petition - print


Person filing petition - sign

46318 - 214th
Address

VOLGA
City

SD
State

57071
Zip Code

605-695-4639
Telephone

A variance that is granted and not used within three (3) years will be considered
invalid.

OLD TREE FARMS

REQUESTED VARIANCE SETBACKS



Residence - 1760'
Wells - 1675'



1 inch = 1,000 feet

Legend

-  Well Buffer 1675'
-  Residential Buffer 1760'

Old Tree Dairy

Write a description for your map.

Legend

2265'

2475'

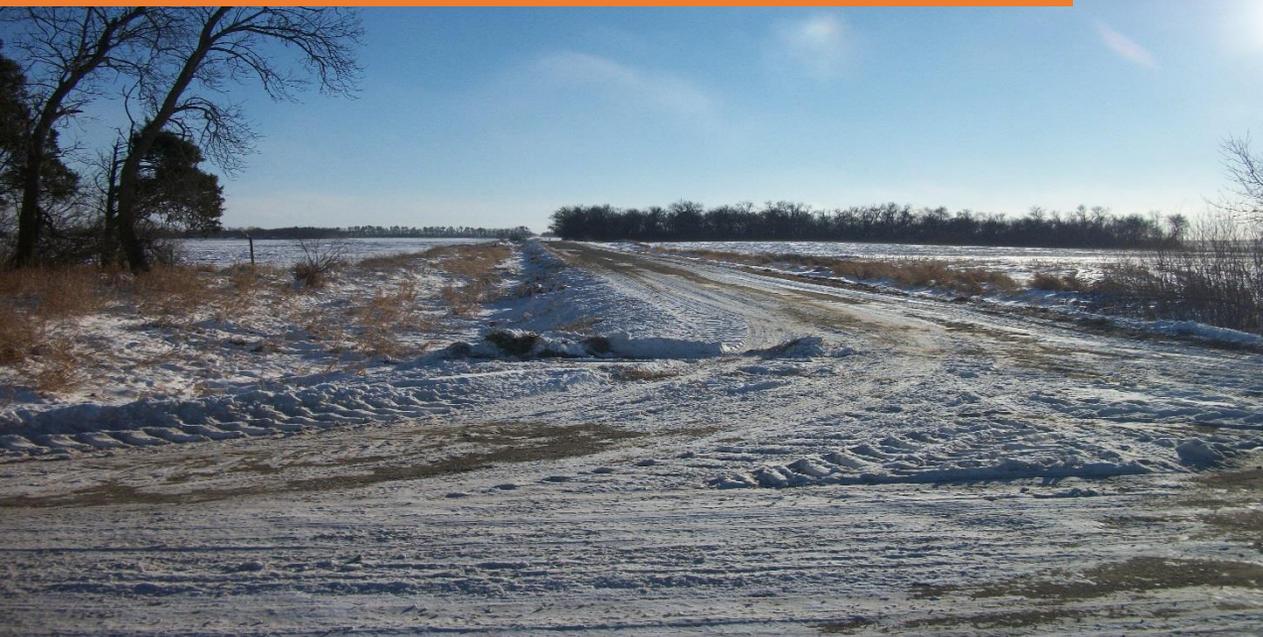
214th St

463rd Ave



1000 ft

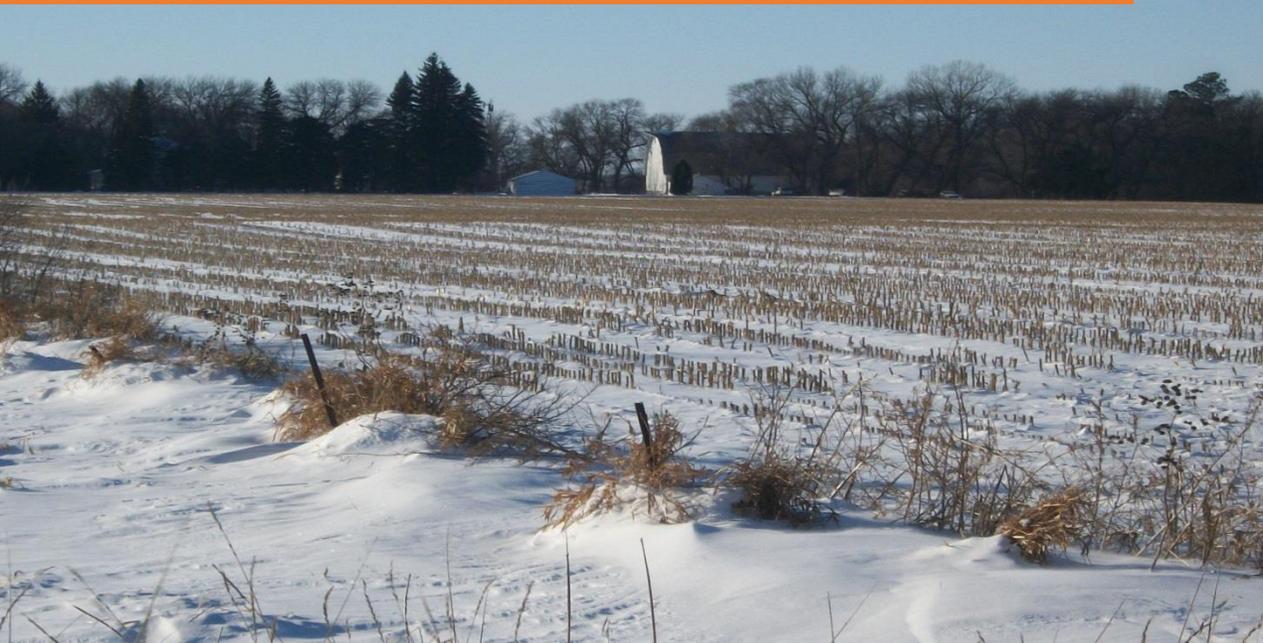
Looking south to residence & well site on 463rd Ave.



2017var001(Well) and 2017var002(Residence)
by Frido Verpaalen



Residence & well to the west from 214th St & 463rd Ave.



Richard Haugen

From: Jerry <jjpcnls@itctel.com>
Sent: Wednesday, December 28, 2016 3:30 PM
To: Richard Haugen
Subject: Old Tree

Richard,

I have no problem with the expansion and the zoning ordinance variances being proposed by the dairy (Old Tree Farms) that is operated by Frido Verpaalen.

Sincerely,

Jerry Nelson

PUBLIC NOTICE

Old Tree Farms, LLC by Frido Verpaalen has made an application 2016var018 to the Brookings County Board of Adjustment, for a variance. Article 22: Section 22.01: Concentrated Animal Feeding Operation Regulations: Concentrated Animal Feeding Operation Control Requirements: # 6) Required Setback and Separation Distance. The property is described as: "S1470' of W1481.36' Exc S295' of E295' of W1248' of SW1/4 of Sec. 34, T110N, R51W (Volga Township)" ~ located at 46316 214th St, Volga, SD 57071.

The public hearing will be held in the Brookings City & County Government Center, 310 Chambers, 520 3rd St, Brookings, SD 57006 on Tuesday, October 4th, 2016 at 8:00 PM.

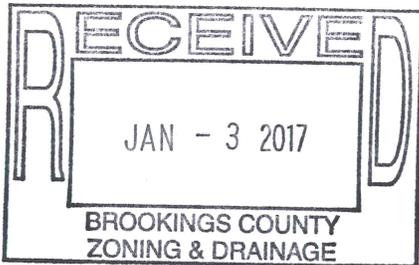
All interested persons may attend and be heard at this time.

Robert Hill
Brookings County
Development Director

Published 2x at the total approximate cost of _____.

Frido Verpaalen has my OK for the variance on his dairy
Jeredni Tubenack

1-2-17



2017var002 (well) – January 3rd, 2017

Prepared by Richard Haugen

Applicant/Owner: Old Tree Farms LLC by Frido Verpaalen, 46316 214th St, Volga, SD 57071.

Legal Description: “S1470’ of W1481.36’ Exc S295’ of E295’ of W1248’ of SW1/4 of Sec. 34, T110N, R51W (Volga Township)”

Article 22: Section 22.01: Concentrated Animal Feeding Operation Regulations: Concentrated Animal Feeding Operation Control Requirements: # 6) Required Setback and Separation Distance – Private well – 2,640 feet.

2017var002: Frido Verpaalen has applied for a variances to be 1,675 feet from a well located in the NE1/4 of Section 4, T109N, R51W located to the southwest of his operation, a variance of 965 feet and 2,475 feet from a well located in the SE1/4 of Section 33, T110N, R51W located to the west of his operation a variance of 165 feet. The required setback distance is 2,640 feet.

The well in the NE1/4 of Section 4, T109N, R51W is on record in the South Dakota Department of Environment and Natural Resources Water Well Completion Report for that Township/Range/Section.

The well located in the SE1/4 of Section 33, T110N, R51W is not on the South Dakota Department of Environment and Natural Resources Water Well Completion Report for that Township/Range/Section, meaning the well was dug before the reporting requirement.

The dairy was permitted as a Class “B” CAFO on April 7th, 1998.

He was approved to expand the dairy from a Class “B” to a Class “A” (CAFO) on April 5th, 2011 and variances were approved.

Letters were sent to the adjoining landowners, Volga Township Chairman and Clerk, Oslo Township Chairman and Clerk, Brookings County Highway Department, Kingbrook Rural Water.

The public notices were published in the Brookings Register on December 20th and 27th 2016, Volga Tribune on December 22nd, 2016.

Granting the variance would be an additional agricultural livestock use in rural Brookings County.

Denying the variance request allows the permitted current use to continue.

APPLICATION FOR VARIANCE
TO
ZONING REGULATIONS

Date of Application: 12-13-2016

Variance Number: 2017var002

To: Brookings County Board of Adjustment
520 3rd St, Suite 200
Brookings, South Dakota 57006

A.) I/We, the undersigned property owner (s), do hereby petition the Board of Adjustment of Brookings County, South Dakota, to grant a Variance to the Brookings County Zoning Regulations for the purpose of:

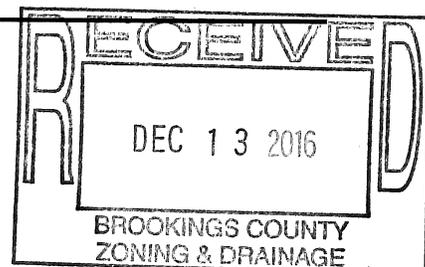
expansion of 950 calf and heifer
under a year of age. Dairy herd
before, current set back requirements

B.) Section(s) of Zoning Regulations to be exempted:

Article 22.00 "Section 22.01 "Concentrated Animal Feeding
Operation" Concentrated Animal Feeding Operation Control Requirements #6
Required Setback and Separation Distance for New Concentrated
Feeding Operations and those Expanding by 500 or More Animal
Units after May 13, 1997.

C.) Special conditions and circumstances that exist which are peculiar to the land, structure, or buildings in the same district: that literal interpretation of the provisions of this regulation would deprive the applicant of rights commonly enjoyed by other properties in the same district under terms of this regulation: that the special conditions and circumstances do not result from the actions of the applicant, and that granting the variance requested will not confer on the applicant, and privilege that is denied by this regulation to other lands, structures, or buildings in the same district.

Due to current operations site planning
variance is needed to meet set back
requirements



D.) Legal Description of Property:

S 1470' of W 1481.36' Exc S 295' of W 1248' of
SW 1/4 Sec 34, T110 N, R 51 W (Volga Twp)

Parcel # 220001105134305

Site address: 46316 214th St Volga SD 57071

E.) Time and Date Set for
Hearing before Brookings
County Board of Adjustment.

Jan. 3, 2017

Date

7:00pm

Time

Approved

Rejected

Date

Chairman of Brookings County Board
of Adjustment

FRIDO VERPAALEN
Person filing petition - print


Person filing petition - sign

46316 - 214 st
Address

VOLGA
City

SD
State

57071
Zip Code

605-695-4639
Telephone

A variance that is granted and not used within three (3) years will be considered
invalid.

OLD TREE FARMS

REQUESTED VARIANCE SETBACKS



Residence - 1760'
Wells - 1675'



1 inch = 1,000 feet

Legend

-  Well Buffer 1675'
-  Residential Buffer 1760'

Old Tree Dairy

Write a description for your map.

Legend

2265'

2475'

214th St

463rd Ave



1000 ft

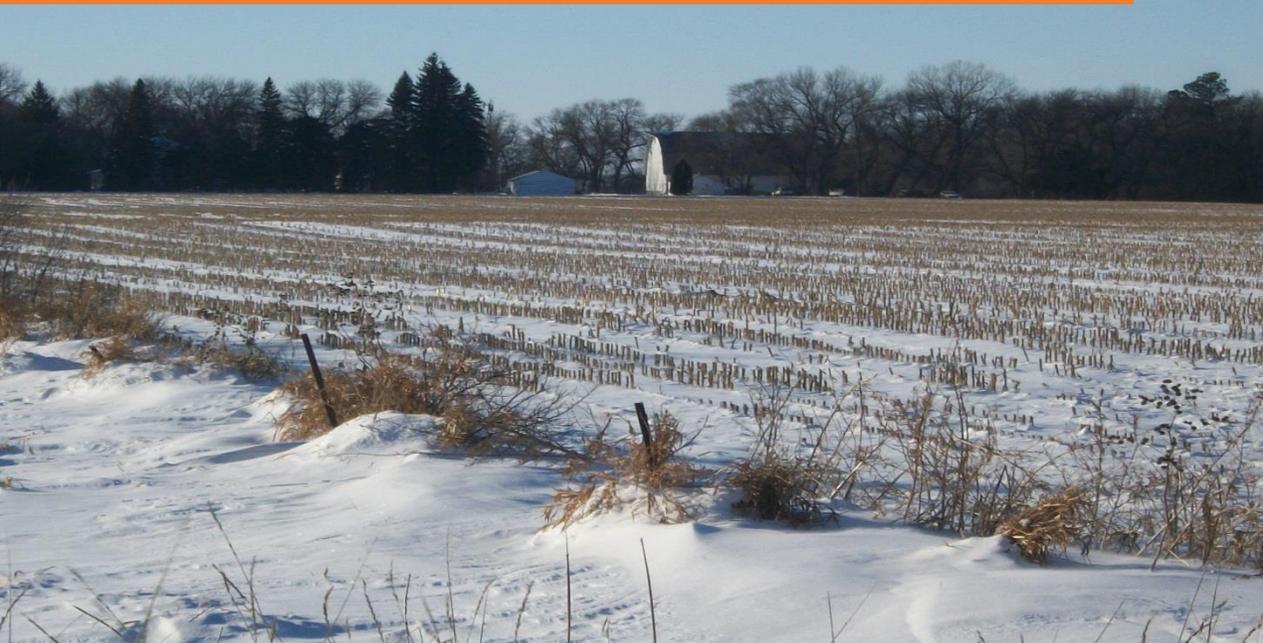
Looking south to residence & well site on 463rd Ave.



2017var001(Well) and 2017var002(Residence)
by Frido Verpaalen



Residence & well to the west from 214th St & 463rd Ave.



Richard Haugen

From: Jerry <jjpcnls@itctel.com>
Sent: Wednesday, December 28, 2016 3:30 PM
To: Richard Haugen
Subject: Old Tree

Richard,

I have no problem with the expansion and the zoning ordinance variances being proposed by the dairy (Old Tree Farms) that is operated by Frido Verpaalen.

Sincerely,

Jerry Nelson

PUBLIC NOTICE

Old Tree Farms, LLC by Frido Verpaalen has made an application 2016var018 to the Brookings County Board of Adjustment, for a variance. Article 22: Section 22.01: Concentrated Animal Feeding Operation Regulations: Concentrated Animal Feeding Operation Control Requirements: # 6) Required Setback and Separation Distance. The property is described as: "S1470' of W1481.36' Exc S295' of E295' of W1248' of SW1/4 of Sec. 34, T110N, R51W (Volga Township)" -- located at 46316 214th St, Volga, SD 57071.

The public hearing will be held in the Brookings City & County Government Center, 310 Chambers, 520 3rd St, Brookings, SD 57006 on Tuesday, October 4th, 2016 at 8:00 PM.

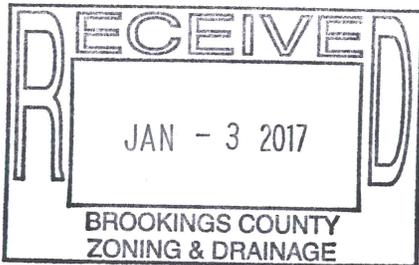
All interested persons may attend and be heard at this time.

Robert Hill
Brookings County
Development Director

Published 2x at the total approximate cost of _____.

Frido Verpaalen has my OK for the variance on his dairy
Jeredini Tubenack

1-2-17



2017cu003 - January 3rd, 2017

Prepared by Richard Haugen

Applicant: Frido Verpallen, 46318 214th St, Volga, SD 57071

Legal Description: S1470' of W1481.36' Exc S295' of E295' of W248' of SW1/4 of Section 34, T110N, R51W (Volga Township)

2017cu003: Frido Verpallen has applied for Brookings County Zoning Ordinance Article 11.00 Agricultural Districts: Section 11.01 "A" Agricultural District: Conditional Use # 11: Class A, B, C, and D Concentrated Animal Feeding Operations. See Section 22.00: Concentrated Animal Feeding Operation: Section 22.01: Concentrated Animal Feeding Operation Regulations. (Brookings County Zoning Ordinance page 22.00-1), to expand his a Class "A" Concentrated Animal Feeding Operation (CAFO) dairy from 2,540 animal units of dairy cattle, to 3,155 animal units of dairy cattle, an expansion of 615 animal units.

He is currently permitted for 2,540 animal units consisting of 1,750 mature cows and 150 calves. The proposed expansion would consist of the following breakdown: 1,625 mature cows, 500 heifers and 450 calves, (below 400 pounds) for a total of 3,155 animal units. The expansion would decrease his mature cows by 125 and increase his replacement heifers (500) and calves (450) by keeping them on site. He is currently not keeping his replacements on site, which he would now like to do. To accommodate the expansion he would add onto his existing free stall barn and construct a new calf barn.

The dairy was permitted on April 7th, 1998 as a Class "B" with 1,400 cows and has 4 monitoring wells on site. The Brookings County Planning and Zoning Commission approved an expansion of his dairy from a Class "B" dairy to a Class "A" dairy on April 5th, 2011 for 2,540 animal units. The dairy was permitted before the current setback requirements, he applied for and was granted two variances on April 5th, 2011 by the Brookings County Board of Adjustment. Variance #1) to be 1,675 feet from a well, a variance of 965 feet. The required setback is 2,640 feet. Variance #2) to be 1,760 feet from a residence, a variance of 880 feet. The required setback is 2,640 feet from a residence. The well and the residence are located to the south of the operation on 4636rd Ave. He has applied for the same two variances, which will be heard by the Board of Adjustment the same evening.

The location of the site is not located in the Zone "A" (Wellhead Protection Areas) or Zone "B" (remainder of the mapped shallow/surficial aquifer not included in Zone "A"), according to the "First Occurrence of Aquifer Materials in Brookings County, South Dakota" map (Article 16.00 Aquifer Protection) and is noted in the engineer's report. The site is not located in the floodplain.

The engineer's report completed by Brian Friedrichsen with Dakota Environmental Inc. and the conditional use application are included in your packet and contains the information required per "Article 22: Section: 22.01: Concentrated Animal Feeding Operation Control

Requirements # 8. Information Required for Class A and B Concentrated Feeding Operation Permit,”

- A. Owner's name, address and telephone number.
- B. Legal descriptions of site and site plan.
- C. Number and type of animals.
- D. Nutrient management plan.
- E. Manure management and operation plan.
- F. Management Plan for Fly and Odor Control.
- G. Information on ability to meet designated setback requirements including site plan to scale.
- H. General permits from South Dakota Department of Environment & Natural Resources if available for animal species.
- I. Review of Plans and Specifications and Nutrient Management Plan by the South Dakota Department of Environment & Natural Resources.
- J. Information on soils, shallow aquifers, designated wellhead protection areas, and 100-year flood plain designation.
- K. Notification of whoever maintains the access road (township, county and state). Notification of public water supply officials
- L. Any other information as contained in the application and requested by the County Zoning Officer.

The site is within the required setback distance for a residence and a well that is located to the southwest of the site. The applicant has applied for a variance 2017var001 for the location of the residence and variance 2017var002 for the location of the well. The Board of Adjustment will be hearing the variance requests also on the night of the meeting.

The Zoning Office has reviewed the above documents and made a site visit to the proposed location.

Letters were sent to the adjoining landowners, Volga Township Chairman and Clerk, Oslo Township Chairman and Clerk, Brookings County Highway Department, Kingbrook Rural Water.

The public notices were published in the Brookings Register on December 20th and 27th 2016, Volga Tribune on December 22nd, 2016.

The Planning and Zoning Board has considered and incorporates in these findings: # 7: Standards for Conditional Uses, found on page 22.00-17 of the Brookings County Zoning Ordinance, for all permitted CAFO's in Brookings County.

Granting the conditional use would be an additional agricultural livestock use in rural Brookings County.

Denying the conditional use request allows the current use to continue.

APPLICATION FOR CONDITIONAL USE PERMIT

Date of Application: December 13 2017

Permit Number: 2017cu 003

To: Brookings County Planning Commission
520 3rd St, Suite 200
Brookings, South Dakota 57006

A.) I/We, the undersigned property owner (s), do hereby petition the Brookings County Planning & Zoning Commission of Brookings County, South Dakota, to grant a Conditional Use to the Brookings County Zoning Regulations for the purpose of:

We want to start growing our first group
of calves on farm now in area of clover
pasture raising, we need about 600 more animal
units to do that, increase from 2540 to 3155.

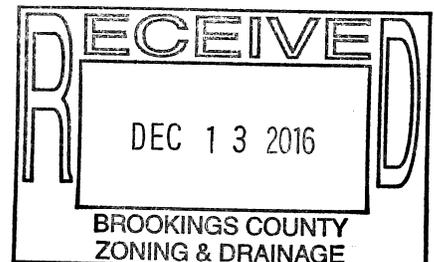
B.) Section(s) of Zoning Regulations authorizing Conditional Use:

Article 11:00: Section 11.01 "A" Agricultural District:
Conditional Use Permit #11: Class A, B, C and D Concentrated
Animal Feeding Operation.

C.) Legal Description of Property:

S 1470' of W 1481.36' Exc S 295' of E 295' of W 1248'
in SW 1/4 of Sec. 34, T110N, R51W (Volga Twp)
Parcel # 220001105134305
Site addr: 4613 1/2 St. Volga SD 57071

Form continued on page 2



D.) Time and Date Set for
Hearing before Brookings
County Planning Commission.

JANUARY 3 2017
Date

7:00 pm
Time

Approved

Rejected

Date

Chairman of Brookings County Planning
and Zoning Commission

FRIDO VERPAALEN
Person filing petition – print


Person filing petition – sign

46318- 214 st
Address

VOLGA
City

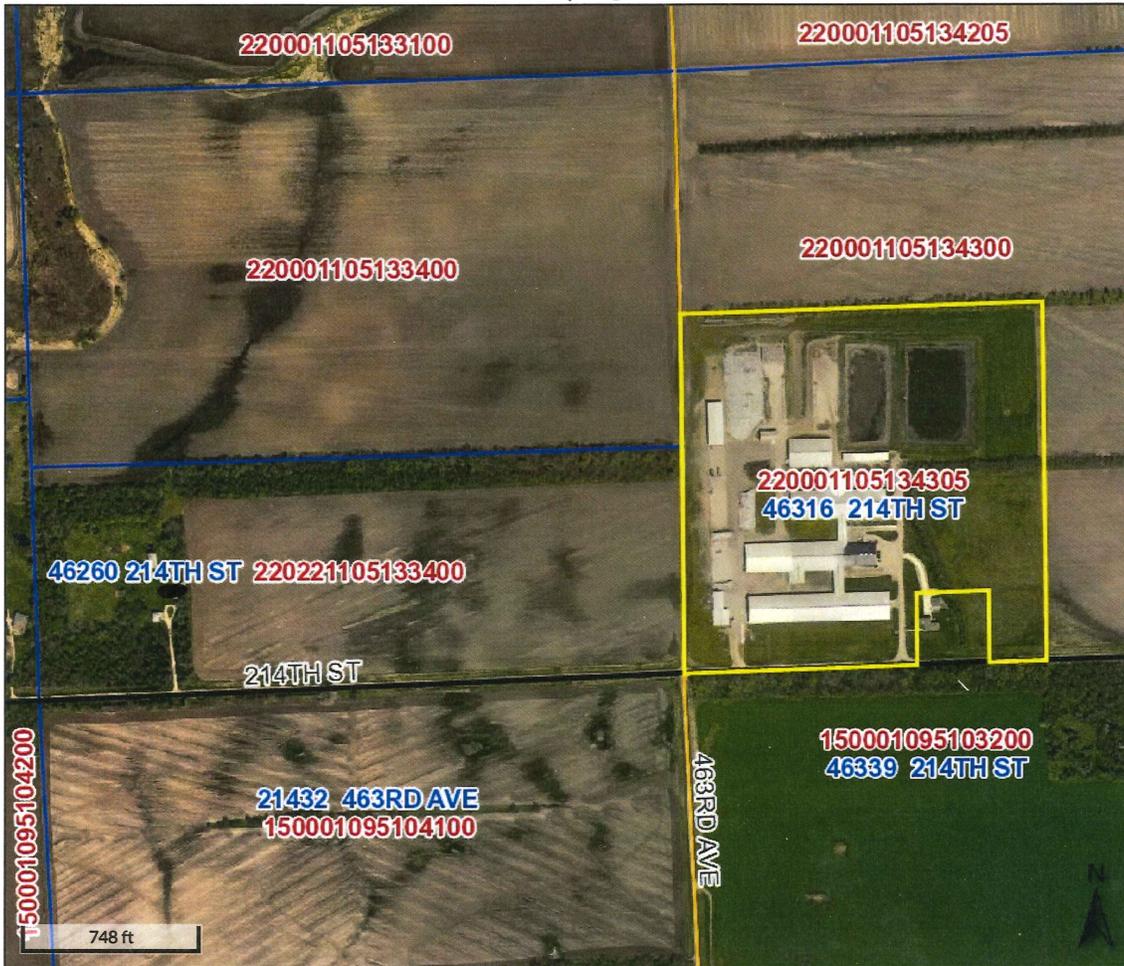
SD
State

57070
Zip Code

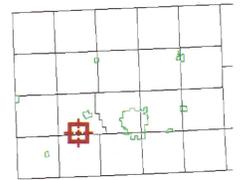
605 695 4639
Telephone

A conditional use that is granted and not used within three (3) years will be considered invalid.

2017 Var 001 + 2017 Var 002 + 2017 cu 003



Overview



Legend

- Brookings City Limits
- City Limits
- Township Boundar
- Sections
- Parcels
- Roads

| | | | | | |
|-----------------------|---|--------------|-----|---------------|--------------------|
| Parcel ID | 220001105134305 | Alternate ID | n/a | Owner Address | OLD TREE FARMS LLC |
| Sec/Twp/Rng | 34-110-51 | Class | AGA | | 46318 214TH ST |
| Property Address | 46316 214TH ST VOLGA | Acreage | 48 | | VOLGA SD 57071 |
| District | 2205 - VOLGA TWP/VOLGASCH | | | | |
| Brief Tax Description | S 1470' OF W 1481.36' EXC S 295' OF E 295' OF W 1248' OF SW 1/4 SEC 34-110-51 48 ACRES (Note: Not to be used on legal documents) | | | | |

Date created: 12/13/2016
Last Data Uploaded: 2/18/2014 4:02:57 AM

Developed by
The Schneider Corporation





DAKOTA ENVIRONMENTAL, INC.

Engineers...Hydrogeologists...Geologists...Remedial Specialists

December 9, 2016

Robert Hill
Brookings County Zoning & Drainage Dept.
520 3rd Street, Suite 200
Brookings, SD 57006

Re: Animal Waste Management System
Old Tree Farms, Brookings County, SD
DEC Project No. 1101

Dear Mr. Hill:

Please find included with this letter copies of information regarding a proposed expansion of the above referenced facility. These materials are provided in conjunction with the conditional use and variance applications for expansion of the existing confined animal feeding operation.

The site is currently permitted for up to 2,540 animal units. It is proposed to reconfigure the makeup of the existing and proposed herd on site, as well as to add a number of heifers and calves. The proposed configuration would consist of 1,625 head of mature cattle, 500 heifers, and 450 calves (below 400 pounds). This configuration would equal 3,155 animal units, or an expansion of 615 animal units.

Since the facility is already a Class A CAFO, no increased setbacks are required. However, variances from nearby residences and wells were required during the 2011 expansion due to proximity to these structures, and will therefore be required to be obtained again. The first setback map in Appendix VI to this letter shows the setbacks from the nearest residences and wells as defined in the ordinance (2640'). The second map shows the distances for which variances for these two setbacks have been requested. The third shows a smaller scale map of the site, including any additional applicable setbacks.

The physical modifications of the expansion would consist of extending the west end of the existing north freestall barn, and constructing an additional calf barn south of the manure storage ponds as shown on the site map in Appendix VII. The freestall barn extension would utilize a liquid manure handling system identical to the existing barns, while the calf barn would utilize a bedding pack system where manure and bedding would be handled as a solid. Storage for this mixture will be provided by the existing approved stockpiling area. The manure production calculations for the entire facility have been recalculated and are included in Appendix I. These calculations demonstrate the ability of the existing storage facilities to meet capacity requirements of the General Permit. Details of the proposed construction are also included in Appendix VII.

Since the existing site is currently permitted by both Brookings County and DENR, the data concerning placement of the site is included mainly for reference. Appendix II includes the

Brookings County Groundwater Protection Zone map, which does not show the site as located over the Big Sioux Aquifer or the contributing area. The First Occurrence map shows the site in an area where the aquifer is not present near the surface but may be located within 50 feet of the surface. Copies of soil borings completed during the initial permitting of the site are included, which encountered clay soils to a maximum depth of 50 feet, which was adequate to meet requirements of the General Permit. The FEMA flood zone map included in Appendix VI confirms the site is not located in a flood zone.

As a currently permitted site, the facility operates under an existing set of best management practices and requirements as its manure management plan. The current Operation and Maintenance guideline for the facility is included in Appendix IV. The current approved Nutrient Management Plan has also been modified to reflect the desired expansion. The revised copy included in Appendix III shows that adequate land remains available for land application of manure from the expanded facility.

The current Management Plan for Fly and Odor Control is included in Appendix V. Since the proposed expansion of the facility would consist of enlarging the housing areas instead of the manure storages, a significant increase in odor production is not expected.

We believe all information required by the Brookings County ordinance for submittal with the conditional use application is contained in the included packets. Please feel free to contact me if there are any questions, or if further information is required.

Sincerely,



Brian Friedrichsen, PE
Senior Engineer

APPENDIX I

DESIGN CALCULATIONS

3/14/11
Rev. 11/30/16

**OLD TREE FARMS AWMS
WASTE VOLUME CALCULATIONS**

Dairy Waste - Milking Herd, Dry Cows, and Heifers - Handled as liquid

| Number | Weight | Manure, cf/day/cow | Manure, total cf/day | Storage Period, days | Manure Volume over Storage Period |
|--------|--------|--------------------|----------------------|----------------------|-----------------------------------|
| 1,325 | 1,400 | 2.5 | 3,313 | 270 | 894,375 |
| 240 | 1,400 | 2.5 | 600 | 270 | 162,000 |
| 500 | 750 | 0.7 | 350 | 270 | 94,500 |

Dairy Washwater & Flushwater - Milking Herd

| Number | Weight | Wash water, cf/day/1000# | Wash water, total cf/day | Storage Period, days | Wash water Volume over Storage Period |
|--------|--------|--------------------------|--------------------------|----------------------|---------------------------------------|
| 1,325 | 1,400 | 1.2 | 2,226 | 270 | 601,020 |

Dairy Waste - Non-Milking Herd and Calves - Handled as solid manure to stacking pad

| Number | Weight | Manure, cf/day/cow | Manure, total cf/day | Storage Period, days | Manure Volume over Storage Period |
|--------|--------|--------------------|----------------------|----------------------|-----------------------------------|
| 60 | 1,400 | 1.15 | 69 | 270 | 18,630 |
| 150 | 100 | 0.12 | 18 | 270 | 4,860 |
| 150 | 200 | 0.25 | 38 | 270 | 10,125 |
| 150 | 300 | 0.37 | 56 | 270 | 14,985 |

Dairy Waste - Solids separated from liquid system waste stream and stored on stacking pad
(estimated based on tonnage/day data of current herd, from producer)

| Manure solids, total cf/day | Storage Period, days | Manure Solids Volume over Storage Period |
|-----------------------------|----------------------|--|
| 793 | 270 | 214,110 |

Dairy Bedding - Straw - Handled as solid and stored on stacking pad

| Number | Weight | Bedding, cf/day/head | Bedding, total cf/day | Storage Period, days | Bedding Volume over Storage Period | Volume Reduction | Bedding Volume over Storage Period |
|--------|---|----------------------|-----------------------|----------------------|------------------------------------|------------------|------------------------------------|
| 2,065 | No additional bedding is used by the milking herd. All bedding is recycled manure solids. | | | | | | 0 |
| 60 | 1,400 | 0.42 | 25 | 270 | 6,804 | 50% | 3,402 |
| 150 | 100 | 0.72 | 108 | 270 | 29,160 | 50% | 14,580 |
| 150 | 200 | 0.72 | 108 | 270 | 29,160 | 50% | 14,580 |
| 150 | 300 | 0.72 | 108 | 270 | 29,160 | 50% | 14,580 |

Annual Runoff Volume from stacking pad, cubic feet (36,000sf x 1.92' x 50%) **34,560**
Annual Runoff Volume from calf barn cleanout chute, cubic feet (385sf x 1.92' x 50%) **370**

25 year / 24 hour storm volume from stacking pad, cubic feet (36,000sf x .375') **13,500**
25 year / 24 hour storm volume from calf barn cleanout chute, cubic feet (385sf x .375') **145**

Total Volume of Liquid Manure and Wastewater to Pond, cubic feet **1,586,360**

Total Volume of Solid Manure and Bedding to Stacking Pad, cubic feet **309,852**

Existing Storage Pond Volume as Previously Approved by DENR, cubic feet **2,138,023**

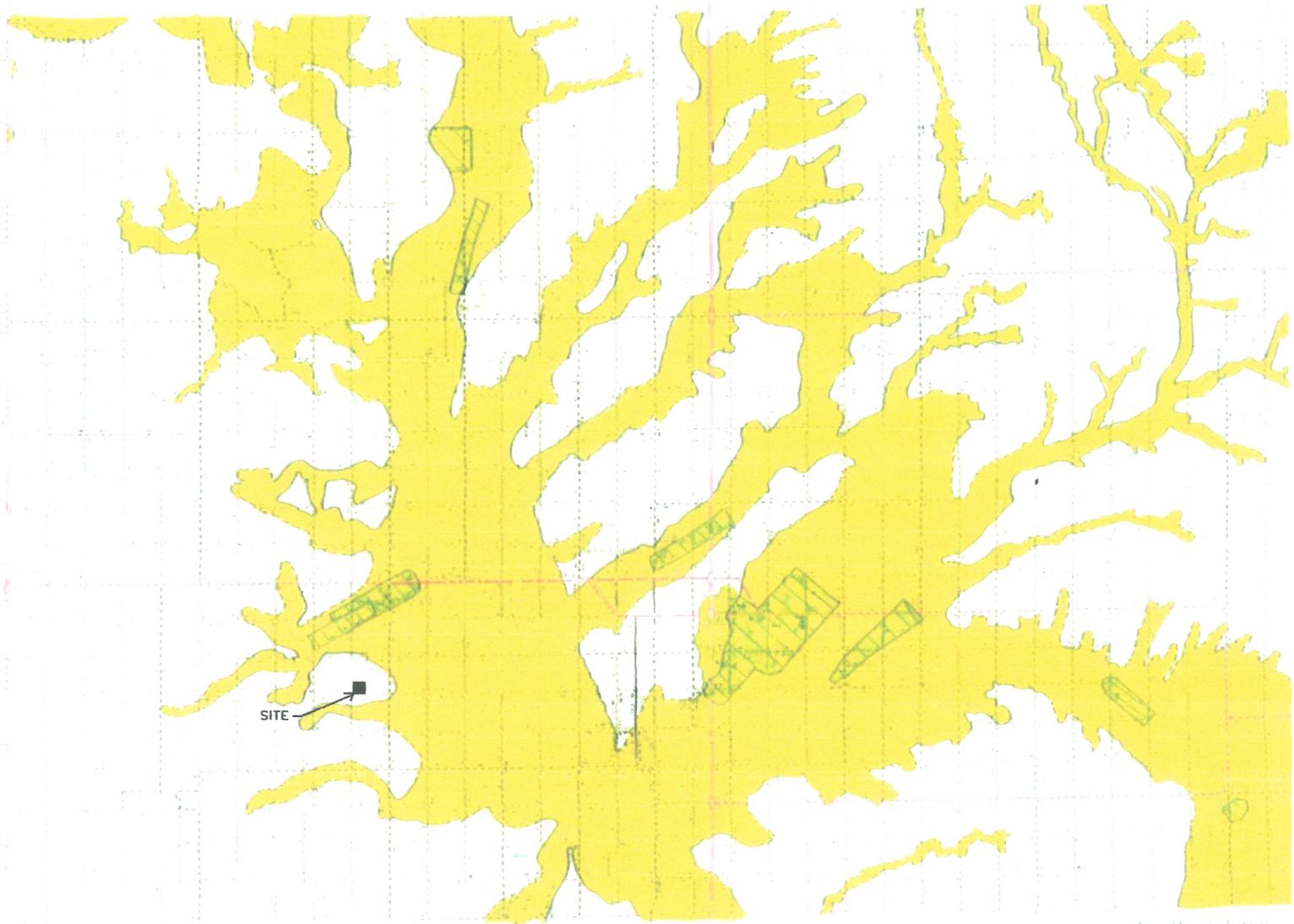
Existing Stacking Pad Volume at 98' x 358' x 12', cubic feet **358,800**



APPENDIX II

GEOTECHNICAL & AQUIFER DATA

Brookings County Groundwater Protection Zones

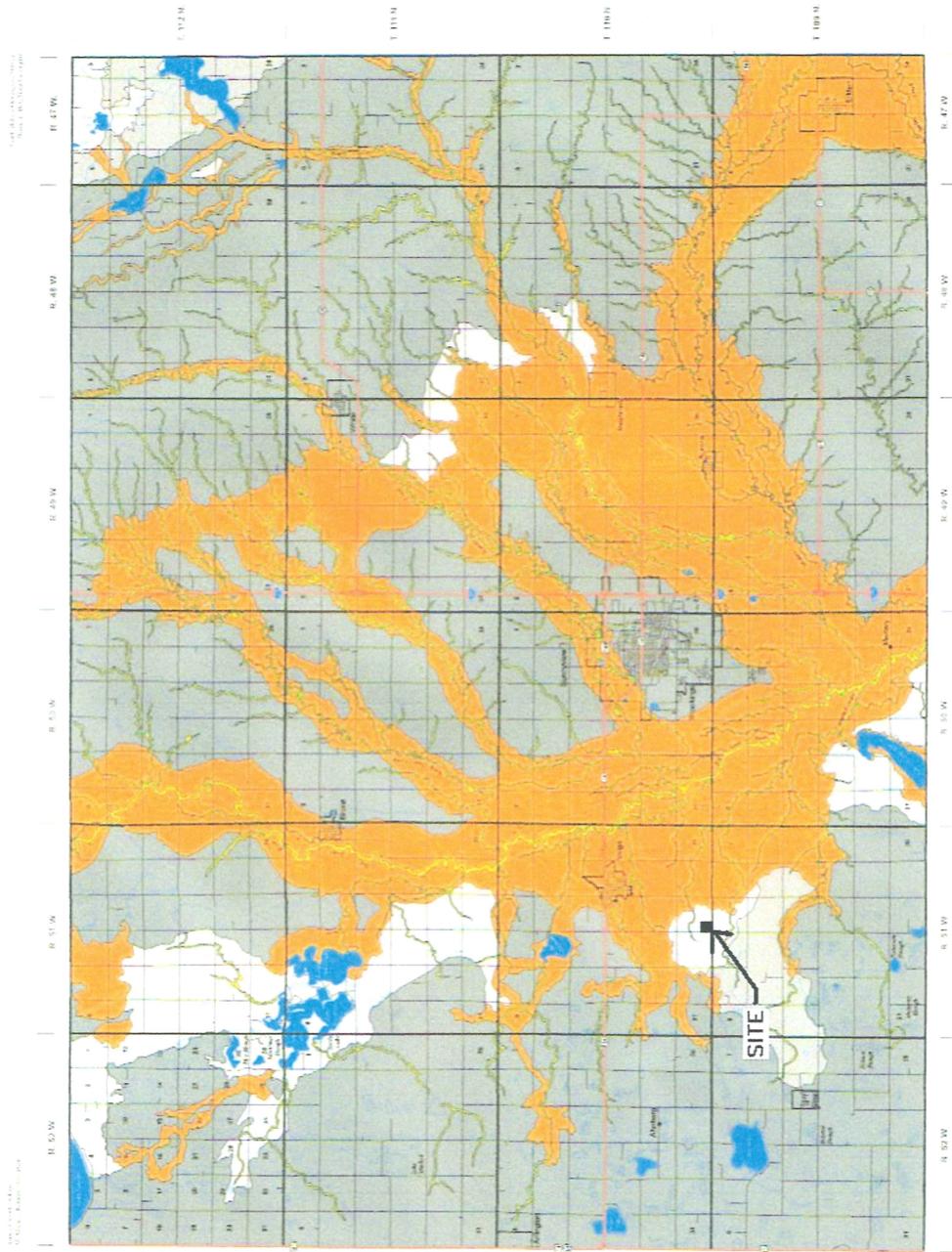


- Zone A - Wellhead Protection Area
- Areas Contributing Drainage to Zone A
- Zone B - Shallow Aquifer Boundaries

- Shallow Aquifer Boundary
- 400 Ft. accuracy
- 1600 Ft. accuracy
- Areas Contributing Drainage to Zone A

First Occurrence of Aquifer materials in Brookings County, South Dakota

Dep. of Env. and N. Resources
Division of Financial and Technical Assistance
Geological Survey
Aquifer Materials Map 19
Layne D. Schulz, 2004



Explanation

Geological maps are used to show the distribution of different types of rocks and sediments. This map shows the first occurrence of aquifer materials in Brookings County, South Dakota. The map is color-coded to show different types of aquifer materials. The legend below explains the symbols used on the map.

| | | |
|---|--|--|
| Alluvium (unconsolidated sand, silt, clay, gravel, and cobbles) | Sand and Gravel (unconsolidated sand and gravel) | Sand and Gravel (consolidated sand and gravel) |
| Major highway | Road | River or stream |
| Lake | Township boundary | Aquifer materials data |

For township and range numbering systems, see T 112 N, R 47 W.

This map was prepared by the South Dakota Geological Survey as part of the Aquifer Materials Mapping Project. The project is a multi-phase effort to identify and map aquifer materials in South Dakota. The first phase of the project was to identify the areas where aquifer materials are most likely to occur. This map shows the results of that phase. The map is based on a combination of field observations, aerial photography, and geological data. The map is intended to be used as a guide for identifying areas where aquifer materials are likely to occur. It is not intended to be used as a definitive source of information. For more information, please contact the South Dakota Geological Survey.

South Dakota Geological Survey
Department of Environment & Natural Resources
Geological Survey

Publication Date: August 3, 2004

GE TECHNICAL BORING LOG

PROJECT TITLE: PROPOSED DAIRY: VOLGA, S.D.
 PROJ. NUMBER: 97-3948

BORING NUMBER: 1

| DEPTH IN FEET | DESCRIPTION OF MATERIAL surface elevation: | GEOLOGIC ORIGIN | SAMPLE DATA | | | | LABORATORY TESTS | | | | |
|--------------------------------|---|--------------------------------|-------------|---|----|------|------------------|---|----------|----|--|
| | | | WL | N | NO | TYPE | W | D | LL PL | QU | |
| 1' | TOP SOIL: mostly silty clay, very dark brown (CL) | TOP SOIL | | | | | | | | | |
| | SILTY CLAY: brown, moist, weathered (CL) | FINE ALLUVIUM | | | | | | | | | |
| 5' | | | | | | | | | | | |
| | LEAN CLAY: trace of gravel, brown, moist, weathered (CL) | GLACIAL TILL | | | 1 | BAG | | | | | |
| 17' | | | | | | | | | | | |
| | LEAN CLAY: trace of gravel, dark brown, moist, weathered (CL) | | | | 2 | BAG | | | | | |
| DATE: WATER TABLE MEASUREMENTS | | DATE: 11-19-97 | | | | | | | | | |
| | | METHOD OF DRILLING: 3 1/4" HSA | | | | | | | | | |
| | | CREW CHIEF: MIKE HUDSON | | | | | | | | | |

GEO TECHNICAL BORING LOG

PROJECT TITLE: PROPOSED DAIRY: VOLGA, S.D.
 PROJ. NUMBER: 97-3948

BORING NUMBER: 1B

| DEPTH IN FEET | DESCRIPTION OF MATERIAL surface elevation: | GEOLOGIC ORIGIN | SAMPLE DATA | | | | LABORATORY TESTS | | | |
|--------------------------------|---|--------------------------------|-------------|---|----|------|------------------|---|----------|----|
| | | | WL | N | NO | TYPE | W | D | LL PL | QU |
| 40' | LEAN CLAY: trace of gravel, gray, moist, weathered (CL) | | | | 3 | BAG | | | | |
| 51' | END OF BORING | | | | | | | | | |
| DATE: WATER TABLE MEASUREMENTS | | DATE: 11-19-97 | | | | | | | | |
| | | METHOD OF DRILLING: 3 1/4" HSA | | | | | | | | |
| | | CREW CHIEF: MIKE HUDSON | | | | | | | | |

GEO TECHNICAL BORING LOG

PROJECT TITLE: PROPOSED DAIRY: VOLGA, S.D.
 PROJ. NUMBER: 97-3948

BORING NUMBER: 2

| DEPTH IN FEET | DESCRIPTION OF MATERIAL surface elevation: | GEOLOGIC ORIGIN | SAMPLE DATA | | | | LABORATORY TESTS | | | |
|---------------------|---|--------------------------------|-------------|---|----|------|------------------|---|----------|----|
| | | | WL | N | NO | TYPE | W | D | LL PL | QU |
| 1' | TOP SOIL: mostly silty clay, very dark brown (CL) | TOP SOIL | | | | | | | | |
| | SILTY CLAY: brown, moist, weathered (CL) | FINE ALLUVIUM | | | | | | | | |
| 5' | LEAN CLAY: trace of gravel, brown, moist, weathered (CL) | GLACIAL TILL | | | | | | | | |
| 15' | LEAN CLAY: trace of gravel, dark brown, moist, weathered (CL) | | | | | | | | | |
| 20' | END OF BORING | | | | | | | | | |
| DATE: | WATER TABLE MEASUREMENTS | DATE: 11-19-97 | | | | | | | | |
| | | METHOD OF DRILLING: 3 1/4" HSA | | | | | | | | |
| | | CREW CHIEF: MIKE HUDSON | | | | | | | | |

GE TECHNICAL BORING LOG

PROJECT TITLE: PROPOSED DAIRY: VOLGA, S.D.
 PROJ. NUMBER: 97-3948

BORING NUMBER: 3

| DEPTH IN FEET | DESCRIPTION OF MATERIAL surface elevation: | GEOLOGIC ORIGIN | SAMPLE DATA | | | | LABORATORY TESTS | | | |
|---------------------|---|--------------------|--------------------------------|---|----|------|------------------|---|----------|----|
| | | | WL | N | NO | TYPE | W | D | LL PL | QU |
| 1' | TOP SOIL: mostly silty clay, very dark brown (CL) | TOP SOIL | | | | | | | | |
| | SILTY CLAY: brown, moist, weathered (CL) | FINE ALLUVIUM | | | | | | | | |
| 5' | LEAN CLAY: trace of gravel, brown, moist, weathered (CL) | GLACIAL TILL | | | | | | | | |
| 15' | LEAN CLAY: trace of gravel, dark brown, moist, weathered (CL) | | | | | | | | | |
| 20' | END OF BORING | | | | | | | | | |
| DATE: | WATER TABLE MEASUREMENTS | | DATE: 11-19-97 | | | | | | | |
| | | | METHOD OF DRILLING: 3 1/4" HSA | | | | | | | |
| | | | CREW CHIEF: MIKE HUDSON | | | | | | | |

GENERAL NOTES

| DESCRIPTIVE TERMINOLOGY | | RELATIVE SIZES | |
|-------------------------|-----------|----------------|------------|
| Density Term | "N" Value | | |
| Very Loose | 0 - 4 | Boulder | > 12" |
| Loose | 4 - 10 | Cobble | 3" - 12" |
| Medium Dense | 10 - 16 | Gravel | |
| Dense | 16 - 30 | Coarse | 3/4" - 3" |
| Very Dense | > 30 | Fine | #4 - 3/4" |
| | | Sand | |
| | | Coarse | #4 - #10 |
| | | Medium | #10 - #40 |
| | | Fine | #40 - #200 |
| | | Silt & Clay | <#200 (PI) |
| Consistency Term | "N" Value | Term | Range |
| Very Soft | 0 - 2 | Trace | 0 - 5% |
| Soft | 2 - 4 | A Little | 5 - 15% |
| Medium stiff | 4 - 8 | Some | 15 - 30% |
| Stiff | 8 - 15 | With | 30 - 50% |
| Very stiff | 15 - 30 | | |
| Hard | < 30 | | |

BORING AND SAMPLING SYMBOLS

| SYMBOL | DEFINITION |
|--------|---|
| HSA | Hollow Stem Auger - 3 1/4" ID & 4 1/4" ID |
| FA | Flight Auger - 4" OD |
| HA | Hand Auger - 1 1/2" OD |
| DC | Drive Casing |
| PD | Pipe Drill or Clean Out Tube |
| CS | Continuous Split Barrel Sampling |
| DM | Drilling Mud |
| JW | Jetting Water |
| SB | Split Barrel Sampler |
| TW | Thin Wall Tube Sampler |
| LS | Split Barrel Liner Sample |
| W | Wash Sample |
| B | Bag Sample |
| NSR | No Sample Retrieved |
| NMR | No Water Level Measurement Recorded |
| WL | Water Level |
| N | Standard Penetration Value |
| ▼ | Water Level Symbol |

LABORATORY TEST SYMBOLS

| SYMBOL | DEFINITION |
|---------|---|
| W | Moisture Content-Percent of Dry Weight ASTM D2216 |
| D | Dry Density-Pound Per Cubic Foot |
| LL & PL | Liquid Limit and Plastic Limit ASTM D4318 |
| Qu | Unconfined Compressive Strength Pounds Per Square Foot ASTM D2166 |

APPENDIX III

NUTRIENT MANAGEMENT PLAN

©Dakota Environmental Consultants, Inc.

P.O. Box 636 1122 - 21st Street SW Huron, SD 57350 605-352-5610 605-352-0951 1-800-888-0423

INITIAL NUTRIENT MANAGEMENT PLAN FOR SOUTH DAKOTA ANIMAL FEEDING OPERATIONS

| 1. Operator: OLD TREE FARMS (Volga Dairy) | | 2. County: BROOKINGS | | 3. Prepared By: Kevin R. Banken (CENTROL Crop Consulting Inc.) | | 4. Date: November 30, 2016 | | | | | | | | | | | | | |
|--|-------------------|-----------------------|----------------------------|--|------------------------|------------------------------------|---------|-----------------------------------|--|-------------------------|--------------------|------------------------------------|--------------------------------------|-------------------------------|----------|---|---------|---------|---------|
| Spreadsheet A.) Total Nitrogen And Phosphorus Produced From Operation | | | | | | | | | | | | | | | | | | | |
| Animal Type: | 5. No. of animals | 6. Avg. weight (lbs.) | 7. N / day / animal (lbs.) | | 8. Days of Confinement | 9. Total Manure as Excreted (lbs.) | | 10. N retained Handling/Storage % | 11. Total N available for application (lbs.) | 12. Time of application | 13. N Retained | | 14. Total N retained in field (lbs.) | 15. 3-Yr. Mineralization Rate | | 16. Available for the crop (lbs.) | | | |
| | | | N | P ₂ O ₅ | | N | % | | | | Application Method | % | | Manure Handling | % | | | | |
| CATTLE | | | | | | | | | | | | | | | | | | | |
| - Dairy (system 1) | 1,565 | 1,400 | 0.630 | 0.22 | 365 | 359,872 | 127,954 | Liquid - earth storage | 70 | 251,910 | Spring/Fall | Injection | 246,872 | Anaerobic liquid | 65 | 160,467 | 127,954 | | |
| - Dairy (system 2) | 60 | 1,400 | 0.630 | 0.22 | 365 | 13,797 | 4,906 | Solid - manure stacking | 65 | 8,968 | Spring/Fall | Broadcast (incorp. within 24 hrs.) | 8,071 | Solid with bedding | 45 | 3,632 | 4,906 | | |
| - Dairy (system 3) | 500 | 750 | 0.338 | 0.12 | 365 | 61,594 | 21,900 | Liquid - earth storage | 70 | 43,116 | Spring/Fall | Injection | 42,253 | Anaerobic liquid | 65 | 27,465 | 21,900 | | |
| - Dairy (system 4) | 450 | 200 | 0.090 | 0.03 | 365 | 14,783 | 5,256 | Solid - manure stacking | 65 | 9,609 | Spring/Fall | Broadcast (incorp. within 24 hrs.) | 8,648 | Solid with bedding | 45 | 3,891 | 5,256 | | |
| - Beef (system 1) | | | | | | | | | | | | | | | | | | | |
| - Beef (system 2) | | | | | | | | | | | | | | | | | | | |
| - Beef (system 3) | | | | | | | | | | | | | | | | | | | |
| - Beef (system 4) | | | | | | | | | | | | | | | | | | | |
| SWINE | | | | | | | | | | | | | | | | | | | |
| - Nursery pig | | | | | | | | | | | | | | | | | | | |
| - Growing pig | | | | | | | | | | | | | | | | | | | |
| - Finishing pig | | | | | | | | | | | | | | | | | | | |
| - Gestating sow | | | | | | | | | | | | | | | | | | | |
| - Replacement Gilt | | | | | | | | | | | | | | | | | | | |
| - Sow and litter | | | | | | | | | | | | | | | | | | | |
| - Boar | | | | | | | | | | | | | | | | | | | |
| SHEEP | | | | | | | | | | | | | | | | | | | |
| - Sheep | | | | | | | | | | | | | | | | | | | |
| POULTRY | | | | | | | | | | | | | | | | | | | |
| - Layers | | | | | | | | | | | | | | | | | | | |
| - Broilers | | | | | | | | | | | | | | | | | | | |
| - Turkey | | | | | | | | | | | | | | | | | | | |
| HORSE | | | | | | | | | | | | | | | | | | | |
| - Horse | | | | | | | | | | | | | | | | | | | |
| FOWL | | | | | | | | | | | | | | | | | | | |
| - Ducks | | | | | | | | | | | | | | | | | | | |
| - Geese | | | | | | | | | | | | | | | | | | | |
| Total Manure as Excreted: | | | | | | | | | | 219,200 | lbs/day | OR | | 80,008,000 | lbs/year | Total lbs. of N and P ₂ O ₅ available for the crop: | | 195,455 | 160,016 |

INITIAL NUTRIENT MANAGEMENT PLAN
FOR
SOUTH DAKOTA ANIMAL FEEDING OPERATIONS

Spreadsheet B1.) Field Information

| Operator: <i>OLD TREE FARMS (Volga Dairy)</i> | | Date: <i>11/30/16</i> | | | | | | | | | | | | | | | |
|--|---------------|-----------------------|----------------------|-----------|--|--------------------------|---|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-----|--------------------------|------|
| Spreadsheet line # | 17. | 18. | 19. | 20. | 21. | 22. | 23. | | | | | | 24. | | | | |
| Field ID (include maps to illustrate location) | Name or Tract | Field # | Soil map unit symbol | County | Field Location: (1/4 Section, Township, Range) | Owned | Total acres in field | Acres Excluded from Manure Application: | | | | | | Total acres Excluded | | | |
| | | | | | | | Minimum Buffer Zones (Drainages & Wetlands) | | | Excluded Acres | | | | | | | |
| | | | | | | | 35' Vegetated | 100' Un-vegetated | 100' Vegetated | Drainages | Wetlands | Wells | Slope | Other | | | |
| 1 | | 1 | KtB | BROOKINGS | N 1/2 Sec. 3, T 109, R 51 | <input type="checkbox"/> | 295.0 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3.0 | <input type="checkbox"/> | 3.0 |
| 2 | | 2 | KtB | BROOKINGS | SW 1/4 Sec. 34, T 110, R 51 | <input type="checkbox"/> | 133.0 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 32 | <input type="checkbox"/> | 32.0 |
| 3 | | 3 | DoB | BROOKINGS | SE 1/4 Sec. 28, T 110, R 51 | <input type="checkbox"/> | 150.0 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 24 | <input type="checkbox"/> | 24.0 |
| 4 | | 4 | KtB | BROOKINGS | NE 1/4 Sec. 33, T 110, R 51 | <input type="checkbox"/> | 78.0 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 0.0 | <input type="checkbox"/> | 0.0 |
| 5 | | 5 | EsB | BROOKINGS | SE 1/4 Sec. 12, T 109, R 51 | <input type="checkbox"/> | 125.0 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 25 | <input type="checkbox"/> | 25.0 |
| 6 | | 6 | PbB | BROOKINGS | SE 1/4 Sec. 3, T 109, R 51 | <input type="checkbox"/> | 120.0 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 0 | <input type="checkbox"/> | 0.0 |
| 7 | | 7 | PwA | BROOKINGS | SE 1/4 Sec. 33, T 110, R 51 | <input type="checkbox"/> | 92.0 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 5 | <input type="checkbox"/> | 5.0 |
| 8 | | 8 | PwB | BROOKINGS | SW 1/4 Sec. 33, T 110, R 51 | <input type="checkbox"/> | 120.0 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 0 | <input type="checkbox"/> | 0.0 |
| 9 | | 9 | EsA | BROOKINGS | W 1/2 Sec. 6, T 109, R 50 | <input type="checkbox"/> | 109.0 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 2 | <input type="checkbox"/> | 2.0 |
| 10 | | 10 | PgD | BROOKINGS | SE 1/4 Sec. 5, T 109, R 51 | <input type="checkbox"/> | 67.0 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 2 | <input type="checkbox"/> | 2.0 |
| 11 | | 11 | PbC | BROOKINGS | SE 1/4 Sec. 4, T 109, R 51 | <input type="checkbox"/> | 155.0 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 12 | <input type="checkbox"/> | 12.0 |
| 12 | | 12 | PbC | BROOKINGS | SW 1/4 Sec. 4, T 109, R 51 | <input type="checkbox"/> | 38.0 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3 | <input type="checkbox"/> | 3.0 |
| 13 | | 13 | KtB | BROOKINGS | NE 1/4 Sec. 33, T 110, R 51 | <input type="checkbox"/> | 76.0 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 0 | <input type="checkbox"/> | 0.0 |
| 14 | | 14 | Mt | BROOKINGS | SE 1/4 Sec. 33, T 110, R 51 | <input type="checkbox"/> | 34.0 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 0 | <input type="checkbox"/> | 0.0 |
| 15 | | 15 | | | Sec. , T , R | <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | <input type="checkbox"/> | |
| 16 | | 16 | | | Sec. , T , R | <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | <input type="checkbox"/> | |
| 17 | | 17 | PbC | BROOKINGS | NE 1/4 Sec. 27, T 109, R 51 | <input type="checkbox"/> | 156.0 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 52 | <input type="checkbox"/> | 52.0 |
| 18 | | 18 | BeA | BROOKINGS | SW 1/4 Sec. 26, T 110, R 51 | <input type="checkbox"/> | 132.0 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 12 | <input type="checkbox"/> | 12.0 |
| 19 | | 19 | KtB | BROOKINGS | NW 1/4 Sec. 34, T 110, R 51 | <input type="checkbox"/> | 17.0 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 0 | <input type="checkbox"/> | 0.0 |
| 20 | | 20 | VbB | BROOKINGS | NW 1/4 Sec. 34, T 110, R 51 | <input type="checkbox"/> | 50.0 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 0 | <input type="checkbox"/> | 0.0 |
| 21 | | 21 | VbB | BROOKINGS | NW 1/4 Sec. 34, T 110, R 51 | <input type="checkbox"/> | 29.0 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 0 | <input type="checkbox"/> | 0.0 |
| 22 | | 22 | PwB | BROOKINGS | NW 1/4 Sec. 34, T 110, R 51 | <input type="checkbox"/> | 43.0 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 0 | <input type="checkbox"/> | 0.0 |
| 23 | | 23 | PbB | BROOKINGS | NE 1/4 Sec. 4, T 109, R 51 | <input type="checkbox"/> | 139.0 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 0 | <input type="checkbox"/> | 0.0 |
| 24 | | 24 | BeA | BROOKINGS | NE 1/4 Sec. 27, T 110, R 51 | <input type="checkbox"/> | 112.0 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 0 | <input type="checkbox"/> | 0.0 |
| 25 | | 25 | EsA | BROOKINGS | N 1/2 Sec. 36, T 110, R 51 | <input type="checkbox"/> | 69.9 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3.2 | <input type="checkbox"/> | 3.2 |

**INITIAL NUTRIENT MANAGEMENT PLAN
FOR
SOUTH DAKOTA ANIMAL FEEDING OPERATIONS**

Spreadsheet B2.) Estimated Nutrient Requirement

Operator: **OLD TREE FARMS (Volga Dairy)**

Date: **11/30/16**

| Spreadsheet line # | Field ID (Include maps to illustrate location) | Name or Tract | Crops in Rotation and Average Yield: | | | Estimated Nitrogen requirements | | | 27. Est. soil test NO ₃ -N (lbs.) | 28. Legume N credits (lbs.) | | | 29. Additional N needed for crops: (lbs.) | | | 30. Total manure N allowed per field (lbs.) | | | |
|--------------------|--|---------------|--------------------------------------|--------|--------------|---------------------------------|--------------|--------|--|-----------------------------|--------|--------|---|------|-------|---|------|-------|--------|
| | | | Prior year | Year 1 | Year 2 | Year 3 | Year 1 | Year 2 | | Year 3 | Year 1 | Year 2 | Year 3 | Avg | | | | | |
| | | | Crop | Yield | Crop | Yield | Crop | Yield | | Crop | Yield | Crop | Yield | Crop | Yield | | Crop | Yield | Crop |
| 1 | | | Soybean (bu) | 45 | Corn (bu) | 150 | Soybean (bu) | 45 | 180 | 171 | 180 | 40 | 0 | 40 | 100 | 131 | 100 | 110 | 32,217 |
| 2 | | | Soybean (bu) | 45 | Corn (bu) | 150 | Soybean (bu) | 45 | 180 | 171 | 180 | 40 | 0 | 40 | 100 | 131 | 100 | 110 | 11,144 |
| 3 | | | Soybean (bu) | 45 | Corn (bu) | 150 | Soybean (bu) | 45 | 180 | 171 | 180 | 40 | 0 | 40 | 100 | 131 | 100 | 110 | 13,902 |
| 4 | | | Corn (bu) | 150 | Soybean (bu) | 45 | Corn (bu) | 150 | 171 | 180 | 171 | 40 | 0 | 40 | 131 | 100 | 131 | 121 | 9,412 |
| 5 | | | Soybean (bu) | 45 | Corn (bu) | 150 | Soybean (bu) | 45 | 180 | 171 | 180 | 40 | 0 | 40 | 100 | 131 | 100 | 110 | 11,033 |
| 6 | | | Corn (bu) | 150 | Soybean (bu) | 45 | Corn (bu) | 150 | 171 | 180 | 171 | 40 | 0 | 40 | 131 | 100 | 131 | 121 | 14,480 |
| 7 | | | Corn (bu) | 150 | Soybean (bu) | 45 | Corn (bu) | 150 | 171 | 180 | 171 | 40 | 0 | 40 | 131 | 100 | 131 | 121 | 10,498 |
| 8 | | | Soybean (bu) | 45 | Corn (bu) | 150 | Soybean (bu) | 45 | 180 | 171 | 180 | 40 | 0 | 40 | 100 | 131 | 100 | 110 | 13,240 |
| 9 | | | Corn (bu) | 150 | Soybean (bu) | 45 | Corn (bu) | 150 | 171 | 180 | 171 | 40 | 0 | 40 | 131 | 100 | 131 | 121 | 12,911 |
| 10 | | | Corn (bu) | 150 | Soybean (bu) | 45 | Corn (bu) | 150 | 171 | 180 | 171 | 40 | 0 | 40 | 131 | 100 | 131 | 121 | 7,843 |
| 11 | | | Corn (bu) | 150 | Soybean (bu) | 45 | Corn (bu) | 150 | 171 | 180 | 171 | 40 | 0 | 40 | 131 | 100 | 131 | 121 | 17,255 |
| 12 | | | Soybean (bu) | 45 | Corn (bu) | 150 | Soybean (bu) | 45 | 180 | 171 | 180 | 40 | 0 | 40 | 100 | 131 | 100 | 110 | 3,862 |
| 13 | | | Corn (bu) | 150 | Soybean (bu) | 45 | Corn (bu) | 150 | 171 | 180 | 171 | 40 | 0 | 40 | 131 | 100 | 131 | 121 | 9,171 |
| 14 | | | Soybean (bu) | 45 | Corn (bu) | 150 | Soybean (bu) | 45 | 180 | 171 | 180 | 40 | 0 | 40 | 100 | 131 | 100 | 110 | 3,751 |
| 15 | | | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | | | |
| 17 | | | Soybean (bu) | 45 | Corn (bu) | 150 | Soybean (bu) | 45 | 180 | 171 | 180 | 40 | 0 | 40 | 100 | 131 | 100 | 110 | 11,475 |
| 18 | | | Corn (bu) | 150 | Soybean (bu) | 45 | Corn (bu) | 150 | 171 | 180 | 171 | 40 | 0 | 40 | 131 | 100 | 131 | 121 | 14,480 |
| 19 | | | Soybean (bu) | 45 | Corn (bu) | 150 | Soybean (bu) | 45 | 180 | 171 | 180 | 40 | 0 | 40 | 100 | 131 | 100 | 110 | 1,876 |
| 20 | | | Corn (bu) | 150 | Soybean (bu) | 45 | Corn (bu) | 150 | 171 | 180 | 171 | 40 | 0 | 40 | 131 | 100 | 131 | 121 | 6,033 |
| 21 | | | Corn (bu) | 150 | Soybean (bu) | 45 | Corn (bu) | 150 | 171 | 180 | 171 | 40 | 0 | 40 | 131 | 100 | 131 | 121 | 3,499 |
| 22 | | | Corn (bu) | 150 | Soybean (bu) | 45 | Corn (bu) | 150 | 171 | 180 | 171 | 40 | 0 | 40 | 131 | 100 | 131 | 121 | 5,189 |
| 23 | | | Soybean (bu) | 45 | Corn (bu) | 150 | Soybean (bu) | 45 | 180 | 171 | 180 | 40 | 0 | 40 | 100 | 131 | 100 | 110 | 15,336 |
| 24 | | | Corn (bu) | 150 | Soybean (bu) | 45 | Corn (bu) | 150 | 171 | 180 | 171 | 40 | 0 | 40 | 131 | 100 | 131 | 121 | 13,515 |
| 25 | | | Soybean (bu) | 41 | Corn (bu) | 147 | Soybean (bu) | 41 | 177 | 155 | 177 | 40 | 0 | 40 | 97 | 115 | 97 | 103 | 6,857 |

**INITIAL NUTRIENT MANAGEMENT PLAN
FOR
SOUTH DAKOTA ANIMAL FEEDING OPERATIONS**

| Spreadsheet line # | Field ID (Include maps to illustrate location) | Name or Tract | Field # | Phosphorus Soil Test | | | Predicted soil loss using RUSLE2 (T/ac/yr) | Phosphorus removal estimate (lbs.) | | | | Estimated time to raise P soil test level to 50 ppm Olsen or 75 ppm Bray (years) | Manure application based on: | Initial Nutrient Mgt. Plan - N based fields (acres) |
|--------------------|--|---------------|---------|----------------------|-------|--------|--|------------------------------------|--------|--------|--------|--|------------------------------|---|
| | | | | ppm | Olsen | Bray-1 | | Date (M/Y) | Year 1 | Year 2 | Year 3 | | | |
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INITIAL NUTRIENT MANAGEMENT PLAN
FOR
SOUTH DAKOTA ANIMAL FEEDING OPERATIONS

Spreadsheet B1.) Field Information

| Spreadsheet line # | Field ID (Include maps to illustrate location) | Name or Tract | Field # | Soil map unit symbol | County | Field Location: (1/4 Section, Township, Range) | Owned | Total acres in field | Acres Excluded from Manure Application: | | | | | | | | | | Irrigated |
|--------------------|--|---------------|---------|----------------------|-----------|---|-------------------------------------|----------------------|---|-------------------------------------|--------------------------|----------------|----------|-------|----------|-------|----------------|--------------------------|-----------|
| | | | | | | | | | Minimum Buffer Zones (Drainages & Wetlands) | | | Excluded Acres | | | Wetlands | | | | |
| | | | | | | | | | 35' Vegetated | 100' Un-vegetated | 100' Vegetated | Drainages | Wetlands | Wells | Slope | Other | | | |
| 26 | | | 26 | PbC | BROOKINGS | SW 1/4 Sec. 4, T. 109, R. 51 | <input type="checkbox"/> | 34.4 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 6 | | | | | 6.0 | <input type="checkbox"/> | |
| 27 | | | 27 | BeA | BROOKINGS | NW 1/4 Sec. 25, T. 110, R. 51 | <input type="checkbox"/> | 137.8 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | 0.0 | <input type="checkbox"/> | |
| 28 | | | 28 | EsA | BROOKINGS | SE 1/4 Sec. 25, T. 110, R. 51 | <input type="checkbox"/> | 175.1 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1 | | | | | 1.0 | <input type="checkbox"/> | |
| 29 | | | 29 | PwB | BROOKINGS | SW 1/4 Sec. 15, T. 110, R. 51 | <input type="checkbox"/> | 74.3 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1 | | | | | 1.0 | <input type="checkbox"/> | |
| 30 | | | 30 | BeA | BROOKINGS | SE 1/4 Sec. 22, T. 110, R. 51 | <input type="checkbox"/> | 119.7 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 5 | | | | | 5.0 | <input type="checkbox"/> | |
| 31 | | | 31 | PbB | BROOKINGS | NE 1/4 Sec. 13, T. 109, R. 52 | <input checked="" type="checkbox"/> | 140.5 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 30 | | | | | 30.0 | <input type="checkbox"/> | |
| 32 | | | 32 | PbB | BROOKINGS | SW 1/4 Sec. 3, T. 109, R. 51 | <input type="checkbox"/> | 146.8 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | 0.0 | <input type="checkbox"/> | |
| 33 | | | 33 | PbB | BROOKINGS | SW 1/4 Sec. 4, T. 109, R. 51 | <input type="checkbox"/> | 73.0 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 8 | | | | | 8.0 | <input type="checkbox"/> | |
| 34 | | | 34 | PbB | BROOKINGS | N 1/2 Sec. 10, T. 109, R. 51 | <input type="checkbox"/> | 215.0 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 12 | | | | | 12.0 | <input type="checkbox"/> | |
| 35 | | | 35 | PbB | BROOKINGS | SE 1/4 Sec. 3, T. 110, R. 51 | <input type="checkbox"/> | 139.0 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 15 | | | | | 15.0 | <input type="checkbox"/> | |
| 36 | | | 36 | BeA | BROOKINGS | NW 1/4 Sec. 11, T. 110, R. 51 | <input type="checkbox"/> | 142.0 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | 0.0 | <input type="checkbox"/> | |
| 37 | | | 37 | BeA | BROOKINGS | S 1/2 Sec. 10, T. 110, R. 51 | <input type="checkbox"/> | 262.0 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 5 | | | | | 5.0 | <input type="checkbox"/> | |
| 38 | | | 38 | Z182B | BROOKINGS | W 1/2 Sec. 13, T. 109, R. 51 | <input type="checkbox"/> | 257.0 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 15 | | | | | 15.0 | <input type="checkbox"/> | |
| 39 | | | 39 | PwA | BROOKINGS | E 1/2 Sec. 9, T. 109, R. 51 | <input type="checkbox"/> | 196.0 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 15 | | | | | 15.0 | <input type="checkbox"/> | |
| 40 | | | 40 | PbC | BROOKINGS | NE 1/4 Sec. 15, T. 109, R. 51 | <input type="checkbox"/> | 100.0 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4 | | | | | 4.0 | <input type="checkbox"/> | |
| 41 | | | | | | Sec. , T. , R. | <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | <input type="checkbox"/> | |
| 42 | | | | | | Sec. , T. , R. | <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | <input type="checkbox"/> | |
| 43 | | | | | | Sec. , T. , R. | <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | <input type="checkbox"/> | |
| 44 | | | | | | Sec. , T. , R. | <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | <input type="checkbox"/> | |
| 45 | | | | | | Sec. , T. , R. | <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | <input type="checkbox"/> | |
| 46 | | | | | | Sec. , T. , R. | <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | <input type="checkbox"/> | |
| 47 | | | | | | Sec. , T. , R. | <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | <input type="checkbox"/> | |
| 48 | | | | | | Sec. , T. , R. | <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | <input type="checkbox"/> | |
| 49 | | | | | | Sec. , T. , R. | <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | <input type="checkbox"/> | |
| 50 | | | | | | Sec. , T. , R. | <input type="checkbox"/> | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | <input type="checkbox"/> | |
| | | | | | | | | Total Acres: | | | | | | | | | 4,552.5 | | |

INITIAL NUTRIENT MANAGEMENT PLAN
FOR
SOUTH DAKOTA ANIMAL FEEDING OPERATIONS

Spreadsheet B2.) Estimated Nutrient Requirement

| Spreadsheet line # | Field ID (Include maps to illustrate location) | Name or Tract | Field # | 25. Crops in Rotation and Average Yield: | | | | | | 26. Estimated Nitrogen requirements (lbs.) | | | 27. Est. soil test NO ₃ -N (lbs.) | 28. Legume N credits (lbs.) | | | 29. Additional N needed for crops: (lbs.) | | | 30. Total manure N allowed per field (lbs.) | | | | |
|--------------------|--|---------------|---------|--|-------|--------------|-------|--------------|-------|--|-------|--------|--|-----------------------------|--------|--------|---|-------------------------|--------|---|--------|--------|--------|------|
| | | | | Prior year | | Year 1 | | Year 2 | | Year 3 | | Year 1 | | Year 2 | Year 3 | Year 1 | Year 2 | Year 3 | Year 1 | | Year 2 | Year 3 | Avg | |
| | | | | Crop | Yield | Crop | Yield | Crop | Yield | Crop | Yield | Crop | | Yield | Crop | Yield | Crop | Yield | Crop | | Yield | Crop | Yield | Crop |
| 26 | | | | Soybean (bu) | 41 | Corn (bu) | 147 | Soybean (bu) | 41 | Corn (bu) | 147 | 177 | 155 | 177 | 40 | 40 | 0 | 40 | 97 | 115 | 97 | 103 | 2,920 | |
| 27 | | | | Corn (bu) | 147 | Soybean (bu) | 41 | Corn (bu) | 147 | Soybean (bu) | 41 | 155 | 177 | 155 | 40 | 0 | 40 | 0 | 115 | 97 | 115 | 109 | 14,983 | |
| 28 | | | | Soybean (bu) | 41 | Corn (bu) | 147 | Soybean (bu) | 41 | Corn (bu) | 147 | 177 | 155 | 177 | 40 | 40 | 0 | 40 | 97 | 115 | 97 | 103 | 17,899 | |
| 29 | | | | Soybean (bu) | 41 | Corn (bu) | 147 | Soybean (bu) | 41 | Corn (bu) | 147 | 177 | 155 | 177 | 40 | 40 | 0 | 40 | 97 | 115 | 97 | 103 | 7,536 | |
| 30 | | | | Soybean (bu) | 41 | Corn (bu) | 147 | Soybean (bu) | 41 | Corn (bu) | 147 | 177 | 155 | 177 | 40 | 40 | 0 | 40 | 97 | 115 | 97 | 103 | 11,792 | |
| 31 | | | | Soybean (bu) | 42 | Corn (bu) | 153 | Soybean (bu) | 42 | Corn (bu) | 153 | 183 | 159 | 183 | 40 | 40 | 0 | 40 | 103 | 119 | 103 | 109 | 12,000 | |
| 32 | | | | Wheat (bu) | 62 | Corn (bu) | 153 | Soybean (bu) | 42 | Wheat (bu) | 62 | 183 | 159 | 154 | 40 | 0 | 0 | 40 | 143 | 119 | 74 | 112 | 16,457 | |
| 33 | | | | Corn (bu) | 161 | Soybean (bu) | 45 | Corn (bu) | 161 | Soybean (bu) | 45 | 171 | 193 | 171 | 40 | 0 | 40 | 0 | 131 | 113 | 131 | 125 | 8,129 | |
| 34 | | | | Corn (bu) | 161 | Soybean (bu) | 45 | Corn (bu) | 161 | Soybean (bu) | 45 | 171 | 193 | 171 | 40 | 0 | 40 | 0 | 131 | 113 | 131 | 125 | 25,389 | |
| 35 | | | | Soybean (bu) | 45 | Corn (bu) | 161 | Soybean (bu) | 45 | Corn (bu) | 161 | 193 | 171 | 193 | 40 | 40 | 0 | 40 | 113 | 131 | 113 | 119 | 14,773 | |
| 36 | | | | Corn (bu) | 161 | Soybean (bu) | 45 | Corn (bu) | 161 | Soybean (bu) | 45 | 171 | 193 | 171 | 40 | 0 | 40 | 0 | 131 | 113 | 131 | 125 | 17,759 | |
| 37 | | | | Soybean (bu) | 45 | Corn (bu) | 161 | Soybean (bu) | 45 | Corn (bu) | 161 | 193 | 171 | 193 | 40 | 0 | 40 | 0 | 113 | 131 | 113 | 119 | 30,617 | |
| 38 | | | | Soybean (bu) | 43 | Corn (bu) | 155 | Soybean (bu) | 43 | Corn (bu) | 155 | 186 | 163 | 186 | 40 | 40 | 0 | 40 | 106 | 123 | 106 | 112 | 27,056 | |
| 39 | | | | Soybean (bu) | 45 | Corn (bu) | 168 | Soybean (bu) | 45 | Corn (bu) | 168 | 202 | 171 | 202 | 40 | 40 | 0 | 40 | 122 | 131 | 122 | 125 | 22,577 | |
| 40 | | | | Soybean (bu) | 45 | Corn (bu) | 168 | Soybean (bu) | 45 | Corn (bu) | 168 | 202 | 171 | 202 | 40 | 40 | 0 | 40 | 122 | 131 | 122 | 125 | 11,974 | |
| 41 | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | Total N recommendation: | | 490,841 | | | | |

**INITIAL NUTRIENT MANAGEMENT PLAN
FOR
SOUTH DAKOTA ANIMAL FEEDING OPERATIONS**

| Operator: <i>OLD TREE FARMS (Volga Dairy)</i> | | 31. | | 32. | | 33. | | 34. | | 35. | | 36. | | | | |
|--|---------------|--|------|----------------------|--------|-----------------------------|---------|--------|--|--------------------|--|--------|---|-------|-------------|--|
| Field ID (Include maps to illustrate location) | | Predicted soil loss using RUSLE2 (T/ac/yr) | | Phosphorus Soil Test | | Phosphorus removal estimate | | | Estimated time to raise P soil test level to 50 ppm Olsen or 75 ppm Bray (years) | | Manure application based on: | | Initial Nutrient Mgt. Plan - N based fields (acres) | | | |
| Spreadsheet line # | Name or Tract | Field # | ppm | Olsen | Bray-1 | Date (M/Y) | (lbs.) | | | Total/field (lbs.) | Year 1 | Year 2 | Year 3 | Avg. | Total Acres | |
| | | | | | | | Year 1 | Year 2 | Year 3 | | | | | | | |
| 26 | | 26 | 2.2 | 13 | ⊙ | Aug-07 | 52 | 31 | 52 | 45 | 1,273 | | | 28.4 | | |
| 27 | | 27 | 0.94 | 15 | ⊙ | Jan-08 | 31 | 52 | 31 | 38 | 5,249 | | | 137.8 | | |
| 28 | | 28 | 0.82 | 3 | ⊙ | Jan-08 | 52 | 31 | 52 | 45 | 7,807 | | | 174.1 | | |
| 29 | | 29 | 1.5 | 7 | ⊙ | Jan-08 | 52 | 31 | 52 | 45 | 3,287 | | | 73.3 | | |
| 30 | | 30 | 0.94 | 13 | ⊙ | Feb-08 | 52 | 31 | 52 | 45 | 5,143 | | | 114.7 | | |
| 31 | | 31 | 1.2 | 29 | ⊙ | Sep-08 | 54 | 32 | 54 | 46 | 5,128 | | | 110.5 | | |
| 32 | | 32 | 0.58 | 40 | ⊙ | Sep-08 | 54 | 32 | 34 | 40 | 5,882 | | | 146.8 | | |
| 33 | | 33 | 1.1 | 13 | ⊙ | Oct-10 | 35 | 56 | 35 | 42 | 2,722 | | | 65.0 | | |
| 34 | | 34 | 1.1 | 11 | ⊙ | Mar-10 | 35 | 56 | 35 | 42 | 8,502 | | | 203.0 | | |
| 35 | | 35 | 1.1 | 7 | ⊙ | Nov-12 | 56 | 35 | 56 | 49 | 6,090 | | | 124.0 | | |
| 36 | | 36 | 0.69 | 17 | ⊙ | Nov-12 | 35 | 56 | 35 | 42 | 5,947 | | | 142.0 | | |
| 37 | | 37 | 0.69 | 10 | ⊙ | Nov-12 | 56 | 35 | 56 | 49 | 12,623 | | | 257.0 | | |
| 38 | | 38 | 1.3 | 8 | ⊙ | Oct-14 | 54 | 33 | 54 | 47 | 11,423 | | | 242.0 | | |
| 39 | | 39 | 0.62 | 10 | ⊙ | Oct-14 | 59 | 35 | 59 | 51 | 9,186 | | | 181.0 | | |
| 40 | | 40 | 1.2 | 8 | ⊙ | Oct-14 | 59 | 35 | 59 | 51 | 4,872 | | | 96.0 | | |
| 41 | | | | | ⊙ | | | | | | | | | | | |
| 42 | | | | | ⊙ | | | | | | | | | | | |
| 43 | | | | | ⊙ | | | | | | | | | | | |
| 44 | | | | | ⊙ | | | | | | | | | | | |
| 45 | | | | | ⊙ | | | | | | | | | | | |
| 46 | | | | | ⊙ | | | | | | | | | | | |
| 47 | | | | | ⊙ | | | | | | | | | | | |
| 48 | | | | | ⊙ | | | | | | | | | | | |
| 49 | | | | | ⊙ | | | | | | | | | | | |
| 50 | | | | | ⊙ | | | | | | | | | | | |
| | | | | | | | N | | P205 | | Total lbs of N and P205 available for crops: | | Total Acres | | 4,260.3 | |
| | | | | | | | 195,455 | | 160,016 | | Total lbs of N and P205 required by fields: | | | | | |
| | | | | | | | 490,841 | | 189,659 | | | | | | | |

Adequate acres are available based on Nitrogen analysis
P205 removal exceeds, or is in balance with crop needs.

APPENDIX IV

OPERATION & MAINTENANCE MANUAL

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P.O. Box 636 1122 - 21st Street SW Huron, SD 57350 605-352-5610 605-352-0951 1-800-888-0423

RECEIVED

WASTE MANAGEMENT SYSTEM
OPERATION AND MAINTENANCE GUIDELINES

MAR 05 2008

SURFACE WATER PROGRAM

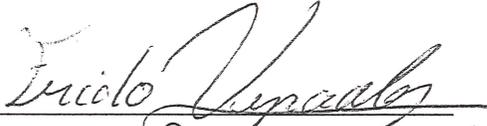
February 29, 2008

AWMS-VOLGA DAIRY
SW 1/4 SECTION 34, T110N, R51W
BROOKINGS COUNTY, SOUTH DAKOTA

You, as owner of the system, are responsible for its operation and maintenance. Although the systems designed by LARSON ENGINEERING are based on the best available technical knowledge, it must be recognized that the system creates some risk, and therefore needs to be properly operated and maintained, including periodic inspection. In addition, total benefits cannot be obtained unless the system is operated and maintained such that it will safely serve the purpose both as to function and time for which it was installed.

Recognizing this, these best management practices have been prepared for operating and maintaining your system.

I have reviewed the Best Management Practices for my Waste Management System.


Operator

3-1-08
Date

Prepared by:

Donald R. Larson, P.E.
LARSON ENGINEERING

RECEIVED

MAR 03 2008

BEST MANAGEMENT PRACTICES
February 29, 2008

SURFACE WATER PROGRAM

A. LOCATION STANDARDS

1. Volga Dairy has considered the possibility of exposing the public to nuisance conditions on selecting an unsuitable or inappropriate location.
 - a.) The site is located 190 feet from 214th Street. The nearest residence is 0.7 mile away. Volga is 2.8 miles northeast.
 - b.) The prevailing wind direction is from the southeast in summer with the closest residence 0.7 mile to the west.
2. Volga Dairy has evaluated the construction and operational features of the manure management system to minimize contamination of surface or ground waters. The following has been considered:
 - a.) The soil conditions are shown in the soils report dated 11-19-97. The soil boring shows the material beneath the ponds to be clay indicating acceptable material.
 - b.) The depth to the aquifer is not known, but is not in the area shown in the "Generalized Map of Shallow Aquifers in South Dakota".
 - c.) No nearby drainage, streams, rivers, lakes, or wetlands are near the project site.
 - d.) No ground water was observed in the test borings.
 - e.) The site was selected to prevent flooding or submergence.
 - f.) The site was selected to keep windblown odors away from residences.
 - g.) The terrain slopes will contain the runoff from the area around the facility on land of Volga Dairy.
3. The wastewater containment structure is not located in a known wetland.
4. The wastewater containment facility is not located over a known shallow aquifer.

5. Volga Dairy will maintain appropriate buffer zones around the wastewater containment structure and land application areas for manure disposal.
6. The wastewater containment structure is located 0.7 miles from neighbors.

B. CONTAINMENT STRUCTURE DESIGN AND STORAGE

1. The freeboard is two feet. The calculations show the required storage and the design storage.
2. Markers will be maintained to show the volume required to contain a 25-year, 24 hour event.

C. SURFACE WATER PROTECTION

Volga Dairy will construct, manage and maintain the manure management system in a manner to prevent pollution of surface waters of the state.

1. Practices to decrease water volumes are as follows:
 - a.) Uncontaminated storm water runoff shall be diverted away from the containment structure.
 - b.) Water will be recycled in the barn flush system.
2. Practices to decrease the potential of discharging manure and process wastewater are as follows:
 - a.) Collect and evenly apply wastewater to land only during dry weather.
3. Practices to decrease the potential of discharging manure or process wastewater to surface water are as follows:
 - a.) Manure will be stockpiled in the designated containment structure if needed during cold weather.
 - b.) Manure will not be spread on land that is susceptible to excessive water erosion.
 - c.) Manure will be utilized consistent with good agricultural practices and the Nutrient Management Plan.

D. GROUND WATER PROTECTION

The following best management practices will be followed to ensure protection of ground water:

1. The containment structure will be constructed with 18 inch compacted clay liners with either CL or CH unified classification.
2. The containment structure is not located over a known shallow aquifer.
3. 3 soil borings were made.
4. Compaction and/or permeability tests will be made on the completed liner.
5. Permeability testing of completed liner is required. One test per acre of bottom area, minimum of 2 in the basin bottom and one test per acre of side slope area, minimum of 1 on side slopes. ASTM D5084 Measurement of Hydraulic Conductivity of Saturated Porous Materials.
6. One upgradient and three down gradient monitoring wells must be installed near the proposed holding ponds. Wells shall be monitored throughout the life of the facility. Wells shall be sampled quarterly during the first year of operation. At least one round of samples must be taken before manure is stored in the holding ponds. A sample must also be collected from the ponds during one of the ground water sampling events, and those results must also be submitted to DENR. Depending upon the results of the first year of monitoring, the monitoring schedule may be reduced to semi-annual sampling. Water levels in the wells must also be recorded on a regular basis. DENR may alter the monitoring program should on-site conditions warrant other actions. The following parameters shall be monitored: Chlorides (mg/L), Ammonia as N (mg/L), Nitrates as N (mg/L), Sulfates (mg/L), Total Dissolved Solids (mg/L), Water Levels (Nearest 0.01 foot).
7. **The concrete driving pad between buildings will be kept clean and free of debris.**

E. FEEDLOT MANURE UTILIZATION OR DISPOSAL BY LAND APPLICATION

Volga Dairy will be responsible for the safe utilization of manure and process wastewater generated at the dairy operation. The following items establish minimum standards to be followed:

2. Volga Dairy will dispose of solids, sludge, manure, or other pollutants in a manner to prevent pollution of surface or ground water.

3. **Volga Dairy will follow the Best Management Practices for Land Application of Manure as required in Section 1.4.4.2 of the General Permit starting on page 24.**

F. TRAINING AND EDUCATION

Frido Ver Paalen has participated on May 15, 2002 in an approved environmental training program pertaining to proper operation and maintenance of a manure management system and proper natural resource management.

G. NUTRIENT MANAGEMENT PLAN

Volga Dairy will develop, maintain and follow a nutrient management plan to ensure the safe disposal of manure and protection of surface and ground water.

H. SOIL AND MANURE TESTING

Volga Dairy will use the following procedure to determine the appropriate application rates of manure and process wastewater. The manure and process wastewater will be applied according to the calculated rate. The following procedure for calculating the application rate will be used:

1. **Before land applying manure, fields will be soil sampled for nitrate-nitrogen from 0 to 2 feet. For those fields identified as located over a shallow aquifer, soil samples from 0 to 2 feet AND 2 to 4 feet will be taken.**
2. A minimum of 15 soil samples will be taken from each field to determine the residual nitrogen in the field.
3. The cores that represent similar soil may be composited into one sample. All samples, either individual or composited must be analyzed for nitrate nitrogen.
4. A representative sample of the manure or process wastewater that will be land applied will be tested each year for total nitrogen and inorganic nitrogen. Organic nitrogen is equal to the total nitrogen minus the inorganic nitrogen.

5. The total nitrogen that can be applied to each field will be based on the soil testing, types of crops, expected yields, legume credits, and sampling date. The total nitrogen that can be applied will be determined using SDSU Extension Publication EC750, Fertilizer Recommendation Guide, January 1996. The manure will be applied to each field at a rate not to exceed the rate calculated based on the results of the manure testing. If the manure application is required to be based on phosphorus crop removal, the application rate shall be based on phosphorus removed in the harvested portion of the crop as listed in the most current version of SDSU Extension Publication EXEX 8009, Quantities of Plant Nutrients Contained in Crops. Application can be based on multi-year phosphorus crop removal but cannot exceed the one year nitrogen crop need, and no manure may be applied to that field again until the applied phosphorus has been removed from the field via harvest and crop removal.
6. Volga Dairy will keep the following records regarding manure application. The records will be kept for 5 years and made available to the DENR upon request or inspection.
 - 1) Initial nutrient management plan
 - 2) Expected crop yields
 - 3) Dates manure or process waste water is applied to each field
 - 4) Weather conditions at time of application and for 24 hours prior to and following application
 - 5) Test methods used to sample and analyze manure, litter or process waste water and soil
 - 6) Results from manure, litter, process waste water and soil sampling
 - 7) Explanation of the basis for determining manure application rates
 - 8) Calculations showing the total nitrogen and phosphorus to be applied to each field, including sources other than manure, litter or process waste water
 - 9) Total amount of nitrogen and phosphorus actually applied to each field, including documentation of calculations for the total amount applied
 - 10) The method used to apply the manure litter or process waste water
 - 11) Dates of manure application equipment inspection

I. INSPECTION REQUIREMENTS

Volga Dairy will visually inspect the following:

- 1) Weekly inspections of all storm water diversion devices, runoff diversion structures and devices channeling contaminated storm water to the wastewater and manure storage and containment structure
- 2) Dairy inspection of water lines, including drinking water or cooling water lines
- 3) Weekly inspections of the manure, litter, and wastewater holding ponds. This inspection will note the level in liquid holding ponds as indicated by the pond marker
- 4) The producer or agent acting on behalf of the producer shall inspect the land application equipment, land application site and irrigation equipment, if used, on a daily basis while land application of process wastewater or manure is occurring. This inspection is to ensure that the land application equipment is not leaking and runoff from the land application site and irrigation system is not occurring. If a discharge or leaks are found where process wastewater or manure is reaching any surface waters of the state or flowing onto property not owned by the producer or not included in the nutrient management plan, the producer is responsible for taking immediate steps to stop the discharge or leaks and follow the reporting requirements. The producer shall keep documentation of these inspections so the DENR can review upon request or during an inspection.
- 5) Any deficiencies found as a result of these inspections must be corrected as soon as possible.

J. RETENTION OF RECORDS

Volga Dairy will retain the following records:

1. Records documenting the inspections required.
2. Weekly records of the depth of the manure and process wastewater in the liquid impoundment as indicated by the depth marker.

3. Records documenting any actions taken to correct deficiencies required. Deficiencies not corrected within 30 days must be accompanied by an explanation of the factors preventing immediate correction.
4. Records of mortalities management and practices used by the concentrated animal feeding operation.
5. Records documenting the current design of any manure or litter storage structures, including volume for solids accumulation, design treatment volume, total design volume, and approximate number of days of storage capacity.
6. Records of the date, time, and estimated volume of any overflow.

K. Annual Reporting Requirements.

1. On or before March 28, the producer must submit an annual report to the Secretary on a form provided by the Secretary to the following address:

Surface Water Quality Program
523 East Capitol Avenue
Pierre. SD 57501-3182

2. The annual report must include for the previous calendar year:
 - a. The number and type of animals, whether in open confinement or housed under roof (beef cattle, broilers, layers, swine weighing 55 pounds or more, swine weighing less than 55 pounds, mature dairy cows, dairy heifers, veal calves, sheep and lambs, horses, ducks, turkeys, geese, other);
 - b. Estimated amount of total manure, litter and process wastewater generated by the producer (tons/gallons);
 - c. Estimated amount of total manure, litter and process wastewater transferred to other persons by the producer (tons/gallons);
 - d. Total number of acres for land application covered by the nutrient management plan developed in accordance with this Permit;
 - e. Total number of acres under control of the producer that were used for land application of manure, litter and process wastewater;
 - f. Summary of all manure, litter and process wastewater discharges from the production area that have occurred, including date, time, and approximate volume; and

- g. A statement indicating whether the current version of the permittee's nutrient management plan was developed or approved by a certified nutrient management planner.

L. TWENTY-FOUR HOUR REPORTING

Volga Dairy will report any discharge as soon as possible, but no later than 24 hours from the time of becoming aware of the discharge. The report will be made to the State of South Dakota at 605-773-3351 or after business hours at 605-773-3231. Steps will be taken to stop the discharge and notify anyone downstream that may be impacted by the discharge.

M. INSPECTION AND ENTRY

Volga Dairy will allow the DENR upon presentation of credentials to:

1. Enter the premises of the dairy operation or where records are kept.
2. Inspect any feeding operation covered under the general permit.
3. Access and copy, at reasonable times, records specified under the general permit.
4. Sample or monitor any substance or parameter, at reasonable times, to determine compliance with the permit or other requirements of the South Dakota Water Pollution Control Act.

APPENDIX V

MANAGEMENT PLAN FOR FLY AND ODOR CONTROL

©Dakota Environmental Consultants, Inc.

P.O. Box 636 1122 - 21st Street SW Huron, SD 57350 605-352-5610 605-352-0951 1-800-888-0423

MANAGEMENT PLAN FOR FLY AND ODOR CONTROL

for the

OLD TREE FARMS DAIRY ANIMAL WASTE MANAGEMENT SYSTEM PROPOSED EXPANSION

BROOKINGS COUNTY, SOUTH DAKOTA

March 14, 2011

DEC Project No. 1101

Producer: Frido Verpaalen

Address: 46318 214th Street
Volga, SD 57071

Phone: (605) 627-9352

Project Location: SW¼ Section 34, T110N R51W, Brookings County, SD

This plan is provided to describe the Best Management Practices (BMPs) that will be implemented to minimize any nuisance created by flies and odors from the expanded dairy facility. The BMPs described have been utilized at other facilities and have been reported to be useful. This plan deals with odor and fly control in the three most vital phases, which are the manure storage areas, the land application of manure, and the disposal of dead animals.

I. Manure Storage Areas

All liquid waste produced on the site will ultimately be contained in earthen storage ponds. The cattle will be housed in freestall type buildings from which manure will be collected before being processed by a solids separator and discharged to the ponds. This will be done on a daily basis. The ponds are designed in accordance with state law to provide adequate storage capacity as well as minimize odors as much as possible. The removal of a portion of solids from the manure reporting to the ponds will aid in odor reduction, as offensive odors can be produced by digestion of solids in storage ponds.

Certain small areas of the existing facility such as the calf barn and the proposed special needs unit are bedded with straw. The manure from these areas is then handled as a solid and placed in an approved storage facility, from which runoff is drained to the pond system. The amount of straw in the mixture from the bedded barns will serve to reduce odor from this source.

The majority of the barns are bedded with recycled manure solids, which have been removed from the waste stream by a separator. In order to be used for bedding, the recycled solids must be dewatered, which greatly reduces the odor creating potential. Since not all recycled solids are required for bedding, the remaining dewatered solids are stored on the solids stockpiling area, where the same odor reducing benefit of dewatering is achieved.

The configuration of the buildings and manure collection system will also reduce odors by removing manure from the housing areas as soon as possible. It is vital to the best interests of any dairy operation to keep the animals as clean and dry as possible, which is assurance that good housekeeping practices will be maintained in the barn areas. The collection system will not contain manure for extended periods, as it is designed to transfer waste to the separator and storage ponds as efficiently and quickly as possible. Washwater used in the process of cleaning

the milking parlor and holding area will also serve to dilute the raw manure, resulting in reduced odor as well. Good ventilation of the buildings will be provided, which is also in the best interests of the animal herd and operator.

Final disposal of the manure will be by land application at rates that do not exceed the agronomic requirement of the crop to be grown and allow beneficial utilization of the manure nutrient content.

Since higher winds tend to disperse odors by agitating odors, windy days are when odors are usually noticed the least. On calm days, or days with light winds, odor is transported without being agitated. Therefore, trees, shrubs or other plantings will aid in the dispersion of airborne odors by agitation in either low or high wind conditions. Existing shelterbelts on and near the site are expected to continue to be beneficial.

Trees and vegetation also serve as habitat for species such as birds, which prey upon insects or insect larvae. For areas around the barns, pesticide, especially in powdered form, can also be used to control insects. The producer operates a tractor mounted fogger/sprayer for control of flies and insects during the appropriate season. The use of professional pest control services which utilize sprays or fogging on a periodic basis to eliminate insects is also a common practice in the dairy industry.

Rodent control will be aided by the fact that the configuration of the buildings and structures offers little shelter for these animals. Control of rodents is also in the best interests of the dairy for reasons of sanitation, biosecurity, and disease control. This is an item which is part of periodic inspections conducted on a regular basis by state dairy officials. For areas around the building walls, solid poison and baited traps are used to control rodents and keep burrowing from occurring near the concrete. The use of professional control services is also an option.

II. Manure Land Application

Guidelines set forth in the South Dakota General Water Pollution Control Permit for Concentrated Animal Feeding Operations strictly regulate the land application of manure. Details of these guidelines can be found in Appendix C of the DENR approved Nutrient Management Plan for this facility. Many of these guidelines were written with the control of

odors in mind. Facilities must have adequate manure storage capacity to avoid the necessity of applying manure at inopportune times. This will not be a problem with this facility, as the ponds are sized to contain 365 days worth of manure and wastewater production from the facility. The ventilation of the barns will be reduced in the wintertime to minimize the amount of cold outside air into the barns resulting in greatly reduced odors at this time. Cold temperatures will accomplish insect control during this period as well.

Regardless of the type of manure, the times for manure land application should still be chosen carefully. Since higher winds tend to disperse odors faster, windy days are best. Days that are humid and calm, or have slight winds, should be avoided, as these conditions can result in the transport of odors over distances without dispersal. For the convenience of any neighbors, manure land application should be avoided on weekends, holidays, evenings, or any other times where people are likely to be involved in outdoor recreational or leisure activities. The Operation and Maintenance Manual for the facility outlines these best management practices (BMPs) for easy reference by the operator.

The General Permit requires liquid manure that is land applied to cropland (other than no-till) to be injected or incorporated immediately. In addition to greatly reducing the potential for surface water contamination, this practice serves to remove the source of odor by mixing it into the soil. This also will remove the source of attraction for flies and other insects. Equipment designed to inject or incorporate manure in this manner also keeps the manure totally contained between removal from the lagoon and incorporation by utilizing a pump and pipeline arrangement between the source and the field. Therefore, minimal odor will be produced during transport and land application, and the likelihood of spills will be greatly reduced. This method of application also results in much less wear of area roads, as manure can be pumped several miles.

In accordance with the Nutrient Management Plan, records must be kept regarding land application of manure. An extensive process for determining the rate of application to any field must be followed to comply with DENR requirements, and this information is required to be documented and available. The date, time, location, wind direction, temperature, and amount of manure applied should also be included whenever land application of manure takes place. These requirements were designed to eliminate over-application of manure and prevent runoff, excess

odor, or other pollution by increasing the operator's awareness of proper land application practices.

III. Disposal of Dead Animals

Disposal of dead animals is not expected to be a major concern at this facility, since death loss is generally very low at dairy operations when compared to other animal types. The herd is generally culled on a regular basis, with animals which are not producing as desired being sold and removed. In this way, death loss is minimized by removing animals which are past their prime before they become chronically ill. A rendering service is utilized in the infrequent occurrences of mortality. This method is one of several approved by the State Animal Industry Board for removal of carcasses, and offers the most efficient option for the operator.

Summary

The Best Management Practices that have been described above are fully expected to minimize nuisances from odors and insects at this facility. While some production of odor is inevitable, it is possible through concerted effort and careful attention to keep both the intensity and frequency of odors and insects at a level where area residents are not inconvenienced.

APPENDIX VI

SETBACK AND FLOODPLAIN MAPS

OLD TREE FARMS

Residential & Well 1/2 Mile Setback



1 inch = 1,000 feet

Legend

-  Well Buffer 2640'
-  Residential Buffer 2640'

OLD TREE FARMS

REQUESTED VARIANCE SETBACKS



Residence - 1760'
Wells - 1675'

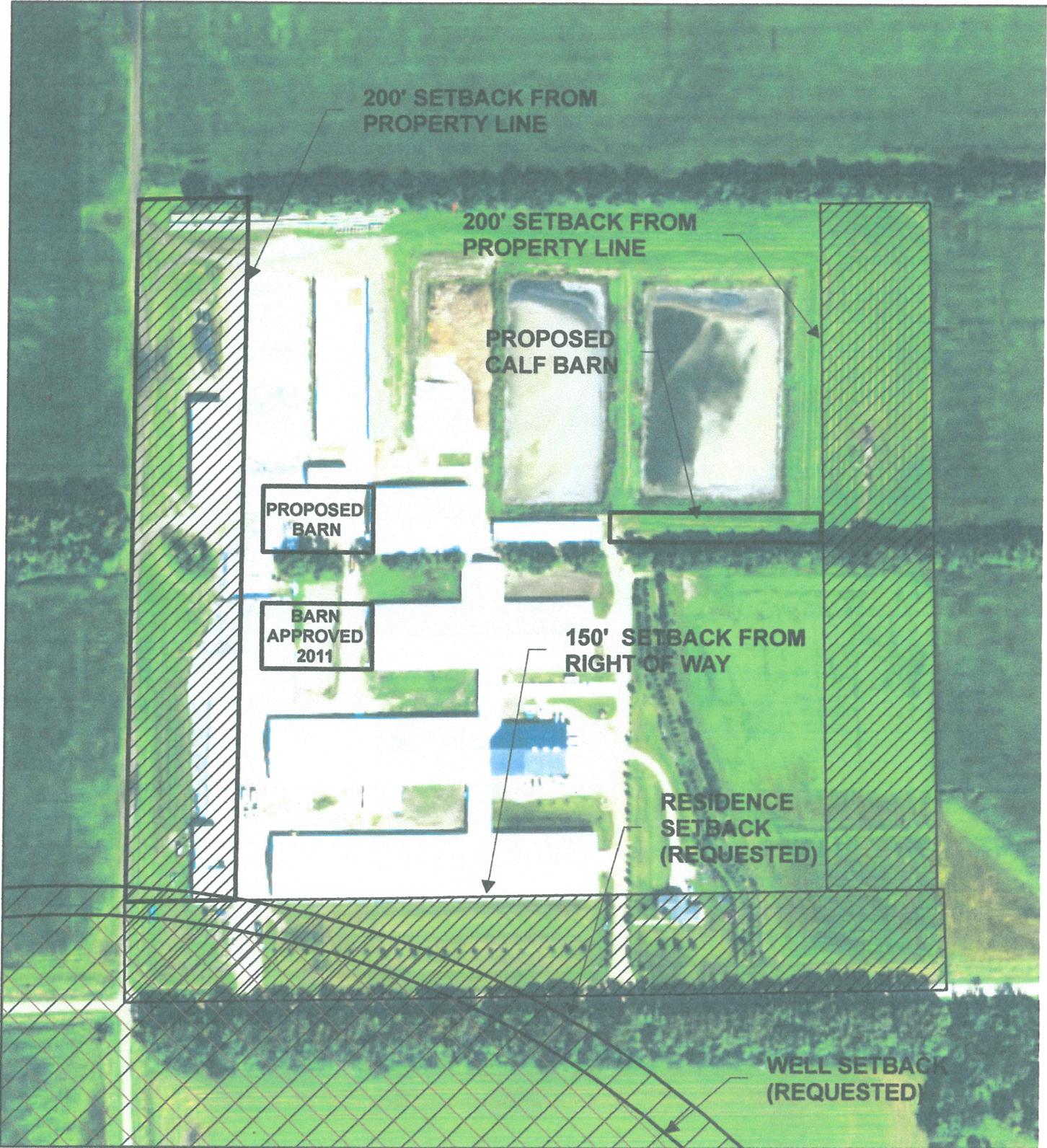


1 inch = 1,000 feet

Legend

-  Well Buffer 1675'
-  Residential Buffer 1760'

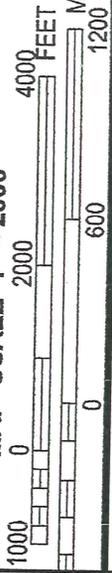
OLD TREE FARMS



1 inch = 250 feet



MAP SCALE 1" = 2000'



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0425C

FIRM
FLOOD INSURANCE RATE MAP
BROOKINGS COUNTY,
SOUTH DAKOTA
AND INCORPORATED AREAS

PANEL 425 OF 700

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY NUMBER PANEL SUFFIX
BROOKINGS COUNTY 460253 0425 C

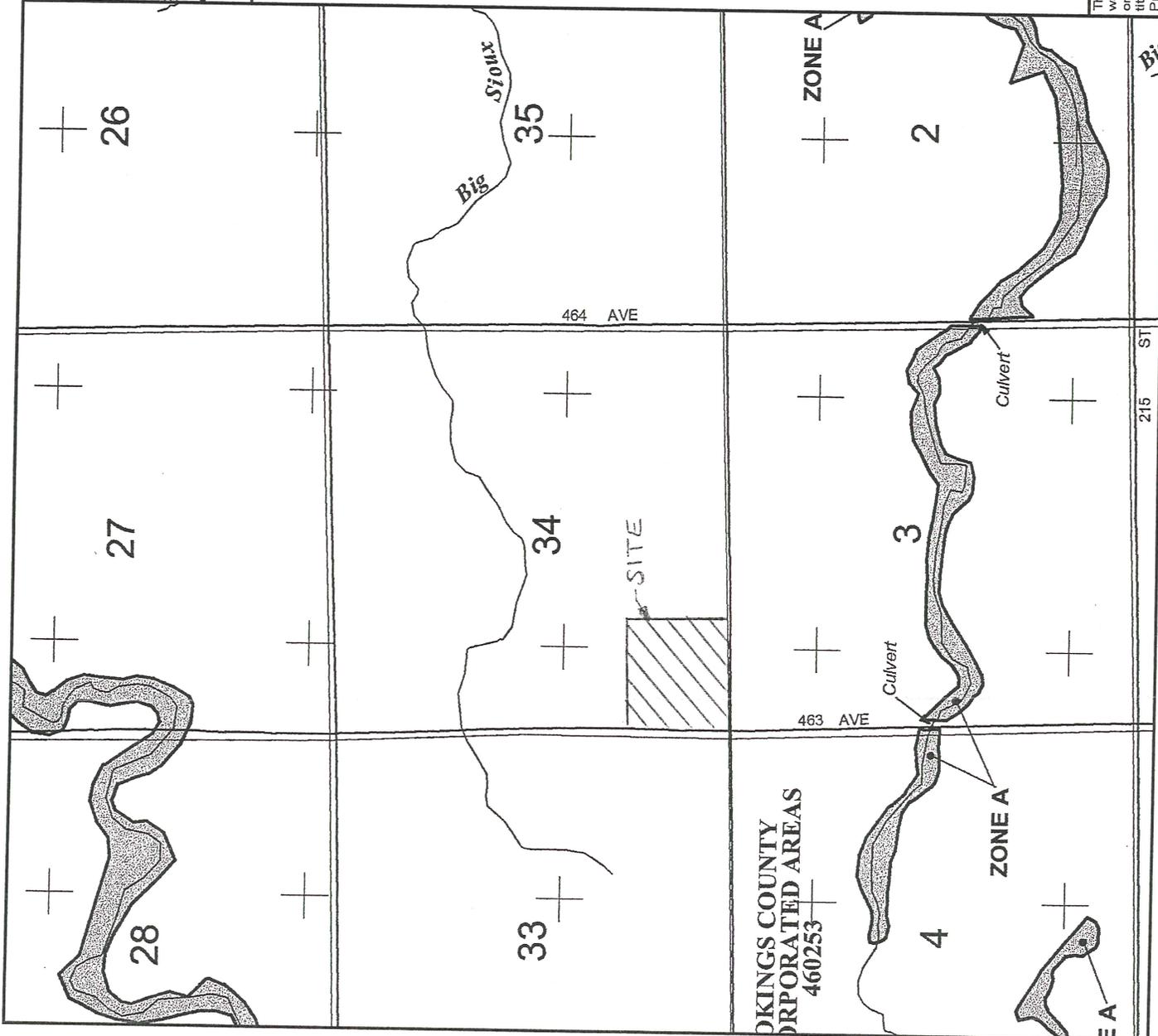
Notice to User: The Map Number shown below should be used when placing map orders: the Community Number above should be used on insurance applications for the subject community.



MAP NUMBER
46011C0425C
EFFECTIVE DATE
JULY 16, 2008

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



BROOKINGS COUNTY
INCORPORATED AREAS
460253

215 ST

Bis

APPENDIX VII

SITE PLANS AND DRAWINGS

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P.O. Box 636 1122 - 21st Street SW Huron, SD 57350 605-352-5610 605-352-0951 1-800-888-0423

Richard Haugen

From: Jerry <jjpcnls@itctel.com>
Sent: Wednesday, December 28, 2016 3:30 PM
To: Richard Haugen
Subject: Old Tree

Richard,

I have no problem with the expansion and the zoning ordinance variances being proposed by the dairy (Old Tree Farms) that is operated by Frido Verpaalen.

Sincerely,

Jerry Nelson

PUBLIC NOTICE

Old Tree Farms, LLC by Frido Verpaalen has made an application 2016var018 to the Brookings County Board of Adjustment, for a variance. Article 22: Section 22.01: Concentrated Animal Feeding Operation Regulations: Concentrated Animal Feeding Operation Control Requirements: # 6) Required Setback and Separation Distance. The property is described as: "S1470' of W1481.36' Exc S295' of E295' of W1248' of SW1/4 of Sec. 34, T110N, R51W (Volga Township)" -- located at 46316 214th St, Volga, SD 57071.

The public hearing will be held in the Brookings City & County Government Center, 310 Chambers, 520 3rd St, Brookings, SD 57006 on Tuesday, October 4th, 2016 at 8:00 PM.

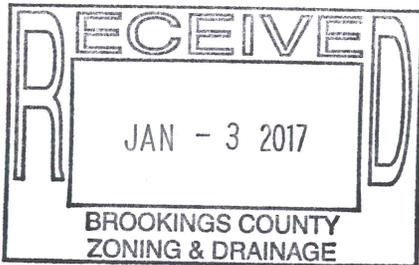
All interested persons may attend and be heard at this time.

Robert Hill
Brookings County
Development Director

Published 2x at the total approximate cost of _____.

Frido Verpaalen has my OK for the variance on his dairy
Jeredini Tubenack

1-2-17



2017cu001 (Mining) – January 3rd, 2017

Prepared by Richard Haugen

Applicant: Ryan Winter, 46820 256th St, Crooks, SD 57020

Site: 21875 473rd Ave, Brookings, SD 57006

Legal Description: SE1/4 Exc. H-3 & H-4 of Section 18, T109N, R49W

2017cu001: Ryan Winter has applied for a Brookings County Zoning Ordinance, Article 11 Agricultural Districts; Section 11.01 "A" Agricultural Districts; Conditional Use # 4: Sand, Gravel or quarry operation, mineral exploration and extraction.

The original mining and crushing permits for this facility were issued to Butch Oseby on June 7th, 2005. Robert Winter took over the operation and was issued a mining permit 2015cu001 on March 5th, 2015. The permit was for a 2 year period and will expire on March 5th, 2017. Ryan Winter has applied for a conditional use to continue the mining, as a permanent operation. They operate a family cement business, with mixing plants around the area and in Brookings. The home office is located in Crooks.

The property is located in the SE1/4 of Section 18, in Trenton Township that borders I-29 on the west, South Dakota Highway 324 on the south and Brookings County Highway 21 (473rd Ave) on the east. The property is in the flood plain.

The Winter's have finished constructing the berms, seeded them down, planted trees on top of the berms and controlled the weeds on the property since they took over the operation. I have included pictures in the staff report.

They would like to continue the mining operation on a permanent basis and follow the original reclamation site plan with the original homestead and 4 additional 35 acres lots on the property. Entrance and exit are located off of South Dakota Highway 324.

Letters were sent to the adjoining landowners, Trenton Township Chairman and Clerk, Brookings County Highway Department, South Dakota Department of Transportation.

The public notices were published in the Brookings Register on December 20th and 27th 2016.

APPLICATION FOR CONDITIONAL USE PERMIT

Date of Application: 12-1-16

Permit Number: 2017cu001

To: Brookings County Planning Commission
520 3rd St, Suite 200
Brookings, South Dakota 57006

A.) I/We, the undersigned property owner (s), do hereby petition the Brookings County Planning & Zoning Commission of Brookings County, South Dakota, to grant a Conditional Use to the Brookings County Zoning Regulations for the purpose of:

Mining

B.) Section(s) of Zoning Regulations authorizing Conditional Use:

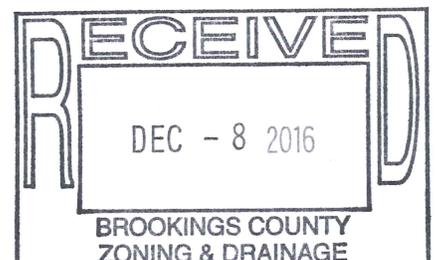
Article 11 Agricultural District
Sect 11.01 "A" Agricultural District
CU #4 Sand, Gravel, or Quarry operation
Minerals exploration and extraction

C.) Legal Description of Property:

SE 1/4 ETC #3 # H4 of Section 18
T 109 N R 49 W Trenton Township

Parcel # 210001094918400

Form continued on page 2



D.) Time and Date Set for
Hearing before Brookings
County Planning Commission.

Jan. 3, 2017
Date

7:00 pm
Time

Approved

Rejected

Date

Chairman of Brookings County Planning
and Zoning Commission

Ryan Winter
Person filing petition – print


Person filing petition – sign

46820 256th St
Address

CROOKS
City

SD
State

57020
Zip Code

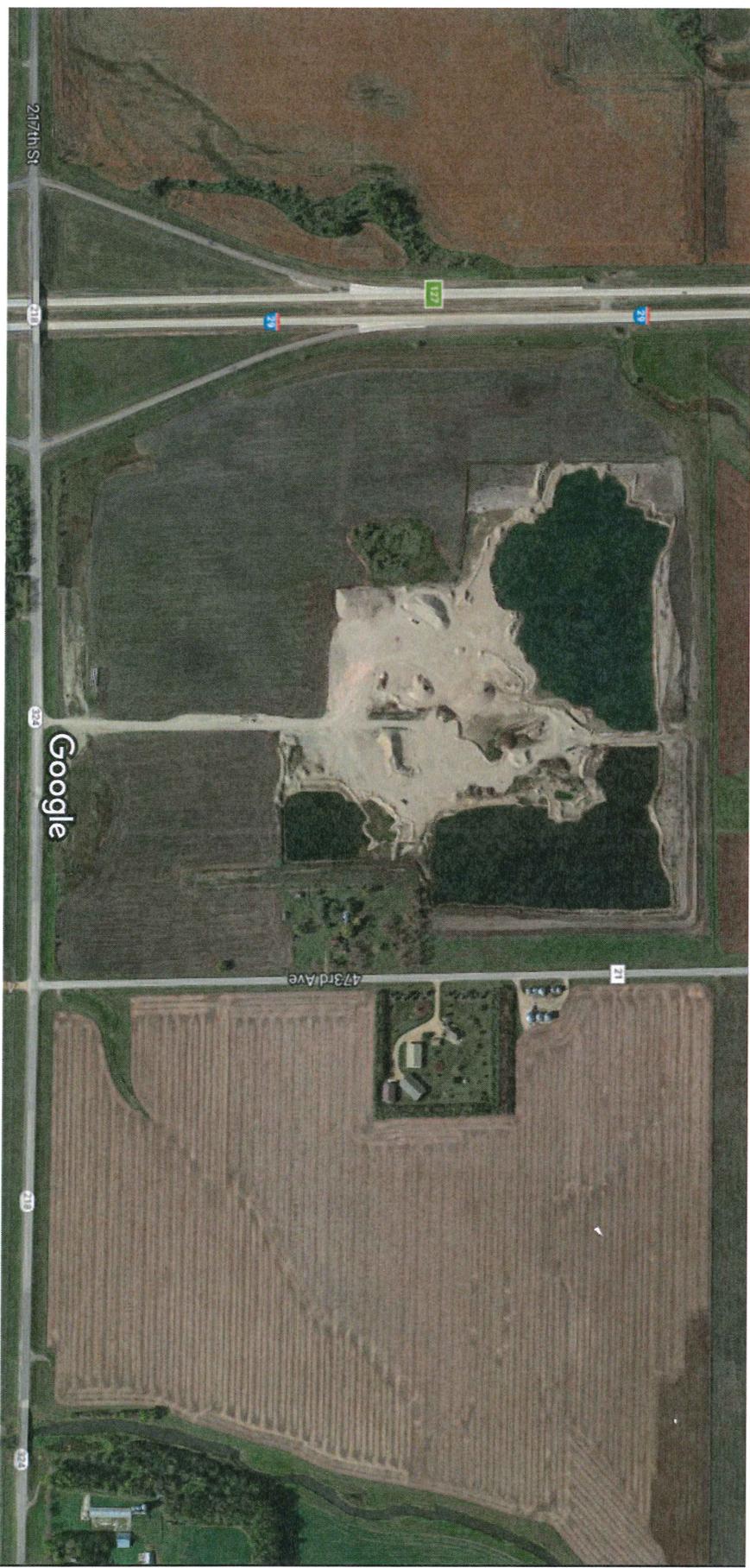
605 360 0350
Telephone

A conditional use that is granted and not used within three (3) years will be considered invalid.



ROCK ON, LLC PIT

2017 0001

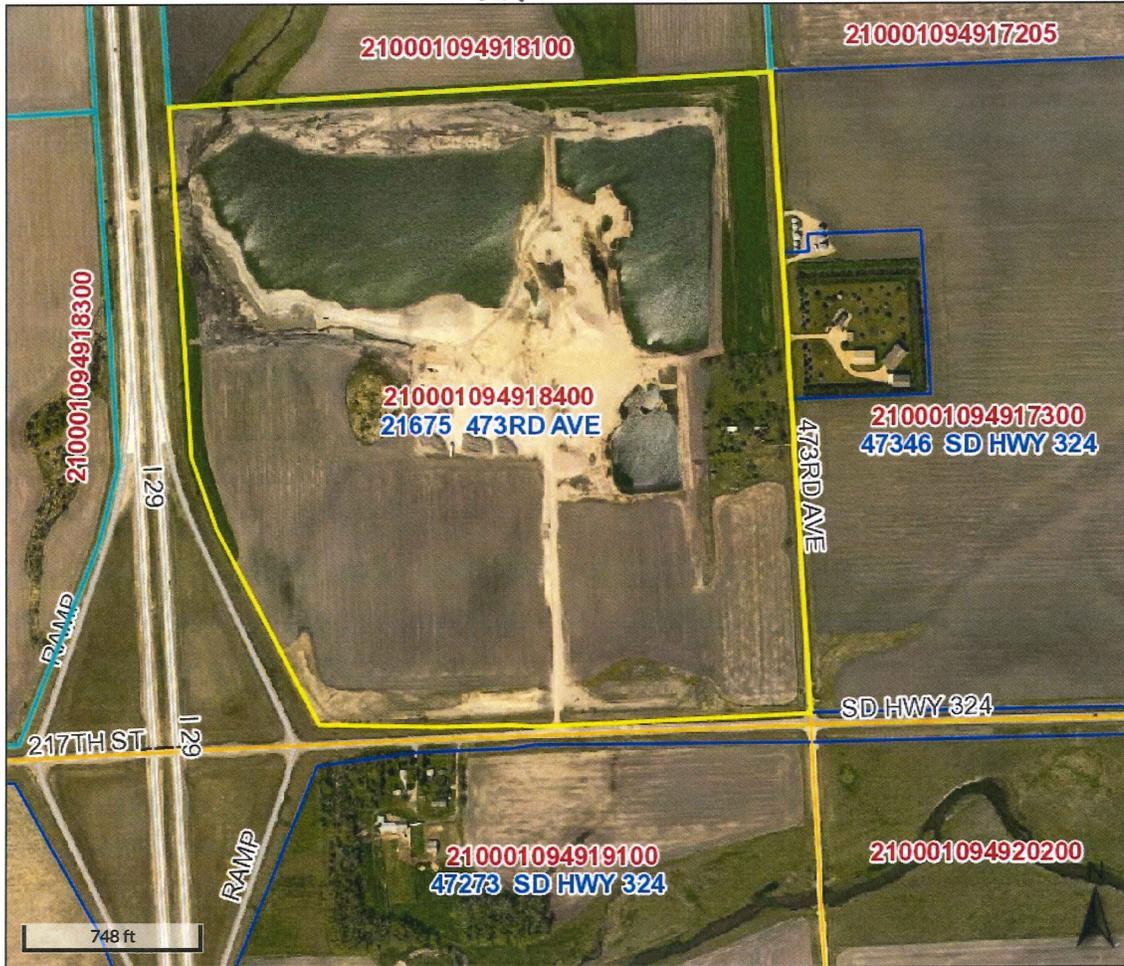


Imagery ©2016 Google, Map data ©2016 Google 500 ft

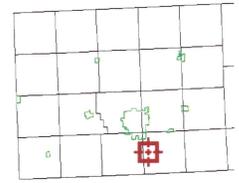


Beacon™ Brookings County, SD

2017 cu001 & 2017 cu002



Overview



Legend

- Brookings City Limits
- City Limits
- Township Boundar
- Sections
- Parcels
- Roads

| | | | | | |
|-----------------------|--|--------------|--------|---------------|-----------------|
| Parcel ID | 210001094918400 | Alternate ID | n/a | Owner Address | ROCK ON LLC |
| Sec/Twp/Rng | 18-109-49 | Class | AGA | | 46124 US HWY 14 |
| Property Address | 21675 473RD AVE BROOKINGS | Acres | 117.32 | | VOLGA SD 57071 |
| District | 2101 - TRENTON TWP/BROOKINGS SCH | | | | |
| Brief Tax Description | SE 1/4 EXC. H-3 & H-4 SEC 18-109-49 142.32 AC (Note: Not to be used on legal documents) | | | | |

Date created: 12/8/2016
 Last Data Uploaded: 2/18/2014 4:02:57 AM

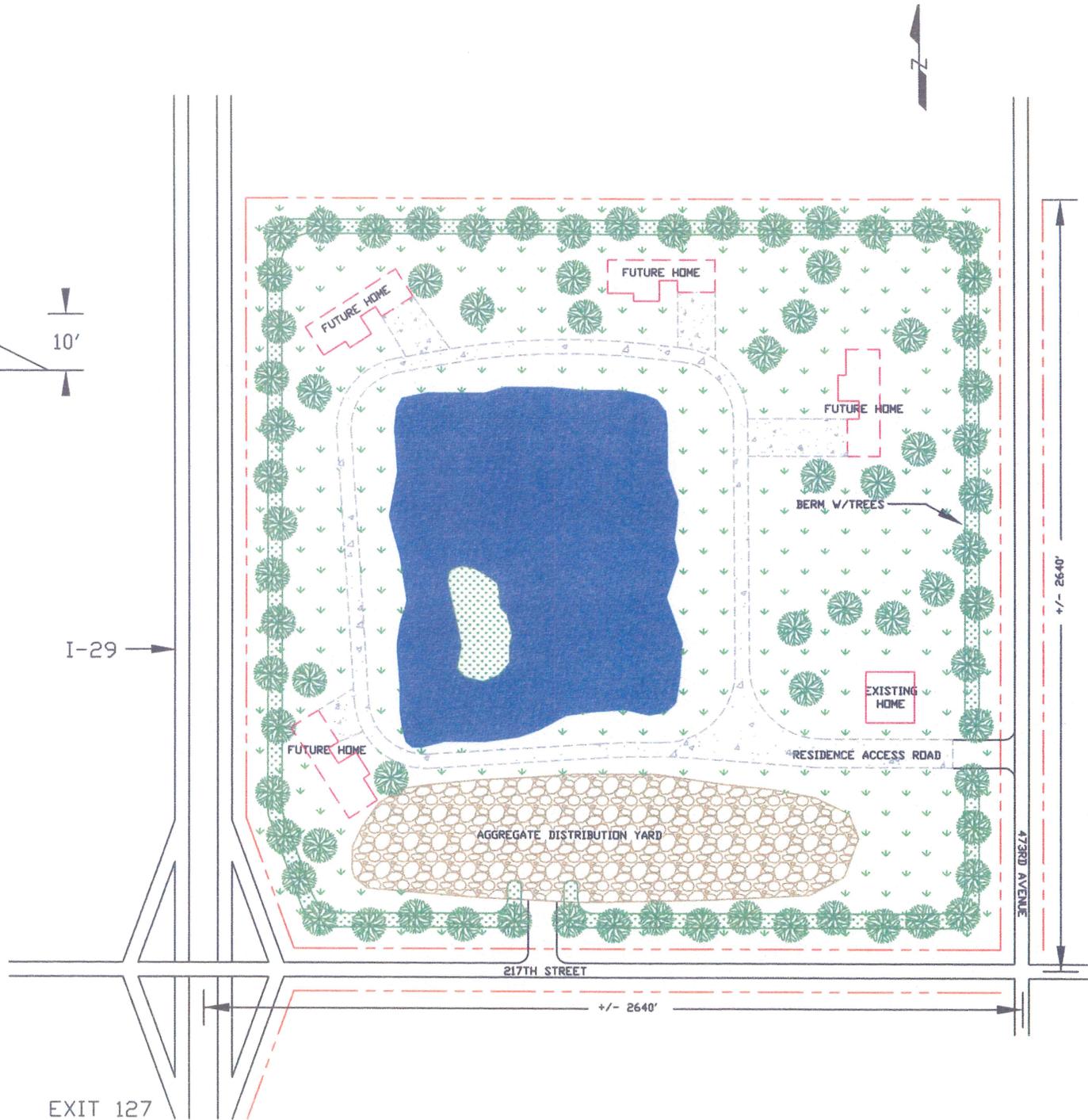
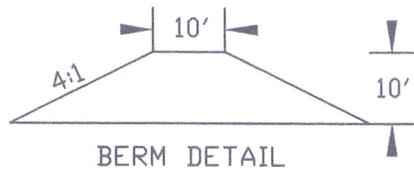




Photo taken 7-7-2014, before the Winter's took over.



Photo taken 7-13-2016



2017cu001: Ryan Winter

Photo taken 7-13-2016



Photo taken 7-13-2016



2017cu002 (Crush) – January 3rd, 2017

Prepared by Richard Haugen

Applicant: Ryan Winter, 46820 256th St, Crooks, SD 57020

Site: 21875 473rd Ave, Brookings, SD 57006

Legal Description: SE1/4 Exc. H-3 & H-4 of Section 18, T109N, R49W

2017cu002: Ryan Winter has applied for a Brookings County Zoning Ordinance, Article 11 Agricultural Districts; Section 11.01 "A" Agricultural Districts; Conditional Use # 5A: Rock Crushers.

The original mining and crushing permits for this facility were issued to Butch Oseby on June 7th, 2005. Robert Winter took over the operation and was issued a crushing permit 2015cu002 on March 5th, 2015. The permit was for a 2 year period and will expire on March 5th, 2017. Ryan Winter has applied for a conditional use to continue the crushing, as a permanent operation. They operate a family cement business, with mixing plants around the area and in Brookings. The home office is located in Crooks.

The property is located in the SE1/4 of Section 18, in Trenton Township that borders I-29 on the west, South Dakota Highway 324 on the south and Brookings County Highway 21 (473rd Ave) on the east. The property is in the flood plain.

They would like continue the crushing operation on a permanent basis, to process the gravel they mine on-site.

Letters were sent to the adjoining landowners, Trenton Township Chairman and Clerk, Brookings County Highway Department, South Dakota Department of Transportation.

The public notices were published in the Brookings Register on December 20th and 27th 2016.

APPLICATION FOR CONDITIONAL USE PERMIT

Date of Application: 12-1-16

Permit Number: 2017cu002

To: Brookings County Planning Commission
520 3rd St, Suite 200
Brookings, South Dakota 57006

A.) I/We, the undersigned property owner (s), do hereby petition the Brookings County Planning & Zoning Commission of Brookings County, South Dakota, to grant a Conditional Use to the Brookings County Zoning Regulations for the purpose of:

crushing

B.) Section(s) of Zoning Regulations authorizing Conditional Use:

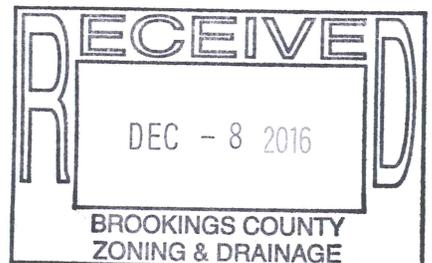
Article 11 Section 11A "A" - Agricultural District cu # 5A - crushing

C.) Legal Description of Property:

SE 1/4 EXC H3 & H4 OF Section 18 T109N R49W Trenton Township

Parcel # 210001094918400

Form continued on page 2



D.) Time and Date Set for
Hearing before Brookings
County Planning Commission.

Jan. 3, 2017
Date

7:00 pm
Time

Approved

Rejected

Date

Chairman of Brookings County Planning
and Zoning Commission

Ryan Winter
Person filing petition – print

[Signature]
Person filing petition – sign

46820 256th St
Address

CROOKS
City

SD
State

57070
Zip Code

6053600350
Telephone

A conditional use that is granted and not used within three (3) years will be considered invalid.

Google Maps · ROCK ON, LLC PIT

2017 cu 00 2

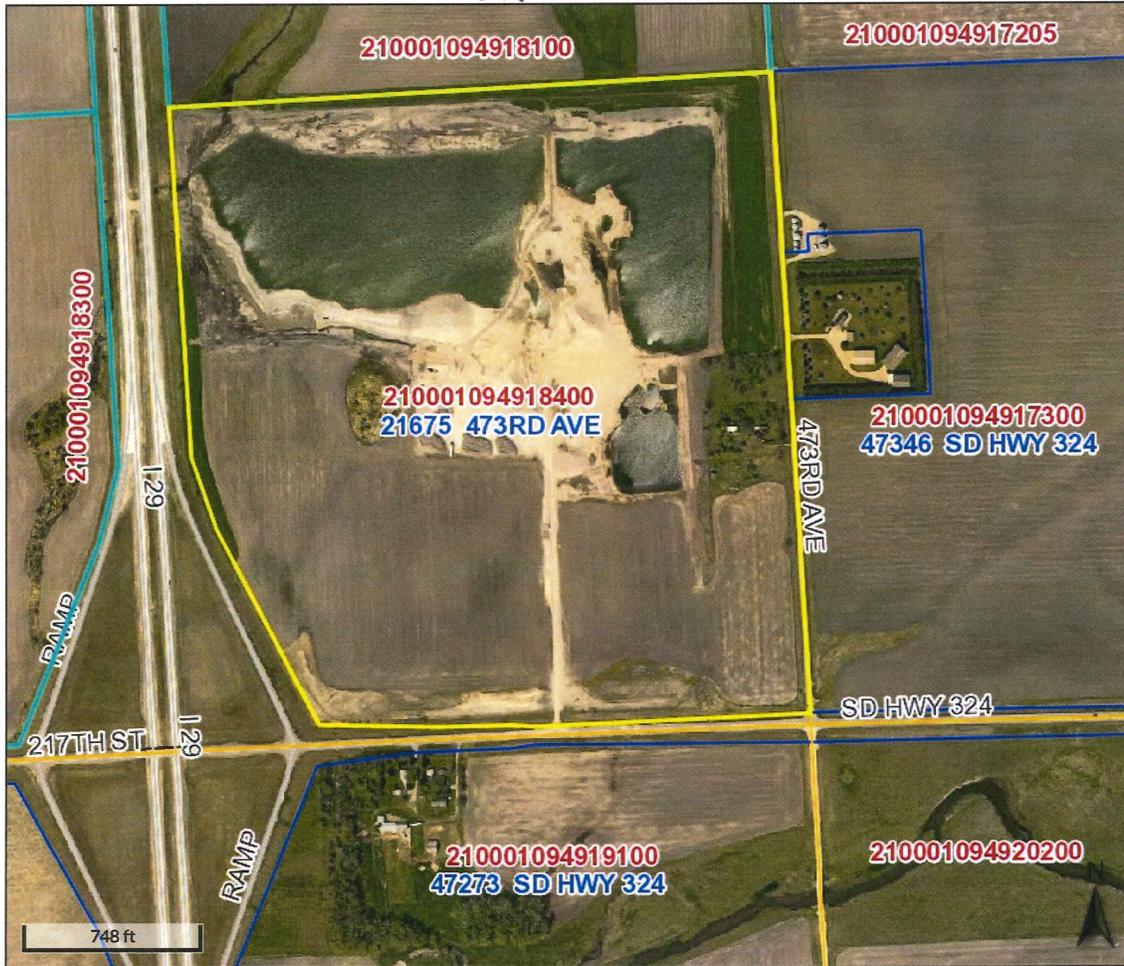


Imagery ©2016 Google, Map data ©2016 Google 500 ft

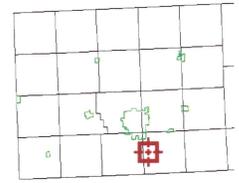


Beacon™ Brookings County, SD

2017 cu001 & 2017 cu002



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| Sec/Twp/Rng | 18-109-49 | Class | AGA | | 46124 US HWY 14 |
| Property Address | 21675 473RD AVE | Acres | 117.32 | | VOLGA SD 57071 |
| | BROOKINGS | | | | |
| District | 2101 - TRENTON TWP/BROOKINGS SCH | | | | |
| Brief Tax Description | SE 1/4 EXC. H-3 & H-4 SEC 18-109-49 142.32 AC | | | | |
| | <i>(Note: Not to be used on legal documents)</i> | | | | |

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 Last Data Uploaded: 2/18/2014 4:02:57 AM

