

**AGENDA**  
**REGULAR DRAINAGE MEETING**  
**December 18, 2019 8:30 AM**

1. Open Meeting
2. Approve Agenda
3. Approve Minutes

Documents:

[12\\_4\\_2019 - DRAINAGE MINUTES.PDF](#)  
[DD 72 LANDOWNERS MTG 12\\_4\\_2019 - MINUTES.PDF](#)  
[12\\_11\\_2019 - DRAINAGE MINUTES.PDF](#)

4. Approve Claims For Payment  
Approve claims for payment with pay date of 12-20-2019.
5. Discuss W Possible Action - Wind Turbine Ordinance / Drainage Utility Permit Language  
Discussion with possible action of the Wind Turbine Ordinance and Drainage Utility Permit Application.

Documents:

[MORATORIUM ON C-WEC CONSTRUCTION PERMITS.PDF](#)  
[UTILITY PERMIT APPLICATION ACROSS DRAINAGE DISTRICT.PDF](#)  
[HARDIN COUNTY ORDINANCE 29.PDF](#)

6. DD 31 - WO 278 - Discuss W Possible Action - Investigation Summary

Documents:

[DD 31 - WO 278 INVESTIGATION SUMMARY 12\\_16\\_19.PDF](#)

7. DD 34 - WO 189 -Discuss W Possible Action - Repair Summary

Documents:

[DD 34 WO 189 - REPAIR SUMMARY 12\\_11\\_2019.PDF](#)

8. DD 109 - WO 269 - Discuss W Possible Action - Repair Summary

Documents:

[DD 109 - WO 269 REPAIR SUMMARY 12\\_16\\_2019.PDF](#)

9. DD 128 - WO 279 - Discuss W Possible Action - Investigation Summary

Documents:

[DD 128 - WO 279 INVESTIGATION SUMMARY 12\\_13\\_19.PDF](#)

10. DD 131 - WO 275 - Discuss W Possible Action - Investigation Summary

Documents:

[DD 131 - WO 275 INVESTIGATION SUMMARY 12\\_16\\_19.PDF](#)

11. Drainage Utility Permit 2019-4 Aureon - Discuss W Possible Action - Utility Crossing Summary

Documents:

[2019-4 AUREON REPAIR SUMMARY 12\\_11\\_2019.PDF](#)

12. Other Business

13. Adjourn Meeting

**REGULAR DRAINAGE MEETING**  
**December 4, 2019 1:00 PM**  
**Following DD 72 Landowners Meeting**

12/4/2019 - Minutes

1. Open Meeting

Hardin County Drainage District Board of Trustees Chairperson, Renee McClellan, opened the meeting. Also present were Trustee Lance Granzow, Trustee BJ Hoffman; Jessica Sheridan, Hardin County Environmental Services; Lee Gallentine with Clapsaddle - Garber Associates (CGA) and Drainage Clerk, Denise Smith.

2. Approve Agenda

McClellan moved to approve the agenda. Hoffman seconded. All ayes. Motion carried.

3. Approve Minutes

Hoffman moved to approve the minutes to Regular Drainage Meeting dated 11-27-2019. McClellan seconded. All ayes. Motion carried.

4. Discuss W Possible Action - Drainage Utility Permit Process

County Attorney Darrell Meyer was invited to attend today's meeting to discuss the Drainage Utility Permit Application as it pertains to wind turbine ordinances. Attorney Meyer had requested the draft of wind turbine language provided by Jessica Sheridan at the October 30, 2019 Regular Drainage Meeting, Smith provided this to Attorney Meyer. Smith stated Attorney Meyer was doing research for the Board of Supervisors and was interested in having a conversation with drainage engineer Lee Gallentine and the Board of Supervisors acting as Drainage Trustees. McClellan noted that Meyer was in court today and his proceedings have run longer than anticipated and he is unable to join us today.

Motion by Granzow to table this topic until Attorney Meyer is available. Second by McClellan. All ayes. Motion carried.

5. DD 22 - Discuss W/ Possible Action - Request For Authorization To Repair Ryerson Septic Lines

DD 22- Smith received an email from Heather Thomas at CGA, Thomas is requesting the Trustees to authorize Gehrke, Inc. to repair septic lines on the Ryerson property with an estimated cost of \$3,680. The contractor will investigate the laterals to determine consistent spacing to reinstall the two laterals that were excavated out; it is estimated that each lateral will be 60 feet or less and will be bed in 1 inch clean rock. Thomas is requesting authorization as a motion for now and will draw up a formal change order and states the cost is firm, Thomas had spoken with the Trustees about this previously and the local Hardin County contractors are declining to give any bids on septic repair at this time. Thomas is on the job site today and can be reached by phone if needed.

Granzow stated the Sanitarian needs to review this request. Jessica Sheridan of Hardin County Environmental Health was able to join the meeting. Gallentine stated the septic system leach field lies over the top of the district tile, and when Gehrke dug to repair the tile line they dug through the septic leach field lines. Sheridan stated the septic system should be 10' away from any tile lines. Gallentine stated the tile line is 30" concrete tile. Sheridan asked if it is watertight tile. Gallentine responded no the district tile is not a gasketed joint, it is tar sealed on the bottom 2/3rds of the joint and the top 1/3rd is open to drain groundwater, and that this septic system had been in place for years before they started district tile construction.

Granzow stated we need a letter from the DNR to proceed, that this is a district tile, not a perforated drainage tile. Gallentine stated you can't just shut off someone's septic. Sheridan will verify with Corey Frank, her DNR contacts. Sheridan steps out to make a phone call. Sheridan returns, and asks Gallentine how deep the district tile lies. Gallentine stated between 10' and 11' deep. Sheridan stated that should be fine because we only have to have 3' of vertical separation between the district tile and the septic leach lines. Granzow stated maybe Sheridan should do a site visit. Sheridan stated that Gehrke will need to come in and file a septic permit, and they can contact her for that. McClellan asked if Sheridan can do that today. Sheridan said there may be soil testing required. Smith will share Heather Thomas of CGA's contact information with Jessica Sheridan to facilitate this conversation with the contractor. Granzow does not have an issue with the cost, and would allow up to \$4,000 for the repair work to be done by Gehrke in order to allow for the cost of the septic permit or backfill issues.

Hoffman motioned to approve Gehrke to repair the septic lines on the Ryerson property with costs not to exceed \$4,000.00. Granzow seconded. All ayes. Motion carried.

6. DD 86 - Acct 6789.3 - Discuss W/ Possible Action

DD 86- Gallentine has submitted the DD 86 Engineer's report. DD 86 is the district located by Monarch Pond and Dago Lake, and has the tree roots that have gone in and plugged the tile by the railroad. The Engineer's Report for the Main Tile is ready and the next step would be to hold a Landowner's Hearing. Hearing needs to be 40 days out in order to prepare and send notices.

Motion by Granzow to acknowledge the receipt of the DD 86 Engineer's Report dated December 3, 2019 and to hold Landowner's Hearing on January 22, 2019, at 11:00 AM at the Courthouse in the Large Conference Room, with Regular Drainage Meeting to follow. Hoffman seconded. All ayes. Motion carried.

7. DD H-H 118-232 - Discuss W/ Possible Action - 2018-9 Aureon Utility Observation Report

Should be labeled as BIG 4- Smith noted that she received an email from James Sweeney of CGA after agenda was posted that this permit should be labeled as BIG 4 DD, not H-H 118-232 as originally submitted. Smith will make sure that it gets re-labeled in the files. Gallentine stated this is a utility installation, boring fiber optic lines in under the main open ditch in the BIG 4, they located and bored at 11.6' below the open ditch. Gallentine states that as long as their depth is accurate we should be fine, and sees no reason not to approve.

Motion by Granzow to approve the Aureon Utility Permit Observation Report. Hoffman seconded. All ayes. Motion carried.

8. Discuss W Possible Action - Open Ditch Brush Control

Open Ditch Spraying Bid submitted by contractor Adam Seward. Hoffman reviewed the bid and asked what the previous year's location list looked like and what previous bids were from 2016. Smith stated the location list is the same as what was provided to contractor's by the Drainage Clerk, our last bid in 2016 from B&W was \$117,000 but he always came in under budget and the one we received from Joe Harrah was right about the \$77,000 mark, comparable to Seward's quote for 2020. Smith noted that Seward did state that the 2020 chemical price lists are not available yet so quote uses 2019 prices, and 2020 prices may vary slightly.

Granzow stated he thinks we just need to hire him at the rates Seward submitted, chemical costs will be what they will be for any contractor in 2020. Hoffman stated the rates show work broken down very well, it shows work done as hike in, float in etc. Gallentine states most contractors just take in an atv and spray from the top, Gallentine stated floating in would give you much greater access to the whole bank.

Granzow noted we never officially sent out bids for this work this year because we determined that the cost for each DD was less than \$50,000, and asked if we officially accepting this quote or using this as a reference for hiring an in county contractor. Gallentine stated that this would be your in county rate list. Hoffman noted that the work in any one district is less than \$50,000 so it was not required to be bid. Hoffman stated asked if this could all be approved as one motion because they will be billed to individual DD's and accepting the quote to accept each line item separately. Granzow noted that are dealing with an in county contractor.

Smith requested that Seward note each DD number on invoices and be sure to bill separately for easier record keeping. Hoffman requests Seward to provide his chemical rep, for future reference, and to be able to check and verify the chemicals used for due diligence.

Hoffman motioned to approve the quote provided by Adam Seward, considering each line item to be billed separately for each district, for open ditch spraying/brush control in 2020. Granzow seconded. All ayes. Motion carried.

9. DD 55-3 LAT 9 - Discuss W Possible Action

Smith stated there was a reminder in the drainage calendar set for December 5th to look at the DD 55-3 Lat 9 minutes from 12/05/2018 to see if there are any other projects in the works to re-look at boundary differences and if there are none to set the calendar again for another year out. Gallentine stated that this was when Dubberke's didn't feel the number of acres was right and they brought this forward within a year of when we reclassified the district. Gallentine stated that it was noted at the time we should look at it again if we had a project going, if we didn't have a project going then we would set the reminder again for another year. Granzow stated this would not affect anything unless a new project came up or bills came due.

Minutes from December 5, 2018 state: "Gallentine updated the Trustees that they performed a site visit and used lidar elevation data to determine the drainage district boundary as requested by landowner, Randy Dubberke. Based on information, the boundary lines vary a small amount for a total of less than an acre difference. The Trustees agreed that the landowner's request was answered that the additional land does not flow into his and if action was taken, it would actually add to his assessment and take some away from his neighbor, Granzow. Gallentine stated that the land in question by Dubberke is draining northeast to the creek. The Trustees agreed that this concern should have been addressed last year at the time of the reclassification hearing. They agreed that any differences will be addressed at the next large projects. Schlemme to call and explain situation to Dubberke's."

McClellan asks how do we set this up to red flag if a project comes in. Smith stated if it were not a a current work order and project is closed out, there would not be a way to enter it in Tyler. Smith can put a flag in the DD file and in the minutes, add to calendar. Gallentine suggested a column could be added to the assessment.

Gallentine stated no large projects now, Granzow stated to reschedule when a large project comes up.

## 10. Other Business

**DD 52 - WO 215**, Seward has gone in and removed trees, but the WO has not been assigned to contractor. Gallentine asks if we need to go to contractor lottery on this one. This WO is on Tracy Below's property and McDowell's had been in over a year ago and gotten the plug out but left the hole open over the tile until such time that the trees were removed, Seward has now removed the trees, but Gallentine asked if it can go back to lottery. Granzow asked if it can go back to McDowell. Gallentine stated that McDowell is so backed up he hasn't done much on drainage projects in months, and when Gallentine spoke last with McDowell, McDowell stated he would not be able to get back to drainage work anytime in the near future.

Granzow stated he would give McDowell a courtesy call, and if he is unavailable Gallentine can take it to lottery. Gallentine stated he would call McDowell first, and spoke with Gehrke on another work order that the landowner had requested Gehrke, Gehrke replied it would not bother him to have Gallentine give it to someone else as they are backed up as well. The consensus among Trustees was that would be ok to take these to lottery.

Gallentine stated Seward has finished up one work order and started on another, and is happy to have a contractor working on drainage again. Gallentine stated Seward is doing a good job, showing up and asking questions and making sure he has his supplies in order. Gallentine is giving Seward older work orders in chronological order of date issued. Granzow suggested to assign them to him in the same area if and when possible.

**DD 128** - Gallentine called Dean Bright to make sure that he was fine with the revision that Handsaker had done and he was ok with the general concept of what Handsaker did, but Bright reports Handsaker needs to come back and smooth the ground out. Gallentine told Bright he wants to make sure Bright is happy with the work done because Bright will be responsible to maintain the waterway, and all the district will be responsible for is the tile. Gallentine asked if Trustees were ok to proceed with the change order, and CGA would not release the contractor until the ground looks the way Bright wants it to and is satisfied with the work.

Trustees said they were fine with the change order as long as Dean Bright understands he is responsible for waterway maintenance. Gallentine stated he will get the change order drawn up and will submit it to the Trustees.

**IRUA Invoices**- Smith has been working on the minimum assessment project and the Trustees had directed Smith to hold the invoices on the IRUA issue until such time as the minimum assessment project was completed. The project will take a while longer, Smith asked for direction as the invoices are aging, and if they should be paid, how should they be coded. Invoices total less than \$1,000. Granzow stated to code them under Drainage to the Supervisors Budget, he states there is money available for some tile work, and they can use it for these invoices. Smith is still working on the project as time allows.

**DD 25** - McClellan asked for an update on holes that needed backfilling by Contractor McDowell on David Fincham's property. Smith reported that she had spoken with Fincham and Contractor McDowell has come and backfilled all the holes on Fincham's property. Fincham will submit a claim for crop damages soon, Fincham inquired if the crop damages payment could be split between himself and his tenant. Gallentine stated it can be split between landlord and tenant if the landowner so chooses, Fincham just needs to note how he would like it split on his claim form.

**DD 25 RR Permit**- Gallentine emailed the RR asking for a status update and the RR has honed in on the depressions in the railroad ballast, They had emailed Gallentine previously asking for pictures, Gallentine told

them he did not have pictures. RR replied we are waiting to see what repairs need to be done to the depressions. Gallentine a did get a call from a UPRR rep on-site who said these depressions are less than a foot deep and have been here for awhile, Gallentine agreed, and the UPRR guy stated he thought he was to be looking at sinkholes, Gallentine stated they looked like depressions to him, and term sinkhole is poor terminology, but they are really just a depression in the rock ballast that could be filled with a 5 gallon bucket of rock. UPRR will report back to his supervisors with this information. Gallentine will forward pictures of depressions to the Trustees and provide any further updates.

11. Adjourn Meeting

Granzow moved to adjourn the meeting. Hoffman seconded. All ayes. Motion carried.

**DD 72 LANDOWNER'S MEETING**  
**December 4, 2019 1:00 PM**

12/4/2019 - Minutes

1. Open Meeting

Hardin County Drainage District Board of Trustee Chairperson, Renee McClellan, opened the meeting. Also present were Trustee Lance Granzow, Trustee BJ Hoffman; Landowners Lisle Cook and Jean Granger; Contractor Matt DeSchamp; Lee Gallentine with Clapsaddle-Garber Associates; and Drainage Clerk, Denise Smith.

2. Approve Agenda

McClellan motioned. Hoffman seconded to approve the agenda. All ayes. Motion carried.

3. Introductions/Attendance

Introductions were made and attendance verified.

4. DD 72 - Review Of Tile Function Under Warranty

McClellan stated the Trustees we were here to review the DD 72 tile project under warranty by contractor Matt DeSchamp, in which there had been found to be some rock/debris in the tile line, the Trustees are looking for landowner input as to how that tile is functioning/flowing/working now.

5. Comments/Discussion

Smith stated she had spoken on the phone this week with landowner Les Clampitt, and he was unable to attend today, Clampitt owns the parcel in which the tile outlet lies. Clampitt reported to Smith that everything seems to be working well, and with a 1/2" of rain the tile had a strong, steady flow and he was surprised at how much water was flowing out of the tile for as little rain as we had. Clampitt reports he is pleased with the outcome of the project, and we could call him in on the meeting if the Trustees wished to speak with him or had any questions.

Granzow stated that we are trying to determine if the debris has flushed through. Gallentine explained that the section of tile had been installed, debris was noted during installation, and the reasoning at the time would be to wait until warranty is almost expired before deciding to dig it up and televise it to see if debris is still there, in the hopes it would flush itself out. DeSchamp stated it could be televised again, and the landowners would pay for televising and DeSchamp would pay for diggings, if the debris was still there, then a new manhole could be added to the tile line, because we can't reach it with the jet line now. Lisle Cook asked, if we dig it up for review, isn't it possible we could add more debris to the tile in the process of opening it up again. Gallentine stated that was a distinct possibility.

McClellan asked how much water we were seeing the original televised images. Gallentine stated we were looking at 2" to 4" of water in the line, for under 50' of tile line. DeSchamp asked what we would like to do, whether to open it up or not. Lisle Cook expressed concerns about adding more debris to the tile line when opening it up for inspection. DeSchamp stated the pipe would need to be breached and a concrete riser added to create another access point. Jean Granger asked for clarification on what the debris was composed of. Gallentine showed photos to the landowners showing small 1" or less diameter bedding rock in the tile line. Cook asked for Gallentine's recommendations on what to do with the pipe, Gallentine stated if we have good tile function now and now complaints for the last year and a half, he said he would let it go. Gallentine stated it is smooth walled pipe, debris is small enough to flush, and we know it will flush, it is just a matter of how long it takes to flush. Gallentine noted they did pass a mandrel through it, and if the debris were hard they would not have been able to pass the mandrel through. DeSchamp stated if it were corrugated pipe that would trap the debris, this would be much more concerning.

Gallentine said the landowner's do have the right to say let's open it up and take out the debris if they choose to, but he thinks it will flush. Gallentine noted that this has been a very wet year, and there has been no reports of restricted drainage from any landowners in the last year and a half. Granzow stated we communicated with the landowners via a postcard, and if they had concerns, he would have expected a larger turnout at today's meeting. Gallentine noted previous meetings for this district had good attendance with many of the landowners present, and if the landowners felt there were issues they would have attended today to share their thoughts.

DeSchamp noted he will still be available in the future if we need to look at this job again. Jean Granger stated that her brother, who could not attend, had no concerns with the drainage project at this time. Lisle Cook stated he had no concerns at this time. The Trustees thanked the landowners for attending and providing their feedback.

Hoffman noted he was thankful that the contractor, engineer and landowners have been able to come together to work through this issue, and that the effective lines of communication remain open among all here today.

DeSchamp stated he knew there had been a lot of issues just before he came on this job, but that he did a 100% job, and apologized for any miscommunication there may have been, and was glad things have worked out well.

DeSchamp noted that the tile supplier was extremely difficult to work with on this project and he will not be using this supplier again. Gallentine stated that the supplier caused many issues along the way on this project, Granzow stated he was glad that the supplier will not be utilized again in the future, and that the pipe supplier abandoned the contractor and the county, and Hardin County will not use them again in the future either.

6. Possible Action

Granzow moved to acknowledge that a review of function under warranty has been completed today, and that no further action under warranty is necessary at this time. Hoffman seconded. All ayes. Motion carried.

7. Other Business

8. Adjourn Meeting



**REGULAR DRAINAGE MEETING**  
**December 11, 2019 10:30 AM**

12/11/2019 - Minutes

1. Open Meeting

Hardin County Drainage District Board of Trustees Chairperson, Renee McClellan, opened the meeting. Also present were Trustee Lance Granzow, Trustee BJ Hoffman; Hardin County Economic Development, Angela De La Riva; Hardin County Attorney, Darrell Meyer; Landowners Curt Groen and Jean Groen; Times Citizen, Matt Rezab; and Drainage Clerk, Denise Smith.

2. Approve Agenda

Hoffman moved to approve the agenda, moving Other Business to the top. All ayes. Motion carried.

3. Approve Claims For Payment

Hoffman moved to approve the claims for payments with a pay date of December 13, 2019. Granzow seconded. All ayes. Motion carried.

DD 9 - WO 229 - Review of ROW vs Annexation, Davis Brown Law Firm, \$75.00

DD 22 - WO 176 - For Prof. Services After 10/19/19 to 11/16/2019, Clapsaddle-Garber Assoc., \$17,710.20

DD 25 - Pay Estimate No. 2 for repairs to main tile and Lat 3, McDowell & Sons Contractors, \$1,845.00

DD 55-3 - WO 251 - For Prof. Services - General Advice, Davis Brown Law Firm, \$412.50

4. DD 25 - Discuss W/ Possible Action, Submitted Crop Damage Claim

DD 25 - David Fincham has submitted his claim for crop damages with photos. McClellan stated the rate for soybeans should be provided through an insurance provider.

Motion by Hoffman to instruct CGA to verify the crop damage area in DD 25 for WO 209. Granzow seconded. All ayes. Motion carried.

5. DD 55-3 - WO 201 - Discuss W Possible Action

DD 55-3 - WO 201 Contractor Seward had been in speak with the Drainage Clerk on Monday to request to be put on the agenda to provide an update. Seward became unavailable today as he is working on WO's in the field.

6. DD 118-232 Dv 2 - WO 281 Discuss W Possible Action

7. Other Business

Granzow noted that he had asked Matt Rezab to join the drainage meeting that followed the earlier Board of Supervisors meeting so the the Supervisors might answer Rezab's questions acting as Drainage Trustees.

Matt Rezab of the Times Citizen inquired as to what are the specific worries of the Trustees regarding drainage and the proposed wind turbines with locations in the drainage districts. Granzow stated there are millions of dollars worth of drainage infrastructure under ground that we need to protect. The Trustees of the 50+ districts in the proposed areas, have concerns that this could be as difficult as working with the railroads, and like any other utility, the wind Turbines would have to apply for the proper drainage permits, but should the drainage permitting by the wind turbines not be required, he is concerned that the Trustees would not be able to challenge the wind turbine company. Hoffman, states that within a drainage district all landowners are assessed based on their land's percentage of benefit from the drainage tiles, so if 10 landowners are in a drainage district and if one landowner has only 5% of benefit, and the soil is damaged or drainage is disrupted or interrupts other landowners crop productivity, then landowners in that district could apply for crop damages. It ends up that people that are not benefitting from the wind turbine could be held financially responsible for other people's crop loss. There is a lot of cost shifting that could happen. Hoffman goes on to state that a lot of the drainage district facilities were installed over 100 years ago, and mapping was not like it is today, so there are some facilities that are not mapped, and we find facilities that were discussed in the records, but never properly mapped. If damages occur to unmarked facilities it could be left sitting there with one or more years of crop damage and loss of productivity to farm ground.

Hoffman is also concerned about emergency communication, Hardin County will be investing in a new emergency communication tower, and has great concerns about these wind turbines interfering with the new tower, and disrupting emergency communications that could cause dire effects if we are not able to communicate with our law enforcement, firefighters and first responders.

Matt Rezab asks if the Trustees are aware of any other counties that have had difficulties with communications as a result of wind turbine installation. Hoffman replied that a well known engineer in the area lost all antenna tv reception, the engineer filed a claim against the wind turbine company and that the wind turbine company paid him an annual stipend for cable tv, so the turbines can cause many types of communication disruption.

McClellan noted a lot of drainage districts on the north and west side of Hardin County are shared with other counties- Franklin, Hamilton, Wright, Story, so these wind turbines can impact not only our Hardin County residents, but residents of these other counties as well.

Rezab asked if there is a happy middle ground or some safeguards that can be put in place to erect these wind turbines, or is this a pretty tough spot right now. McClellan replied that we are not even at that point yet and that drainage and communications are her top concerns right now, there will be some tough hurdles for the wind turbine companies. McClellan noted that she is not saying the wind turbine companies won't follow our regulations but that it seems that the bigger the companies, that timeliness and enforcement is more difficult, we have worked with the railroads on projects and we are 3 years in on a project with no approval in sight. Granzow notes that those delays cause increases in engineering costs and legal fees to the districts, that are charged back to the district landowners.

Hoffman stated that these technologies are much more sophisticated than in some European countries, and as time goes on the wind turbine companies will fine tune their processes, they will become more efficient and effective and eliminate some of the variables.

Rezab asked if there are concerns about the fact that the turbine blades become waste after being run for 5 years.

Attorney Meyer noted that concern is addressed in the resolution. McClellan stated that they can't go to the landfill and there is nothing to be recycled in the blades. Landowner Curt Groen noted that they are seeing many truck fulls of decommissioned blades passing through Hubbard recently.

Attorney Meyer noted that each district within the proposed wind turbine project area would each have to assess their own risks associated with the turbines, and be mindful of what that risk is and to protect district facilities. Hoffman noted that Taylor Roll had a list of all landowners who had signed easements with the wind turbine company. Granzow was very concerned that there will be a lot of added cost to landowners who did not sign up for a windmill lease, and that the Trustees job is to protect our infrastructure. The Trustees noted that the east side of the county may have been a better location because there is very little drainage on the east side and some infrastructure already in place with the existing wind turbines. Granzow feels that the wind turbine companies should pay for any damages and that should be agreed upon up front. Hoffman raised concerns about the costs associated with decommissioning the turbine sites, and costs could easily exceed \$2,000,000 per site. McClellan stated the lifespan is 20 years, adding a new turbine would add another 20 years, and is very concerned about future decommissioning costs, she noted that some farmers would think only of that \$10,000 check from the wind turbine and don't realize that the damages caused or crop losses could exceed that payment. Hoffman noted that landowners who incur crop damages would then be essentially paying themselves for the damages in the added assessment to the district.

Attorney Meyer asked if in the interest of planning purposes and openness, would the Trustees have a meeting with all the landowners in a district meet. Granzow stated he thought all of the other landowner trustees should come in for an open meeting, and any landowner can come in and a public hearing would be advisable. Hoffman asked if a straw poll would be possible, Granzow stated it would be an unofficial vote and wonders if landowners are well informed to pros and cons of turbines, Hoffman thinks Aureon may move on to less restrictive areas. Granzow does not care one way or another if they go up, but it is his job to protect district infrastructure. McClellan stated she cares and is concerned about the effects of the wind turbines. Granzow noted that districts can take control and have their own Trustees, and he does not want to see the issues similar to what we see with the railroad. McClellan is concerned about the decommissioning process would only remove the top 4' of concrete and replace only 4' of soil. Hoffman shared those concerns as well, stating that crop roots are often deeper than that 4' of soil cover.

#### 8. Adjourn Meeting

Hoffman motioned to adjourn the meeting. Granzow seconded. All ayes. Motion carried.



Where upon Board Member \_\_\_\_\_ moved that the following resolution be adopted:

**RESOLUTION NO. \_\_\_\_\_**

**MORATORIUM ON C-WEC CONSTRUCTION PERMITS**

**WHEREAS**, Iowa Code Section 331.302(10)(a) requires a county to compile ordinances every 5 years, and the County's current commercial wind energy conversion (C-WEC) ordinance was last amended in 2012; and

**WHEREAS**, the Board of Supervisors recently has learned that a wind energy company has obtained easement rights from over 100 land owners in a region of Hardin County predominately within drainage districts; and

**WHEREAS**, the aforementioned drainage districts, several of which extend into Hamilton County, are governed by Trustees and contain millions of dollars of drainage infrastructure that could be jeopardized by the C-WEC project; and

**WHEREAS**, the Hardin County 911 Board is erecting near Hubbard, Iowa, near the region of the proposed C-WEC area, a new emergency communications tower that transmits by microwave frequencies; and

**WHEREAS**, research indicates that C-WEC turbines can interfere with microwave communications signals; and

**WHEREAS**, the County has an interest in preventing and abating any resulting nuisance from decommissioned commercial wind turbines through more robust decommissioning requirements; and

**WHEREAS**, the County has an interest in protecting the County's infrastructure, natural resources and property rights through adequate setback provisions;

**WHEREAS**, the Board of Supervisors will require substantial time to gather information and coordinate with multiple agencies for the purpose of reviewing, updating or creating ordinances, policies and procedures relative to C-WEC development;

**NOW THEREFORE, BE IT RESOLVED** by the Board of Supervisors of Hardin County, Iowa, that Hardin County now imposes a moratorium, effective immediately and indefinitely, on C-WEC permit applications for the purpose of drafting and adopting any necessary and proper revisions to the C-WEC ordinance.

The motion was seconded by Board Member \_\_\_\_\_ and after due consideration thereof, the roll was called and the following Board Members voted:

Ayes:

Nays:

Absent:

Abstain: none

Whereupon, the Chair of the Board of Supervisors declared said Resolution duly passed and adopted this \_\_\_\_\_ day of December, 2019.

---

Renee McClellan, Chair  
Board of Supervisors

Attest:

---

Jessica Lara  
Hardin County Auditor



# HARDIN COUNTY

1215 EDGINGTON AVE., SUITE 1  
ELDORA, IA 50627  
(641) 939-8108

## HARDIN COUNTY DRAINAGE DISTRICT UTILITY PERMIT APPLICATION

Applicant:

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
Address

\_\_\_\_\_  
City State Zip

Applicant Contact:

\_\_\_\_\_  
Name (\_\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_  
Phone

\_\_\_\_\_  
Email

Utility Type:

\_\_\_\_\_

Drainage District(s) Crossed:

\_\_\_\_\_

Facilities Crossed (specific tile, open ditch):

\_\_\_\_\_

Description of Work:

\_\_\_\_\_

*(Location plan of  
proposed utility must  
be attached.)*

\_\_\_\_\_

\_\_\_\_\_

Pursuant to Code of Iowa Section 468.186, approval is hereby requested for the right, privilege and authority to construct, operate and maintain utilities on, over, across or beneath established Hardin County Drainage Districts, subject to the attached Requirements for Construction On, Over, Across or Beneath Established Drainage District. Failure to comply with said requirements shall be ground for revocation of the permit by the Hardin County Board of Supervisors.

\_\_\_\_\_  
Applicant Signature

\_\_\_\_\_  
Date

Submit Form and Location Plan To:

Hardin County Auditor's Office  
Attn: Drainage Clerk  
1215 Edgington Ave, Suite 1  
Eldora, IA 50627  
Fax (641) 939-8225  
[drainage@hardincountyia.gov](mailto:drainage@hardincountyia.gov)

*For Office Use Only*

Application Approval:

By: \_\_\_\_\_  
*Board of Supervisor Chairman, Acting as Drainage District Trustee*

Date: \_\_\_\_\_

**APPROVED PERMIT #:** \_\_\_\_\_



## REQUIREMENTS FOR CONSTRUCTION ON, OVER, ACROSS OR BENEATH ESTABLISHED DRAINAGE DISTRICT

Upon issuance of a permit for utilities on, over, across or beneath established Hardin County Drainage Districts, the applicant shall be governed by these requirements and shall comply with all conditions contained herein.

1. The Applicant shall furnish the Drainage District, or its representative, plats showing the exact location of the proposed construction. If it is found that such locations are in conflict with the present or proposed facilities and that a more desirable location is possible, the Applicant shall review such possible alignment changes. **No construction is to commence with the drainage facility without an approved application.**
2. Applicant shall comply with Iowa One-Call requirements prior to commencing any work.
3. The Drainage District shall provide Applicant access to maps or other information regarding the location of all known drainage district facilities so that reasonable care may be taken by Applicant to avoid un-necessary damage to said drainage district facilities.
4. The Applicant shall hold the Drainage District harmless from any damage that may result to the Drainage District facility because of the construction or maintenance of the utility, and shall reimburse the Drainage District for any expenditures that the Drainage District may have to make on said Drainage District facilities resulting from Applicant's construction and installation of utilities, or their subsequent repair or modification.
5. The Applicant shall take all reasonable precaution during the construction of said utility to protect and safeguard the lives and property of the public and adjacent property owners and shall hold the Drainage District harmless from any damages or losses that may be sustained by adjacent property owners on account of such construction operations. Further, Applicant agrees to replace, repair or reimburse all damages to private property occasioned by Applicant's installation of subsequent modification or repairs.
6. The Drainage District assumes no responsibility for damages to the Applicants property occasioned by any construction or maintenance operation of said Drainage District facilities, subsequent to Applicants installation.
7. A copy of a certificate of insurance naming the County/Drainage District as additional insured for their permit work shall be provided to the County Auditor prior to installation. The limit of liability under the insurance policy shall not be less than \$1,000,000 per occurrence.
8. The Applicant agrees to give the Drainage District twenty-four (24) hours (Saturday and Sunday excluded) notice of its intention to commence construction on any lands within the jurisdiction of the Drainage District. Said notice shall be made in writing to the County Auditor or to the designated Drainage District representative.
9. The Applicant agrees to place permanent, visible markers or monuments at locations where utility crosses Drainage District facilities. These monuments or markers shall identify the owners name, address and phone number.
10. The Drainage District Trustees may appoint a representative to inspect and approve all construction across Drainage District facilities as part of this permit. All compensation, wages, mileage and other expenses for this representative will be paid by the Applicant. It will be the responsibility of the Applicant to make all contacts with private parties (adjacent owners/operators) to determine the location of private drainage facilities. Said representative will also inspect all crossing of Drainage District facilities and may, if required, observe the crossing of private drainage facilities, and shall have the authority to require the Applicant to excavate and expose the crossing of any Drainage District facility where the representative believes it prudent to visually examine Applicants crossing of the Drainage District facility. Further, said representative has the authority to suspend construction and installation by the Applicant within any Drainage District jurisdiction by verbal order to the contractor at the site and a telephone call to Applicants contact person listed on page 1 within six (6) hours of the verbal order.



11. The construction and maintenance of Applicants installation shall be carried on in such a manner as to not interfere with or interrupt the function of said Drainage District facilities without the express written consent of the Drainage District Representative. In the event it becomes necessary to temporarily stop the flow of water, the following shall be completed by the Applicant:
  - a. If the crossing involves a tile line, the replacement of tile with approved materials, in the manner approved by the Drainage Districts designated representative, shall be performed as rapidly as possible. If the approved method of repair is impossible and the volume of water flowing in the tile is sufficient to create the possibility of crop loss or property damage, the Contractor will be permitted to temporarily block the tile line to prevent the flow of this tile water into the pipeline, or tile line ditch. In the event this tile line is so temporarily blocked, the Contractor will be expected to provide sufficient pumping equipment to pump the impounded tile water across the construction ditch to the undisturbed tile line. Such temporary blockages of said Drainage District tile lines will be removed as rapidly as possible and any tile repairs caused by this blockage will be immediately repaired at the Applicants expense.
  - b. If the crossing involves an open ditch that is carrying sufficient flow of water to make it necessary to place a temporary dam across said open ditch, such temporary dams may be constructed only upon approval from the Drainage District designated representative. The maximum elevation of this impounded water shall be determined by the designated Drainage District representative and all excess water must be allowed to flow across the construction ditch through either a closed metal culvert pipe or by pumping. All temporary dam structures are to be removed as soon as the crossing is completed. The construction and removal of these dams shall be in such a manner that the smooth and efficient function of the drainage ditch is not impaired, with all costs and damages borne by Applicant.
12. The Applicant will at any time subsequent to the commencement of construction, and at Applicants sole expense, reconstruct or replace its installation as may be necessary to conform to new grade or alignments resulting from maintenance or construction operations by the Drainage District in connection with any of its drainage facilities. Applicant agrees to do this within forty-five (45) days of receipt of written request from the Drainage District, or such longer time period as the Drainage District may specify, without cost to the Drainage District. Such reconstruction or realignment of Applicants improvements shall be made in accordance with and approved by the Drainage District or its designated representative. If the Applicant is unable to comply within the time period specified above, the Drainage District may cause the work to be done and the Applicant will pay the cost thereof upon receipt of a statement of such costs.
13. **CROSSING OF OPEN DITCH FACILITIES.** Utility crossings shall be constructed as follows, as directed by the designated representative of the Drainage District:
  - a. Passage of installation in a horizontal plane five feet (5') below design grade of drainage ditch, as established by the Drainage District representative.
  - b. The above depth to extend to a point two (2) times the design base width of ditch either side of centerline of drainage ditch (measured along the centerline of utility) unless the existing base width is greater than the design bases width. If the existing base width is greater than the design with, the depth is to extend to a point two (2) times the existing width.
  - c. The rate of slope for transition from normal utility laying depth of crossings of drainage ditches shall not be steeper than 4:1.
  - d. If such ditch crossings occur at points of outlets of Drainage District or private tile lines or within twenty-five feet (25') of said outlets, such outlets must be relocated to a point not less than twenty-five feet (25') from such crossings. Such relocations shall be at the expense of the Applicant and as directed by the representative of the Drainage District.





14. CROSSING OF DRAINAGE DISTRICT TILE LINES. Utility crossings shall be constructed as follows, as directed by the designated representative of the Drainage District:
- a. All proposed installations must be placed under the existing Drainage District tile lines. These requirements may be waived only upon the review by and approval of the designated representative of the Drainage District. Such waiver must be in writing.
  - b. A minimum of one foot (1') clearance below existing Drainage District facilities must be maintained.
  - c. At all crossings of Drainage District tile lines with the proposed utility, one of the following must be used:
    - i. Replace Drainage District tile with reinforced concrete pipe of same or larger diameter than existing tile. Concrete pipe to be 2,000 D strength (Iowa Department of Transportation approved) with standard tongue and groove joints. Pipe to have a minimum of three (3) bolt-type connectors at each joint.
    - ii. Replace Drainage District tile with cathodic protected corrugated metal pipe. Diameter of corrugated metal pipe to be a minimum of two inches (2") larger than outside diameter of tile line being replaced. (Specifications regarding gage, cathodic protection and other details to be subject to review and approval.)
    - iii. Dual wall plastic with specific approval of Drainage District representative.
    - iv. Bore new utility installation; maintain existing tile in an undisturbed state.
  - d. The length of tile to be replaced by any of the above alternates is as follows:
    - i. Eight-inch (8") tile and smaller: Six feet (6') either side of centerline of proposed installation, measured at right angles to the centerline of installation.
    - ii. Ten inch (10") tile and larger: Ten feet (10') either side of centerline of proposed installation, measured at right angles to the centerline of installation.
  - e. At all crossings of Drainage District tile lines where the Drainage District and private tile lines are damaged by the construction, maintenance or repair of Applicants installation shall be repaired as directed by the Drainage Districts designated representative.
15. This permit is subject to existing regulations and statutes of the State of Iowa and future regulations, which may be promulgated or enacted.
16. This application is subject to revocation by Hardin County, if in its judgment it is necessary for legitimate purposes. In such event, written notice shall be provided to permit holder.
17. Applicant agrees to pay all other legitimate costs, fees and expenses associated with its crossing of the Drainage District facility, including but not limited to, publication costs, engineering costs and legal service costs. Said costs will be paid within thirty (30) days of the mailing of the statements to the Applicant.
18. Applicant agrees to provide a copy of as-built plan of the utility route and location, showing route changes that may have taken place during construction.
19. Applicant agrees to include a copy of these requirements to all bidding specifications; or if the construction and installation contract has been let by the time this permit is approved, Applicant agrees to provide a copy of these requirements to the contractor and to advise them that they are bound by the terms of these requirements.

ORDINANCE NO. 29

---

**HARDIN COUNTY ZONING ORDINANCE OF 1999**

**AMENDMENT NUMBER 2**

---

**ARTICLE XXIII. NON-COMMERCIAL WIND ENERGY CONVERSION SYSTEM PERMITTED USES AND COMMERCIAL CONDITIONAL USE WIND ENERGY CONVERSION SYSTEM STANDARDS.**

**Section 1. DEFINITIONS.**

1. Commercial WECS: A WECS of equal to or greater than [100/40] kW in total name plate generating capacity.
2. Non-Commercial WECS: A wind energy conversion system consisting of a wind turbine, a tower, and associated control or conversion electronics, which has a total name plate generating capacity of not more than 100 kW and which is intended to primarily reduce on-site consumption of utility power.
3. Wind Energy Conversion System (WECS): An electrical generating facility comprised of one or more wind turbines and accessory facilities, including but not limited to: power lines, transformers, substations and metrological towers that operate by converting the kinetic energy of wind into electrical energy. The energy maybe used on-site or distributed into the electrical grid.
4. Wind Turbine: A wind turbine is any piece of electrical generating equipment that converts the kinetic energy of blowing wind into electrical energy through the use of airfoils or similar devices to capture the wind.

**Section 2. "A", AGRICULTURAL DISTRICT; ARTICLE IX. "R-1", SINGLE-FAMILY RESIDENTIAL DISTRICT; ARTICLE X. "R-2", MULTI-FAMILY RESIDENTIAL DISTRICT; ARTICLE XI. "R-3", MOBILE HOME PARK DISTRICT; ARTICLE XII. "C", COMMERCIAL DISTRICT; ARTICLE XIII. "M", MANUFACTURING DISTRICT; "W", WILDERNESS PRESERVE DISTRICT; "G", CONSERVATION-GREENBELT DISTRICT.**

## I. PERMITTED USES:

### 1. Non-Commercial WECS, subject to the following standards:

- a. **Tower Height:** Parcels smaller than one acre are not recommended for the placement of WECS, and must seek a special use permit. For property sizes between one acre and two acres the tower height shall be limited to 80 ft. For property sizes of two acres or more, there is no limitation on tower height, except as imposed by FAA regulations.
- b. **Setback:** No part of the wind system structure, including guy wire anchors, may extend closer than ten (10) feet to the property boundaries of the installation site.
- c. **Noise:** Non-Commercial WECS shall not exceed 60 dBA, as measured at the closest neighboring inhabited dwelling. The level, however, may be exceeded during short-term events such as utility outages and/or severe wind storms.
- d. **Engineer Certification:** Applications for Non-Commercial WECS shall be accompanied by standard drawings of the wind turbine structure, including the tower, base, and footings. An engineering analysis of the tower showing compliance with the applicable regulations and certified by a licensed professional engineer shall also be submitted. This analysis is frequently supplied by the manufacturer.
- e. **Compliance with FAA Regulations:** Non-Commercial WECS must comply with applicable FAA regulations, including any necessary approvals for installations close to airports.
- f. **Compliance with National Electric Code:** Applications for Non-Commercial WECS shall be accompanied by a line drawing of the electrical components in sufficient detail to allow for a determination that the manner of installation conforms to the National Electrical Code. This information is frequently supplied by the manufacturer.
- g. **Utility Notification:** No Non-Commercial WECS shall be installed until evidence has been given that the utility company has been informed of the customer's intent to install an interconnected customer-owned generator. Off-grid systems shall be exempt from this requirement.

## Section 2. CONDITIONAL USE PERMITS FOR COMMERCIAL C-WECS STANDARDS.

The requirements of this Ordinance shall apply to all C-WECS proposed after the effective date of this Ordinance. C-WECS for which a required permit has been properly issued prior to the effective date of this Ordinance shall not be required to meet the requirements of this Ordinance; provided, that any such pre-existing C-WECS, which does not provide energy for a continuous period of twelve (12) months, shall meet the requirements of this Ordinance prior to recommencing production of energy. Also, no modification or alteration to an existing C-WECS shall be allowed without full compliance with this Ordinance.

### 1. General Requirements for C-WECS:

- a. **Color and Finish.** Wind Turbines shall be painted a non-reflective color. Blades may be black in order to facilitate de-icing. Finishes shall be matte or non-reflective. At C-WECS sites, the design of the buildings and related structures shall, to the extent reasonably possible, use materials, colors, textures, screening and landscaping that will blend the C-WECS to the natural setting and existing environment. Exceptions may be made for meteorological towers, where concerns exist relative to aerial spray applicators.
- b. **Tower configuration.** All wind turbines, which are part of a C-WECS, shall be installed with a tubular, monopole type tower. Meteorological towers may be guyed.

- c. **Lighting.** C-WECS sites shall not be artificially lighted, except to the extent required by the FAA or other applicable authority. Lighting, including lighting intensity and frequency of strobe, shall adhere to but not exceed requirements established by Federal Aviation Administration permits and regulations. Red strobe lights are preferred for night-time illumination to reduce impacts on migrating birds. Red pulsating incandescent lights should be avoided. Exceptions may be made for meteorological towers, where concerns exist relative to aerial spray applicators.
- d. **Signage.** All signage on site shall comply with Hardin County Sign Standards. The manufacturer's or owner's company name and/or logo may be placed upon the compartment containing the electrical generator, of the WECS. Wind turbines shall not be used for displaying any advertising except for reasonable identification of the manufacturer or operator of the C-WECS sites.
- e. **Feeder Lines.** All communications and feeder lines, equal to or less than 34.5 kV in capacity, installed as part of a C-WECS shall be buried.
- f. **Waste Disposal.** Solid and hazardous wastes, including but not limited to crates, packaging materials, damaged or worn parts, as well as used oils and lubricants, shall be removed from the site in a time period as established by the Hardin County Health Department and disposed of in accordance with all applicable local, state and federal regulations.
- g. **Minimum Ground Clearance.** The blade tip of any Wind Turbine shall, at its lowest point, have ground clearance of no less than seventy-five (75) feet.
- h. **Signal Interference.** The applicant shall minimize and mitigate any interference with electromagnetic communications, such as radio, telephone or television signals caused by any C-WECS.
- i. **Federal Aviation Administration.** All C-WECS shall comply with FAA standards and permits.
- j. **Electrical Codes and Standards.** All C-WECS and accessory equipment and facilities shall comply with the National Electrical Code and other applicable standards.
- k. **Setbacks.** The following setbacks and separation requirements shall apply to all wind turbines and meteorological towers; provided that the Board of Adjustment upon recommendation by the Commission may reduce the standard setbacks and separation requirements if the intent of this Ordinance would be better served thereby. All other structures shall comply with the applicable setbacks as defined by the base zone district.
  - i. **Structures.** Each wind turbine and meteorological tower shall be set back from the nearest residence, school, hospital, church or public library, a distance no less than the greater of (a) two (2) times its total tip height or (b) one thousand (1,000) feet. Total height shall be measured at the highest point of the blade system during its rotation.
  - ii. **Property Lines.** At no time shall any part of the wind turbine and meteorological tower overhang an adjoining property without securing appropriate easements from adjoining property owners.
  - iii. **Public Right-of-Way.** Setbacks from public right-of-way, railroads, powerlines and structures shall be a minimum of 1.1 times the height of the tower and rotor.
  - iv. **Communication and Electrical Lines.** Each wind turbine and meteorological tower shall be set back from the nearest above-ground public electric power line or telephone line a distance no less than 1.1 times its total height, determined from the existing power line or telephone line.
- l. **Noise.** Audible noise due to C-WECS sites operations shall not exceed sixty (60) dBA for any period of time, when measured at any dwelling, school, hospital, church or public library existing on the date of approval of any conditional use permit from the property line.
  - i. In the event audible noise due to C-WECS operations contains a steady pure tone, such as a whine, screech, or hum, the standards for audible noise set forth in subparagraph a of this subsection shall be reduced by five (5) dBA.
  - ii. In the event the ambient noise level (exclusive of the development in question) exceeds the applicable standard given above, the applicable standard shall be adjusted so as to equal the ambient noise level. The ambient noise level shall be expressed in terms of the highest whole number sound pressure level in dBA, which is succeeded for more than five (5) minutes per hour. Ambient noise levels shall be measured at the exterior of potentially affected existing residences, schools, hospitals, churches and public libraries. Ambient noise level measurement techniques shall employ all practical means of

reducing the effect of wind generated noise at the microphone. Ambient noise level measurements may be performed when wind velocities at the proposed project site are sufficient to allow wind turbine operation, provided that the wind velocity does not exceed thirty (30) mph at the ambient noise measurement location.

- iii. In the event the noise levels resulting from the C-WECS exceed the criteria listed above, a waiver to said levels may be granted by the Board of Adjustment upon recommendation by the Commission provided that the following has been accomplished:
  1. Written consent from the affected property owners has been obtained stating that they are aware of the C-WECS and the noise limitations imposed by this Ordinance, and that consent is granted to allow noise levels to exceed the maximum limits otherwise allowed; and
  2. If the applicant wishes the waiver to apply to succeeding owners of the property, a permanent noise impact easement shall be recorded in the Office of the Hardin County Recorder which describes the burdened properties and which advises all subsequent owners of the burdened property that noise levels in excess of those permitted by this Ordinance may exist on or at the burdened property.
- m. **Safety.**
  - i. All wiring between wind turbines and the C-WECS substation shall be underground. If the developer can demonstrate the need for an overhead line and the acceptance of landowners for this line, such option may be approved conditionally by the Board of Adjustment
  - ii. Wind turbines and meteorological towers shall not be climbable up to 15 feet above ground level.
  - iii. All access doors to wind turbines and meteorological towers and electrical equipment shall be locked when not being serviced.
  - iv. Appropriate warning signage shall be placed on Wind Turbine towers, electrical equipment, and C-WECS entrances.
  - v. For all C-WECS, the manufacturer's engineer or another qualified engineer shall certify that the turbine, foundation and tower design of the C-WECS is within accepted professional standards, given local soil and climate conditions.
  - vi. For all guyed towers, visible and reflective objects, such as plastic sleeves, reflectors or tape, shall be placed on the guy wire anchor points and along the outer and innermost guy wires up to a height of eight (8) feet above the ground. Visible fencing shall be installed around anchor points of guy wires. The property owner must sign a notarized acknowledgement and consent form allowing construction of the turbine and guyed wires without fencing as required in this Ordinance to be presented to the Commission and Board of Adjustment.
- n. **Discontinuation and De-commissioning.** A C-WECS shall be considered a discontinued use after one (1) year without energy production, unless a plan is developed and submitted to the Director outlining the steps and schedule for returning the C-WECS to service. All C-WECS and accessory facilities shall be removed to four (4) feet below ground level within one year of the discontinuation of use. Each C-WECS shall have a De-commissioning plan outlining the anticipated means and cost of removing C-WECS at the end of their serviceable life or upon becoming a discontinued use. The cost estimates shall be made by a professional engineer licensed in the State of Iowa. The plan shall also identify the financial resources be available to pay for the decommissioning and removal of the C-WECS and accessory facilities. The County reserves the right to verify that adequate decommissioning terms are contained in the land owner easement.
- o. **Avoidance and Mitigation of Damages to Public Infrastructure.**
  - i. **Roads.** Applicants shall identify all roads to be used for the purpose of transporting C-WECS, substation parts, cement, and/or equipment for construction, operation or maintenance of the C-WECS and obtain applicable weight and size permits from the impacted road authority (ies) prior to construction.
  - ii. **Existing Road Conditions.** Applicant shall conduct a pre-construction survey, in coordination with the impacted local road authority(ies) to determine existing road conditions. The survey shall include photographs and a written agreement to document

the condition of the public facility. The applicant is responsible for on-going road maintenance and dust control measures identified by the Hardin County Engineer during all phases of construction.

- iii. **Drainage System.** The Applicant shall be responsible for immediate repair of damage to public drainage systems stemming from construction, operation or maintenance of the C-WECS.
- p. **Required Financial Security.** The applicant shall be responsible for restoring or paying damages as agreed to by the applicable road authority(ies) sufficient to restore the road(s) and bridges to preconstruction conditions. Financial security in a manner approved by the Hardin County Attorney's Office shall be submitted covering 130% the costs of all required improvements. This requirement may be waived by the Board of Adjustment by recommendation from the Hardin County Engineer.
- q. **Submittal Requirements.** In addition to the submittal requirements defined for Conditional Use Permit applications, all applications for C-WECS must submit the following information (as applicable).
  - i. The names of project applicant
  - ii. The name of the project owner
  - iii. The legal description and address of the project.
  - iv. A description of the project including: Number, type, name plate generating capacity, tower height, rotor diameter, and total height of all wind turbines and means of interconnecting with the electrical grid.
  - v. Site layout, including the location of property lines, wind turbines, electrical wires, interconnection points with the electrical grid, and all related accessory structures. The site layout shall include distances and be drawn to scale.
  - vi. Engineer's certification(s) as required in these supplemental standards.
  - vii. Documentation of land ownership or legal control of the property
  - viii. The latitude and longitude of individual wind turbines.
  - ix. A USGS topographical map, or map with similar data, of the property and surrounding area, including any other C-WECS within 10 rotor diameters of the proposed C-WECS.
  - x. Existing Resources Inventory.
  - xi. An Acoustical analysis
  - xii. FAA Permit Application
  - xiii. Location of all known communications towers/facilities within two (2) miles of the proposed C-WECS.
  - xiv. Decommissioning Plan.
  - xv. Description of potential impacts on nearby all C-WECS and Non C-WECS and wind resources on adjacent properties.
  - xvi. Identification of significant migratory patterns and nesting areas for birds within two (2) miles.
  - xvii. Proof of liability insurance.



# Drainage Work Order Request For Repair Hardin County

**Date:** 11/12/2019

**Work Order #:** WO00000278

**Drainage District:** DDs\DD 31 (51055)

**Sec-Twp-Rge:** 28-88-22      **Qtr Sec:** NE

**Location/GIS:** 88-22-28-400-003

**Requested By:** Jerry Kielsmeier Owner- 515-689-9681

**Contact Phone:** (515) 689-9681

**Contact Email:** Jeffrey Kielsmeier Tenant - 515-681-0842

**Landowner (if different):** \_\_\_\_\_

**Description:**

DD 31 -Landowner Jerry Kielsmeier called in to report 2 areas of blowout on DD tile in the SW 1/4 of NE 1/4 of parcel #882228400003. Jerry says two areas of blowout are in low spot south of pond area, spots are marked with steel posts and tile flags by Jerry and tenant Jeffrey Kielsmeier. All is harvested so access is good. Landowner requests investigation/repair.

**Repair labor, materials and equipment** \_\_\_\_\_

**Repaired By:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Please reference work order # and send statement for services to:** Hardin County Auditor's Office  
Attn: Drainage Clerk  
1215 Edgington Ave, Suite 1  
Eldora, IA 50627  
Phone (641) 939-8111  
Fax (641) 939-8245

For Office Use Only

**Approved:** \_\_\_\_\_ **Date:** \_\_\_\_\_



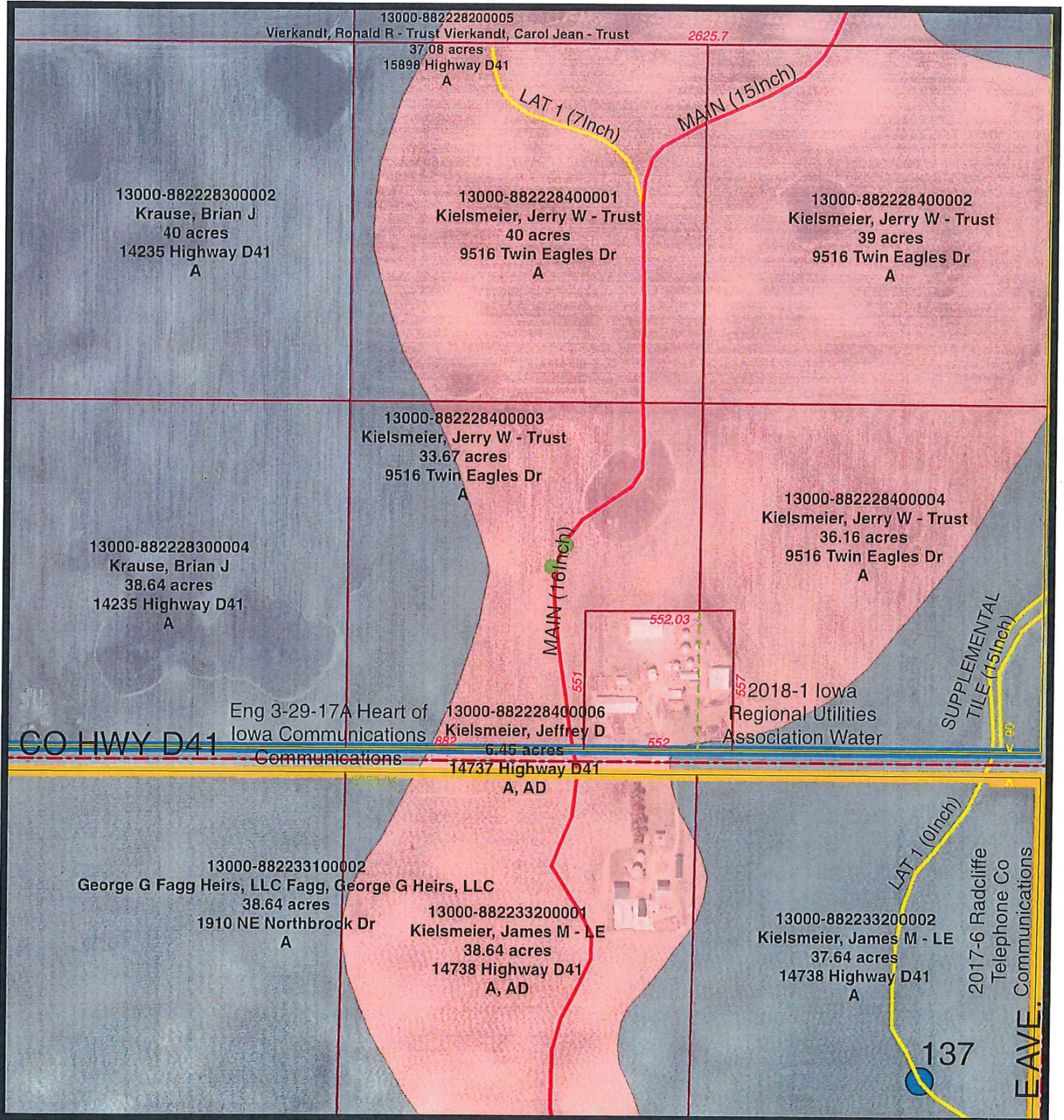
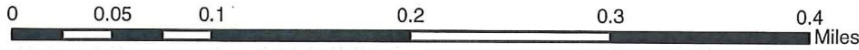
### Drainage Tiles

- Lateral
- Main
- Open Ditch
- Private Tile

# Hardin County Auditor's Office



Date: 11/12/2019



The Data is provided "as is" without warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the requester. Hardin County makes no warranties, express or implied is to the use of the Data. There are no implied warranties of merchantability or fitness for a particular purpose. The requester acknowledges and accepts the limitations of the Data, including the fact that the Data is dynamic and is in a constant state of maintenance, correction and update. Cadastral Data represents land ownership, but does not define it. This Data does not replace a legal survey.



## Drainage District:

#31

## Investigation Summary:

- Landowner in the SW¼ NE¼ Section 28, Township 88 North, Range 22 West reported two blowouts/sinkholes in the vicinity of the Main tile.
- Visual observation found the two blowouts/sinkholes as described in the Work Order Request, with no tile visible in the sinkholes. Probing of the soil found a large tile approximately 4 feet below the ground surface.
- The exact cause of the sinkholes/blowouts cannot be determined until an excavation is completed.

## Contractor Time and Materials (spent while CGA was on-site):

None recorded as only field observation was performed.

## Additional Actions Recommended:

CGA recommends the sinkholes/blowouts be excavated, the cause verified to be the Main tile and the appropriate repair be completed.



CONSTRUCTION ENGINEERING  
OBSERVATION REPORT

DATE: 12/6/19

DAYS OF WEEK: 

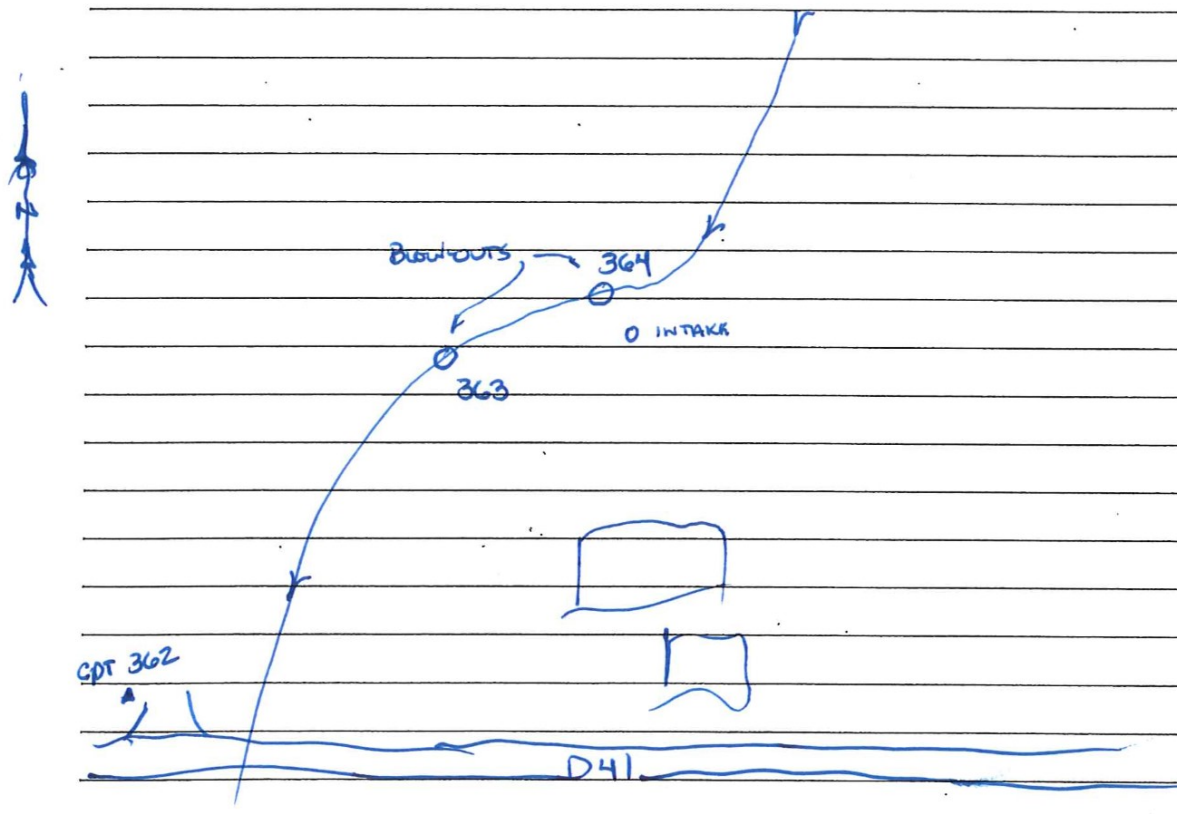
S	M	T	W	T	<b>F</b>	S
---	---	---	---	---	----------	---

SHEET NO. 1 OF 1

PROJECT NUMBER: 6845 E  
COUNTY, ROUTE, ROAD: DD 31  
LOCATION: D41 Harbin Co.

DESCRIPTION OF WORK AND MATERIAL USED FOR EACH OPERATION, INCLUDING CONTRACTOR/SUB NAME, ITEM NO. AND LOCATION

MKT WITH TERRY KIRLSMEYER @ BLOW-OUTS NW. OF ACREAGE.  
HE SAID BOTH BLOW-OUTS ARE ON MAIN, PROBED BIG TIRE 4' DOWN.  
REPAIR ASAP. HE ALSO SAID THAT THE REASON THAT TIRE TIRE HOOKS TO  
WEST WAS BECAUSE GUD MAN LITFIELD WOULDN'T LET DISTRICT GO THRU HIS  
TREES. SO THEY WENT AROUND.

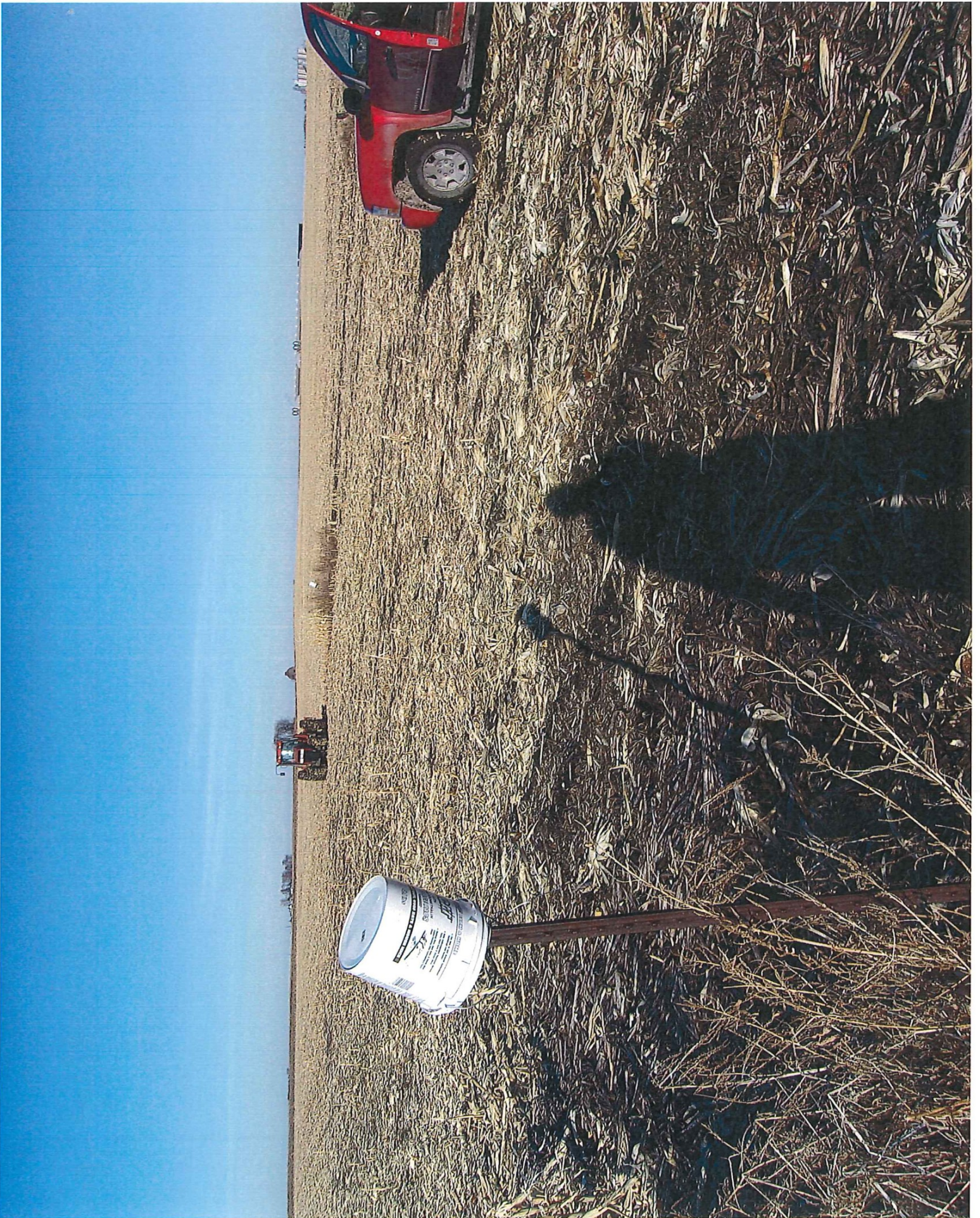


I Certify that the work described in this report was incorporated into this contract unless otherwise noted.

Observer's Signature: [Signature] Date Prepared: 12/6/19

Reviewed by: \_\_\_\_\_  Engineer

Date Reviewed \_\_\_\_\_





6845 DD31 12-11-19RB

- 1,3618723.470,4931323.965,1161.471,GPS 8005
- 2,3615894.679,4955260.507,1148.500,GS DEPRESSION
- 3,3615837.148,4955305.982,1145.349,FL BEEHIVE
- 4,3615837.680,4955305.941,1147.504,RIM
- 5,3615835.600,4955294.887,1149.573,EOA
- 6,3615837.407,4955274.064,1149.399,EOA
- 7,3615838.009,4955265.754,1148.440,RIM INTAKE -4.00 TO FL
- 8,3615832.974,4955305.525,1148.207,GS
- 9,3615932.467,4955284.911,1151.596,CL CLPRAIRIE+ELM
- 10,3615958.247,4955286.138,1146.743,GS @INTAKE-5.2 TO FL MAIN
- 11,3615992.295,4955301.904,1148.265,GS
- 12,3616134.064,4955363.482,1147.956,GS
- 13,3616365.209,4955480.792,1147.001,GS
- 14,3616432.855,4955528.798,1146.449,GS BLOWOUT
- 15,3615504.104,4955283.533,1152.129,CL CL BUCKEYE+ELM
- 16,3615366.904,4955264.702,1149.581,RIM BEEHIVE
- 17,3615366.493,4955265.006,1147.822,FL BEEHIVE
- 18,3615158.595,4955253.179,1153.789,CL GRATE INTK -5.02 FL
- 19,3615129.139,4955285.079,1155.296,CL CL ELLSWORTH+ELM
- 20,3615101.522,4955253.236,1153.669,CL GRATE INTK -5.20 FL
- 21,3614939.323,4955279.498,1154.594,CL ALLEY E-W
- 22,3614933.083,4955153.668,1152.447,GS DEPRESSION
- 23,3614738.450,4955092.164,1154.633,RIM BEEHIVE -2.50FL NW
- 24,3614746.956,4955100.379,1155.416,EOA
- 25,3614767.677,4955100.676,1155.266,EOA
- 26,3614567.946,4955068.939,1155.062,GS SINKHOLE
- 27,3614575.676,4955533.135,1153.648,GS CROPLN
- 28,3614577.206,4955682.720,1152.489,GS CROPLN
- 29,3614575.750,4955761.365,1151.762,GS INTK -3.00FL
- 30,3614580.708,4955859.928,1153.798,GS TPST
- 31,3614648.404,4955861.860,1152.557,GS CSOPLN
- 32,3614808.892,4955859.416,1151.856,GS CSOPLN
- 33,3614864.730,4955858.493,1150.724,GS CSOPLN
- 34,3614864.756,4955857.801,1150.756,GS INTK -2.5FL
- 35,3615203.081,4955845.888,1154.694,GS CROPLN
- 36,3615204.151,4955877.926,1150.765,GS WET
- 37,3615203.903,4955891.591,1150.610,GS WET
- 38,3615206.091,4955935.005,1153.035,GS
- 39,3615205.100,4955980.396,1154.814,GS
- 40,3614418.716,4955009.475,1155.047,GS INTAKE
- 41,3615892.479,4956509.789,1147.437,GS INTAKE BROKEN
- 42,3615899.405,4956519.938,1146.549,FL RCP 48"
- 43,3615965.044,4956520.260,1145.962,FL RCP 48"
- 44,3615974.838,4956568.184,1146.597,GS INTK -4.00FL
- 45,3616440.199,4957379.910,1143.263,GS INTK -4.2FL
- 46,3616443.081,4957430.646,1142.114,GS INTK -6.00+ TOFL
- 47,3618530.875,4957427.289,1134.185,RIM BEEHIVE-1.3FL
- 48,3618528.780,4957377.968,1134.763,GS INTAKE-2.00FL

## 6845 DD31 12-11-19RB

49,3619337.346,4957425.705,1130.530,N RIM MHDD11  
50,3619340.346,4957421.837,1131.216,EOC N HDWALL  
51,3620188.161,4957434.038,1129.359,RIM BEEHIVE-1.2FL N  
52,3620194.506,4957435.094,1129.315,TOP 26"CLAY@BREAKOUT  
53,3620221.158,4957387.295,1129.065,TOP 30"CMP REPAIR  
54,3620267.008,4957383.143,1129.023,GS SINKHOLE  
55,3621178.938,4955275.489,1136.592,GS SINKHOLE  
56,3621186.801,4955367.846,1138.111,FNL EW  
57,3621187.026,4955229.545,1137.965,FNL EW  
58,3621187.898,4954780.439,1140.019,SCF ALUMN CAPSTIENF  
59,3621187.488,4954779.071,1139.356,FCW NSEW  
60,3621460.553,4954784.728,1138.108,GS  
61,3621385.135,4954917.117,1138.383,GS  
62,3621200.969,4955246.509,1137.548,GS  
63,3621032.877,4955495.191,1136.736,GS  
64,3620904.609,4955692.714,1136.476,GS  
65,3620870.749,4955731.670,1134.636,FL 6' CMP APRON  
66,3620979.739,4955793.196,1133.206,TOP PIPE SINK HOLE  
67,3620840.155,4955780.443,1134.235,FL CMP 6'  
68,3620827.084,4955794.137,1136.971,GS FO RISER  
69,3620840.216,4955808.370,1133.946,GS SINKHOLE  
70,3621049.469,4955956.537,1135.063,GS FL  
71,3621036.083,4955990.454,1134.651,GS FL  
72,3620975.682,4956122.148,1134.430,GS FL  
73,3620852.460,4956271.921,1134.081,GS FL  
74,3620669.769,4956491.755,1134.110,GS FL  
75,3620555.681,4956700.475,1133.555,GS FL  
76,3620431.439,4956943.270,1133.308,GS FL  
77,3620385.953,4957115.823,1132.694,GS FL  
78,3620337.273,4957260.881,1132.514,GS FL  
79,3620267.920,4957362.693,1131.838,GS FL  
80,3615208.576,4955874.879,1150.060,FL 4"CLAYTILE DEADHEAD  
81,3615209.542,4955908.547,1147.349,FL 12"MAIN TV N S  
82,3615246.249,4955908.852,1151.168,GS TILELOCATE  
83,3615304.396,4955907.407,1151.017,GS TILELOCATE  
84,3615364.705,4955904.262,1150.547,GS TILELOCATE  
85,3615879.276,4956076.623,1149.143,GS TILELOCATE  
86,3615828.561,4956069.259,1149.331,GS TILELOCATE  
87,3615773.977,4956063.488,1149.493,GS TILELOCATE  
88,3615699.288,4956031.379,1149.719,GS TILELOCATE  
89,3615642.497,4956004.799,1149.788,GS TILELOCATE  
90,3615566.923,4955970.188,1150.229,GS TILELOCATE  
91,3615503.547,4955933.128,1150.202,GS TILELOCATE  
92,3615431.278,4955910.157,1150.302,GS TILELOCATE  
93,3615212.530,4955908.824,1147.617,FL 6"CLAYTILE W  
94,3615157.873,4955896.556,1150.980,GS TILELOCATE  
95,3615085.843,4955880.471,1150.805,GS TILELOCATE  
96,3615014.245,4955876.497,1150.997,GS TILELOCATE

6845 DD31 12-11-19RB

97,3614981.612,4955878.654,1150.767,GS TILELOCATE  
 98,3614957.098,4955888.359,1150.669,GS TILELOCATE  
 99,3614924.047,4955904.185,1150.722,GS TILELOCATE  
 100,3614898.317,4955920.017,1147.532,FL 12"CLAYTILE TV S  
 101,3614907.728,4955913.585,1149.065,FL 12"CLAYTILE BROKEN  
 102,3614879.279,4955934.742,1150.947,GS TILELOCATE  
 103,3614824.983,4955983.064,1151.255,GS TILELOCATE  
 104,3614777.633,4956036.169,1151.316,GS TILELOCATE  
 105,3614759.625,4956087.944,1151.731,GS TILELOCATE  
 106,3614740.964,4956154.636,1151.670,GS TILELOCATE  
 107,3614707.462,4956218.459,1151.849,GS TILELOCATE  
 108,3614658.542,4956267.771,1152.336,GS TILELOCATE  
 109,3614605.138,4956318.944,1152.641,GS TILELOCATE  
 110,3614554.169,4956364.449,1153.417,GS TILELOCATE  
 111,3614502.793,4956411.228,1154.365,GS TILELOCATE  
 112,3614451.378,4956457.379,1154.975,GS TILELOCATE  
 113,3614390.551,4956510.367,1155.108,GS TILELOCATE  
 114,3614331.894,4956555.719,1154.881,GS TILELOCATE  
 115,3615896.270,4956043.223,1148.577,CPT 3/4IR  
 116,3615880.181,4956077.164,1145.674,FL CLAYTILE@BLOWOUT  
 117,3615900.318,4956079.945,1148.609,GS TILE LOCATE  
 118,3615931.580,4956086.547,1152.606,GS TILE LOCATE  
 119,3615964.787,4956102.187,1148.775,GS TILE LOCATE  
 120,3616025.146,4956116.166,1148.166,GS TILE LOCATE  
 121,3616096.403,4956125.448,1147.617,GS TILE LOCATE  
 122,3616115.985,4956129.981,1147.565,GS TILE LOCATE  
 123,3616467.874,4955553.475,1146.473,GS DD11 TILE LOCATE  
 124,3616552.107,4955611.498,1145.890,GS DD11 TILE LOCATE INTK  
 125,3616595.556,4955642.601,1146.575,GS DD11 TILE LOCATE  
 126,3616657.583,4955686.822,1146.007,GS DD11 TILE LOCATE  
 127,3616723.484,4955724.145,1146.235,GS DD11 TILE LOCATE  
 128,3616791.038,4955753.258,1147.030,GS DD11 TILE LOCATE  
 129,3616879.797,4955781.799,1147.141,GS DD11 TILE LOCATE  
 130,3616970.572,4955810.974,1147.233,GS DD11 TILE LOCATE  
 131,3617022.127,4955827.579,1146.900,GS DD11 TILE LOCATE  
 132,3616415.957,4955517.471,1146.148,GS DD11 TILE LOCATE  
 133,3616363.557,4955479.349,1146.935,GS DD11 TILE LOCATE  
 134,3616302.470,4955435.894,1147.732,GS DD11 TILE LOCATE  
 135,3616250.947,4955399.856,1147.800,GS DD11 TILE LOCATE  
 136,3616189.651,4955364.648,1147.901,GS DD11 TILE LOCATE  
 137,3616150.310,4955341.931,1147.866,GS DD11 TILE LOCATE Y LAT B  
 138,3615958.273,4955286.109,1141.788,FL HDPE 18"DD11  
 139,3615991.224,4955291.764,1148.340,GS DD 11 MAIN  
 140,3616048.124,4955305.291,1148.246,GS DD 11 MAIN  
 141,3616103.251,4955323.705,1148.297,GS DD 11 MAIN  
 142,3616156.666,4955348.462,1147.707,GS DD 11 MAIN  
 143,3616191.024,4955360.648,1147.775,GS DD 11 MAIN  
 144,3615906.830,4955280.057,1150.493,GS DD 11 MAIN

6845 DD31 12-11-19RB

145,3615942.419,4955282.002,1151.076,GS DD 11 MAIN  
146,3615926.002,4955281.243,1151.485,GS DD 11 MAIN  
147,3615887.324,4955279.409,1149.909,GS DD 11 MAIN  
148,3615835.399,4955278.537,1149.563,GS DD 11 MAIN  
149,3615769.264,4955278.520,1150.202,GS DD 11 MAIN  
150,3615688.484,4955276.763,1150.923,GS DD 11 MAIN  
151,3615607.371,4955275.551,1151.289,GS DD 11 MAIN  
152,3615558.501,4955274.785,1151.654,GS DD 11 MAIN  
153,3615563.953,4955273.519,1151.468,EOA  
154,3615562.559,4955290.972,1150.901,EOA  
155,3615563.564,4955293.765,1151.103,EOA  
156,3615658.961,4955293.919,1150.699,EOA  
157,3615659.724,4955273.338,1150.921,EOA  
158,3615750.946,4955273.582,1150.220,EOA  
159,3615751.135,4955294.542,1150.242,EOA  
160,3615863.639,4955294.840,1149.582,EOA  
161,3615863.289,4955274.323,1149.405,EOA  
162,3615899.207,4955274.391,1149.879,EOA  
163,3615907.644,4955270.213,1150.227,EOA  
164,3615918.057,4955259.359,1150.587,EOA  
165,3615921.174,4955256.724,1151.220,EOA  
166,3615996.629,4954538.223,1148.603,GS TILELOCATE  
167,3616000.424,4954549.255,1149.908,GS TILELOCATE  
168,3616004.373,4954560.327,1149.959,GS TILELOCATE  
169,3616008.835,4954571.750,1150.021,GS TILELOCATE  
170,3616001.503,4954573.753,1149.730,FNL SCP  
171,3616023.982,4954574.027,1151.179,FNL CHAIN  
172,3615993.648,4954529.756,1147.941,INTK  
173,3615991.253,4954517.425,1144.652,FL 15"CLAY TILE  
174,3615980.359,4954482.426,1149.292,GS TILELOCATE  
175,3615969.033,4954449.359,1151.538,GS TILELOCATE  
176,3615959.654,4954419.359,1154.078,GS TILELOCATE  
177,3615948.656,4954374.923,1154.772,GS TILELOCATE  
178,3615948.673,4954330.002,1155.081,GS TILELOCATE  
179,3615952.219,4954329.847,1154.921,EOA  
180,3615929.950,4954328.726,1154.790,EOA  
181,3615951.336,4954265.353,1155.510,GS TILELOCATE  
182,3615950.207,4954206.776,1156.007,GS TILELOCATE  
183,3615950.147,4954135.091,1156.545,GS TILELOCATE  
184,3615950.567,4954061.374,1156.945,GS TILELOCATE  
185,3615949.777,4953978.663,1157.354,GS TILELOCATE  
186,3615950.396,4953906.985,1157.690,GS TILELOCATE  
187,3615949.659,4953851.321,1157.885,GS TILELOCATE  
188,3615952.570,4953851.257,1157.781,EOA  
189,3615930.512,4953850.747,1157.788,EOA  
190,3616015.072,4954599.325,1151.189,GS TILELOCATE  
191,3616024.370,4954628.003,1151.871,GS TILELOCATE  
192,3616041.178,4954690.007,1150.599,GS TILELOCATE



6845 DD31 12-11-19RB

193,3616059.731,4954755.994,1150.603,GS TILELOCATE  
194,3616007.721,4954572.364,1145.898, TOP 15"CLAY TV E  
195,3616071.581,4954791.797,1150.924,GS TILELOCATE  
196,3616100.294,4954892.315,1151.616,GS TILELOCATE  
197,3616117.761,4954953.180,1150.192,GS TILELOCATE  
198,3616129.003,4954998.568,1149.615,GS TILELOCATE  
199,3616138.120,4955077.941,1150.405,GS TILELOCATE  
200,3616140.367,4955148.359,1150.896,GS TILELOCATE  
201,3616140.355,4955222.930,1149.808,GS TILELOCATE  
202,3616144.321,4955297.337,1148.937,GS TILELOCATE  
203,3616161.046,4955351.607,1147.773,GS TILELOCATE  
204,3621159.547,4955322.013,1137.254,GS TILELOCATE  
205,3621131.791,4955391.720,1137.021,GS TILELOCATE  
206,3621100.502,4955473.276,1136.973,GS TILELOCATE  
207,3621073.068,4955547.263,1137.400,GS TILELOCATE  
208,3621038.889,4955638.086,1137.687,GS TILELOCATE  
209,3621013.304,4955707.381,1137.443,GS TILELOCATE  
210,3620987.772,4955772.746,1135.950,GS TILELOCATE  
211,3620985.125,4955777.691,1135.619,GS TILELOCATE  
212,3620983.641,4955779.673,1135.561,RW LINE+-  
213,3621184.730,4955253.513,1136.969,GS TILELOCATE  
214,3621202.504,4955208.278,1137.686,GS TILELOCATE  
215,3621232.021,4955128.589,1137.668,GS TILELOCATE  
216,3621258.848,4955061.512,1137.971,GS TILELOCATE  
217,3621285.099,4954988.168,1138.364,GS TILELOCATE  
218,3621313.629,4954911.954,1138.811,GS TILELOCATE  
219,3621340.704,4954836.668,1139.145,GS TILELOCATE  
220,3621364.958,4954768.057,1139.681,GS TILELOCATE  
221,3621389.174,4954699.970,1139.695,GS TILELOCATE  
222,3621403.947,4954662.412,1139.451,GS TILELOCATE  
223,3621175.168,4955280.475,1133.340,FL CLAYTILE 22"  
224,3618723.294,4931325.455,1161.471,Cogo  
225,3615984.381,4954591.274,1150.327,GS UGBC  
226,3615985.023,4954562.664,1149.254,GS UGBC  
227,3615985.869,4954521.205,1149.057,GS UGBC  
228,3615985.856,4954506.695,1149.325,GS UGBC  
229,3615985.357,4954470.824,1149.426,GS UGBC  
230,3615982.293,4954490.666,1145.813,FL 6"CLAY  
231,3615982.741,4954490.918,1145.088,FL 15"CLAY  
232,3616060.293,4954755.488,1145.511, TOP 15"CLAY  
233,3616061.591,4954759.836,1145.526, TOP 15"CLAY  
234,3615988.205,4954508.257,1146.116, TOP 15"CLAY  
235,3615982.159,4954488.370,1146.221, TOP 15"CLAY  
236,3615206.483,4955908.120,1148.627,CONC COLLAR  
237,3621175.188,4955282.500,1132.779, TOP 21"CLAY  
238,3621176.761,4955277.288,1132.789, TOP 21"CLAY  
239,3621179.935,4955278.600,1133.274, TOP 8"CLAY  
240,3620980.192,4955791.671,1133.052,FL GRATE -2.9FL TILE

6845 DD31 12-11-19RB

241,3615213.688,4955908.892,1148.670,CONC COLLAR  
242,3615212.660,4955905.100,1148.641,CONC COLLAR  
243,3615212.310,4955907.270,1148.228, TOP 6"PLASTIC  
244,3615208.210,4955907.464,1148.117, TOP 4"PLASTIC  
245,3614907.946,4955913.821,1148.525, TOP 12"CLAY  
246,3614911.091,4955911.736,1148.473, TOP 12"CLAY  
247,3614735.380,4955077.839,1154.835,GS @8"CLAY  
248,3614572.268,4955072.172,1156.219,GS @8"PLASTIC  
249,3614565.160,4955060.399,1157.078,GS  
250,3614735.459,4955077.893,1154.938,GS  
251,3614730.333,4955077.338,1147.919, TOP 8"HDPE DUALTILE  
252,3614670.835,4955074.604,1148.495, TOP 8"HDPE DUALTILE  
253,3614610.704,4955073.727,1148.748, TOP 8"HDPE DUALTILE  
254,3614418.217,4955009.312,1149.180,FL 8"TILE@INTAKE  
255,3614422.759,4955016.501,1155.346,GS  
256,3614564.202,4955069.726,1148.963, TOP 8"CLAY@CONC COLLAR  
257,3614784.480,4955090.957,1154.660,GS HMA TILELOCATE  
258,3614778.495,4955089.082,1154.819,GS HMA TILELOCATE  
259,3614764.670,4955083.183,1155.361,GS HMA TILELOCATE  
260,3614753.146,4955078.536,1155.629,GS HMA TILELOCATE  
261,3615319.434,4954946.277,1153.220,SMH WRIM  
262,3615319.806,4954934.138,1153.714,TILE LOCATE  
263,3615320.184,4954909.323,1153.580,TILE LOCATE  
264,3615319.707,4954884.343,1150.448,TILE LOCATE  
265,3615320.107,4954857.815,1154.486,TILE LOCATE  
266,3615278.790,4954776.424,1156.332,TILE LOCATE  
267,3615221.244,4954718.950,1156.177,TILE LOCATE  
268,3615202.814,4954699.246,1155.855,TILE LOCATE  
269,3615318.507,4954974.581,1153.311,TILE LOCATE  
270,3614769.767,4955084.414,1155.151,HMA TILE LOCATE  
271,3614785.421,4955087.842,1154.614,HMA TILE LOCATE  
272,3614800.666,4955092.591,1154.686,CONC TILE LOCATE  
273,3614809.293,4955096.153,1154.440,GS TILE LOCATE  
274,3614825.369,4955103.769,1153.967,GS TILE LOCATE  
275,3614832.729,4955109.262,1153.796,GS TILE LOCATE  
276,3614842.986,4955116.140,1153.617,GS TILE LOCATE  
277,3614855.343,4955127.351,1153.403,GS TILE LOCATE  
278,3614871.835,4955138.767,1153.275,GS TILE LOCATE  
279,3614885.811,4955148.451,1153.233,GS TILE LOCATE  
280,3614897.437,4955161.203,1153.615,GS TILE LOCATE  
281,3614908.143,4955171.133,1153.445,GS TILE LOCATE  
282,3614921.020,4955182.390,1153.254,GS TILE LOCATE  
283,3614933.514,4955193.271,1153.447,GS TILE LOCATE  
284,3615547.026,4955276.175,1151.594,GS DD11 LOCATE  
285,3615515.678,4955274.448,1151.891,GS DD11 LOCATE  
286,3615484.486,4955273.867,1152.115,GS DD11 LOCATE  
287,3615463.158,4955272.796,1151.890,GS DD11 LOCATE  
288,3615557.213,4955275.233,1145.018, TOP CONC PATCH

6845 DD31 12-11-19RB

289,3615457.367,4955273.623,1142.515,FL 16"CLAY  
 290,3615455.916,4955272.625,1143.919, TOP 10"CLAY  
 291,3615436.259,4955261.016,1151.214,GS TILE LOCATE  
 292,3615419.541,4955249.728,1152.311,GS TILE LOCATE  
 293,3615353.390,4955189.641,1150.871,GS TILE LOCATE  
 294,3615335.434,4955165.857,1150.909,GS TILE LOCATE  
 295,3615325.922,4955153.684,1151.541,GS TILE LOCATE  
 296,3615434.823,4955273.063,1151.905,GS TILE LOCATE 16"  
 297,3615416.574,4955273.819,1152.035,GS TILE LOCATE 16"  
 298,3615401.438,4955273.746,1152.067,GS TILE LOCATE 16"  
 299,3615393.393,4955271.165,1151.756,GS TILE LOCATE 16"  
 300,3615383.599,4955267.779,1150.486,GS TILE LOCATE 16"  
 301,3615378.672,4955265.507,1149.775,GS TILE LOCATE 16"  
 302,3615374.256,4955262.912,1144.061, TOP CLAY TILE 16"  
 303,3615365.965,4955264.591,1149.571,INTK BEEHIVE  
 304,3615365.730,4955259.035,1151.111,GS TILE LOCATE 16"  
 305,3615355.745,4955252.954,1151.057,GS TILE LOCATE 16"  
 306,3615349.638,4955248.294,1151.027,GS TILE LOCATE 16"  
 307,3615345.481,4955244.838,1151.012,GS TILE LOCATE 16"  
 308,3615340.262,4955239.090,1150.882,GS TILE LOCATE 16"  
 309,3615336.792,4955233.129,1150.926,GS TILE LOCATE 16"  
 310,3615326.561,4955210.590,1151.288,GS TILE LOCATE 16"  
 311,3615321.678,4955196.897,1151.518,GS TILE LOCATE 16"  
 312,3615320.425,4955187.411,1144.105, TOP 16"CLAY TILE  
 313,3615320.324,4955189.243,1144.473,1"PLAST WATER LINE N-S  
 314,3615396.310,4955272.212,1151.918,GS LAT C TO SOUTH  
 315,3615318.699,4955145.204,1151.851,GS TILE LOCATE 10X16 Y  
 316,3615306.779,4955037.374,1151.289,INTKE FLAT GRATE  
 317,3615319.223,4955010.981,1152.921,GS TILE LOCATE  
 318,3615318.607,4955057.980,1152.478,GS TILE LOCATE  
 319,3615318.316,4955113.600,1152.137,GS TILE LOCATE  
 320,3615120.403,4954117.674,1156.066,CPT 1/2 IRS  
 321,3615120.353,4954120.588,1155.804,GA  
 322,3615087.800,4954269.805,1156.576,GS TILE LOCATE CLAY 8"  
 323,3615088.069,4954283.725,1156.542,GS TILE LOCATE CLAY 8"  
 324,3615087.998,4954276.046,1148.350, TOP 8"CLAY  
 325,3615084.572,4954128.763,1156.562,EOA  
 326,3615057.207,4954128.824,1156.398,EOA  
 327,3615067.674,4954123.588,1154.201,INTK SMASHED CMP  
 328,3614989.481,4954020.925,1154.024,INTK PLASTIC HICK  
 329,3615089.705,4954295.232,1156.378,GS TILE LOCATE  
 330,3615089.665,4954321.447,1156.728,GS TILE LOCATE  
 331,3615089.305,4954348.155,1156.691,GS TILE LOCATE  
 332,3615088.797,4954377.969,1156.829,GS TILE LOCATE  
 333,3615087.742,4954412.504,1156.106,GS TILE LOCATE  
 334,3615088.931,4954403.812,1156.258,BLD GARAGE  
 335,3615088.628,4954388.297,1158.314,BLD GARAGE  
 336,3615087.823,4954583.702,1154.799,INTK CMP

6845 DD31 12-11-19RB

337,3615091.354,4954232.436,1151.437, TOP 6" VCPTILE 0.55'TOFL/8"SWCPP  
338,3615087.701,4954240.295,1148.469, TOP 8"HDPETILE  
339,3615087.906,4954207.852,1156.297,GS TILE ROUTE  
340,3615087.826,4954218.975,1148.586,top 8" dw hdpe tile end day 06/13/2016  
341,3615050.600,4954084.523,1148.767, TOP CLAY8"  
342,3615089.010,4954234.348,1151.108,top 8" nonperf sw hdpe  
343,3615087.576,4954234.690,1149.248,top 8"\*8"\*6" dw hdpe tee  
344,3615085.061,4954185.818,1155.923,gs tile locate mark  
345,3615085.423,4954172.695,1155.770,gs tile locate mark  
346,3615083.525,4954165.957,1157.107,gs tile piece in tile  
347,3615077.273,4954150.198,1156.168,gs tile locate mark  
348,3615072.637,4954135.970,1156.763,gs tile locate mark  
349,3615086.746,4954178.602,1148.650, TOP HDPE JOINT  
350,3615068.328,4954126.612,1148.642,top 8" vcp tile 0.71' top to fl  
351,3615087.725,4954195.519,1148.574,top 8" vcp tile 0.71' top to fl  
352,3615063.769,4954179.832,1156.380,bm black x sidewalk  
353,3615074.435,4954145.338,1156.348,MB  
354,3615062.772,4954147.679,1154.893,FL DITCH  
355,3615041.583,4954147.585,1154.951,FL DITCH  
356,3615018.162,4954147.706,1154.873,FL DITCH  
357,3614991.225,4954147.742,1155.045,FL DITCH  
358,3615082.733,4954163.518,1148.669, TOP HDPE 4"SADDEL  
359,3615081.386,4954159.260,1148.700, TOP HDPE JOINT  
360,3614127.053,4946951.875,1149.004, TOP 6"CLAY TILE  
361,3614124.310,4946951.431,1151.215,GS FL DITCH  
362,3608150.767,4945060.962,1134.789,CPT 3/4IR  
363,3609002.543,4945171.115,1133.984,GS BLOWOUT  
364,3609171.048,4945285.617,1132.855,GS BLOWOUT  
365,3609095.804,4945318.365,1132.280,PE INTK  
2000,3617654.915,4957376.505,1140.485, TOP BEEHIVE  
2002,3617650.142,4957380.675,1137.172,FL 12"CLAY  
2003,3617650.011,4957427.821,1140.292, TOP BEEHIVE  
2004,3617650.147,4957427.748,1138.126,FL BEEHIVE  
2005,3617648.396,4957402.622,1144.909,GS TILE LOCATE  
2006,3617645.674,4957425.773,1140.840,GS TILE LOCATE  
2007,3617640.973,4957451.478,1141.861,GS TILE LOCATE  
2008,3617632.308,4957503.996,1140.989,GS TILE LOCATE  
2009,3617626.021,4957563.097,1140.391,GS TILE LOCATE  
2010,3617623.892,4957626.628,1140.274,GS TILE LOCATE  
2011,3617624.538,4957697.167,1139.961,GS TILE LOCATE  
2012,3617628.760,4957772.990,1139.019,GS TILE LOCATE  
2013,3617640.192,4957843.746,1137.840,GS TILE LOCATE  
2014,3617662.182,4957905.268,1136.335,GS TILE LOCATE  
2015,3617670.642,4957927.741,1136.231,GS Y TILE LOCATE  
2016,3617646.609,4957353.245,1142.539,GS TILE LOCATE  
2017,3617632.074,4957306.036,1142.422,GS TILE LOCATE  
2018,3617608.531,4957262.624,1142.864,GS TILE LOCATE  
2019,3617593.592,4957237.394,1143.245,GS TILE LOCATE

6845 DD31 12-11-19RB

2020,3617580.916,4957217.016,1143.131,GS TILE LOCATE  
2021,3617529.353,4957132.088,1143.282,GS TILE LOCATE  
2022,3617491.047,4957068.858,1143.707,GS TILE LOCATE  
2023,3617454.993,4957004.901,1143.833,GS TILE LOCATE  
2024,3617421.734,4956929.780,1144.034,GS TILE LOCATE  
2025,3617396.143,4956845.416,1144.561,GS TILE LOCATE  
2026,3617387.192,4956765.828,1144.877,GS TILE LOCATE  
2027,3617375.571,4956714.030,1145.237,GS TILE LOCATE  
2028,3617373.148,4956710.298,1145.113,GS TILE LOCATE  
8016,3618659.060,4946889.650,1169.720,GPS MON8016  
8016\_GNSS,3618659.060,4946889.650,1169.720,Autonomous Setup



# Drainage Work Order Request For Repair

## Hardin County

Date 6/30/2017 Project # \_\_\_\_\_ Work Order # 189  
District # 34 Lateral Open Ditch Fund # 51058  
Township Concord Section 20 Twp 86 Rge 22 Qtr Sec SW1/4

Repair Requested By Craig Johnson  
Address GIS 862220300005 Phone (515) 290-9706

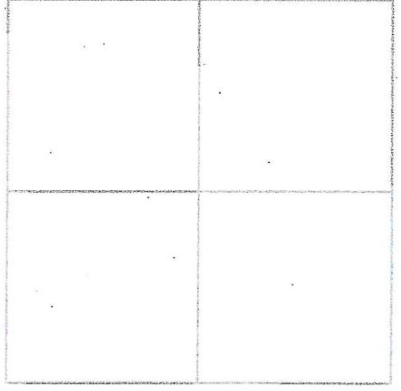
Landowner same  
Address \_\_\_\_\_ Phone \_\_\_\_\_

Request Taken By Tina Schlemme

Available for Repair Now?  Yes  No Date Available \_\_\_\_\_

Problem Description Blowout on Main 21" tile just north and west of ditch. There is also a wet area on the east side of the ditch, 1/2 way. (Can access area by windmill road and down waterway.)

*7-11-17 Per Tina → Add'l blowouts in same area.*



Repair labor, materials and equipment \_\_\_\_\_

Potential Wetlands?  Yes-Repair existing tile only  No-Repair and maintain tile

Repaired By: \_\_\_\_\_

Date: \_\_\_\_\_

Please send statement for services to:  
Hardin County Auditor's Office  
Attn: Tina Schlemme  
1215 Edgington Ave, Suite 1  
Eldora, IA 50627  
Phone (641) 939-8111  
Fax (641) 939-8245

For Office Use Only

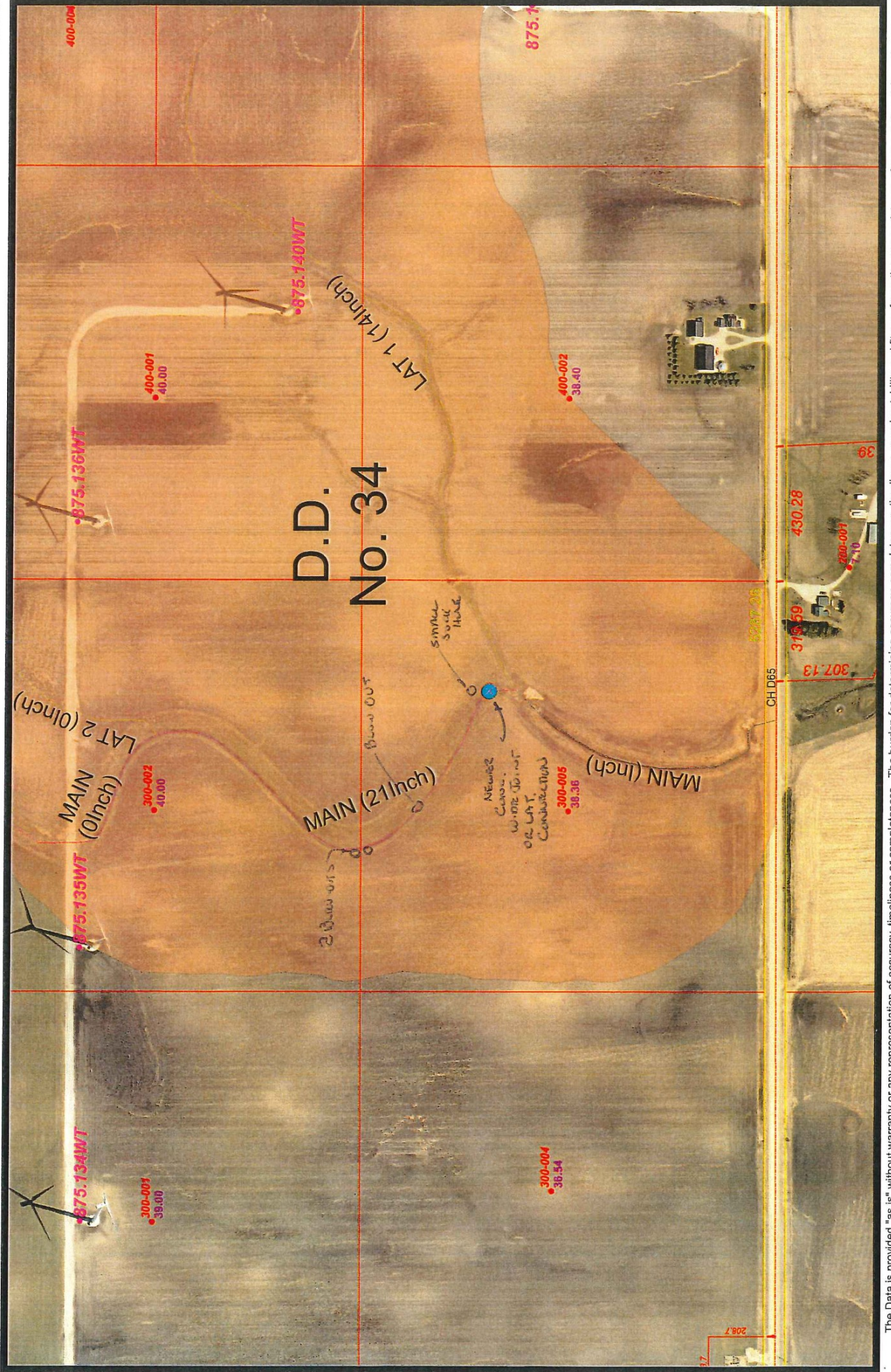
Approved: \_\_\_\_\_ Date: \_\_\_\_\_



# Hardin County Auditor's Office



Date: 6/30/2017



The Data is provided "as is" without warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for the appropriateness for use rests solely on the requester. Hardin County makes no warranties, express or implied is to the use of the Data. There are no implied warranties of merchantability or fitness for a particular purpose. The requester acknowledges and accepts the limitations of the Data, including the fact that the Data is dynamic and is in a constant state of maintenance, correction and update. Cadastral Data represents land ownership, but does not define it. This Data does not replace a legal survey.

## Drainage District:

#34

### Investigation/Repair Summary:

- Landowner in the SE¼ SW¼ of Section 20, Township 86 North, Range 22 West reported multiple blowouts/sinkholes above the assumed original and supplemental Main tile routes in the area immediately upstream of the Main open ditch.
- Visual observation found multiple sinkholes/blowouts along the original and supplemental Main tiles. Some are due to wide joints and another due to a collapsed private lateral.
- Excavation of the two northernmost sinkholes/blowouts found the supplemental 24-inch concrete Main tile collapsed and two wide joints nearby. Excavations of the other two sinkholes (to the south) revealed multiple wide joints between sections of the supplemental 36-inch concrete main tile and original 24-inch VCP Main tile, as well as broken private tile near its juncture with the Main tiles.
- The stretch of collapsed 24-inch supplemental Main tile was repaired with rock bedding and backfill, dual wall HDPE tile, and concrete collars. Wide joints were repaired with engineering fabric and partial concrete collars.
- Private laterals were repaired due to damage/removal while completing other repairs to the Main tile. Private laterals that were 6-inches were repaired with dual wall HDPE tile and 5-inch laterals were repaired with single wall HDPE tile. HDPE was attached to existing private tiles and the Main tile with factory couplers.
- After repairs were completed, excavations were backfilled with on-site soil and one additional load of imported soil.

### Contractor Time and Materials (spent while CGA was on-site):

See attached Tabulated Contractor Time and Materials Sheet.

### Additional Actions Recommended:

After leaving the site, it wasn't clear if final grading of soil and seeding had been completed. This should be verified with the contractor. Also, as previously reported, wide joints are a systematic problem on the Supplemental Main tile. CGA recommends the District Trustees evaluate if they want to pursue a large scale fix or continue with repairs on an as needed basis.





## Tabulated Contractor Time and Materials

Date	Totals	8/13/2019	8/14/2019	8/15/2018
Workman (hrs)	25	7.5	14.5	3
Excavator (hrs)	12.5	3.8	7.25	1.5
24" Dual Wall HDPE (ft)	33		33	
6" Dual Wall HDPE (ft)	71		40	31
5" Single Wall HDPE (ft)	49.5		49.5	
5" x 5" x 5" Wye (ea.)	1		1	
5"x6" Reducer (ea.)	1		1	
Factory coupler (ea.)	5		4	1
Concrete Collar (ea.)	14		14	





# Drainage Work Order Request For Repair

## Hardin County

Date: 10/8/2019

Work Order #: WO00000269

Drainage District: DDs\DD 109 (51127)

Sec-Twp-Rge: \_\_\_\_\_ Qtr Sec: \_\_\_\_\_

Location/GIS: 89-20-16-200-006

Requested By: Dennis Prochaska

Contact Phone: (641) 373-0297

Contact Email: \_\_\_\_\_

Landowner (if different): \_\_\_\_\_

Description:

DD 109 - Remove willow trees within 50 feet of district drainage tile.

Repair labor, materials and equipment \_\_\_\_\_

Repaired By: \_\_\_\_\_ Date: \_\_\_\_\_

Please reference work order # and send statement for services to:

Hardin County Auditor's Office  
Attn: Drainage Clerk  
1215 Edgington Ave, Suite 1  
Eldora, IA 50627  
Phone (641) 939-8111  
Fax (641) 939-8245

For Office Use Only

Approved: \_\_\_\_\_ Date: \_\_\_\_\_



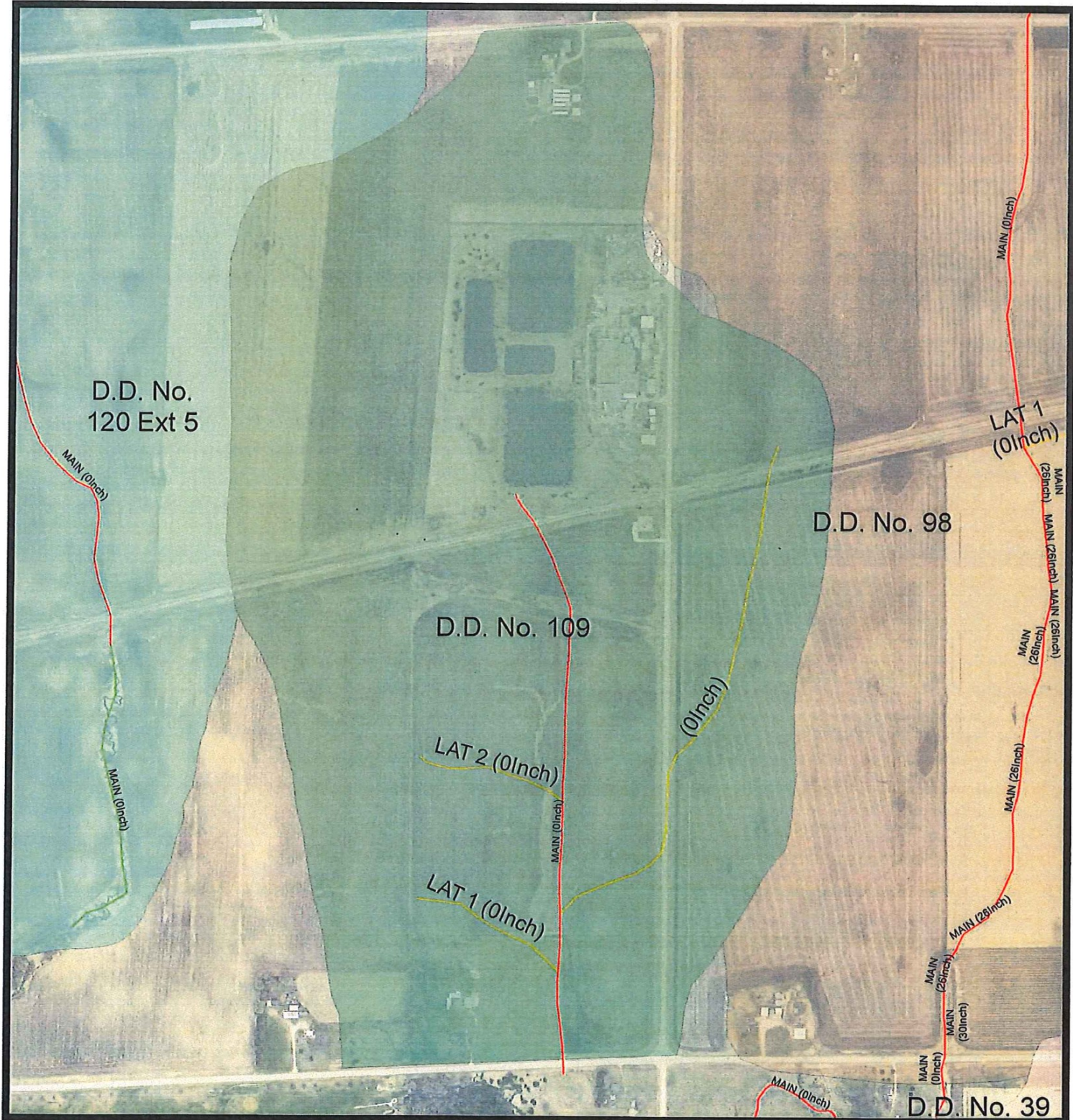
### Drainage Tiles

- Lateral
- Main
- Open Ditch
- Private Tile

# Hardin County Auditor's Office



Date: 10/8/2019



The Data is provided "as is" without warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the requester. Hardin County makes no warranties, express or implied is to the use of the Data. There are no implied warranties of merchantability or fitness for a particular purpose. The requester acknowledges and accepts the limitations of the Data, including the fact that the Data is dynamic and is in a constant state of maintenance, correction and update. Cadastral Data represents land ownership, but does not define it. This Data does not replace a legal survey.

## Drainage District:

#109

## Investigation Summary:

- Landowner in the NE¼ NE¼ of Section reported an excess number of willow trees within 50-feet of district tile.
- Visual observation found approximately 10 cottonwood trees in the vicinity of the assumed Main tile route.
- Also found approximately 75-feet of 12-inch concrete tile (assumed to be private) removed from the area with willow trees.

## Contractor Time and Materials (spent while CGA was on-site):

None recorded as only visual observation was performed.

## Additional Actions Recommended:

As soon as the location of the Main tile can be verified (either by landowner identification or excavation), any trees and woody brush within 50-feet of the Main tile route need to be removed and the stumps of said trees treated to prevent regrowth.



# Inspector's Project Diary

<b>Project:</b> Hardin County Drainage District <u>DD 109</u>			
<b>CGA PN:</b> <u>6888</u>	<b>Days Charged:</b>	<b>Report No.:</b>	<b>Proj. Mgr.</b> <input checked="" type="checkbox"/>
<b>Contractor:</b>		<b>Date:</b> <u>11/11/2019</u>	
<b>Superintendent:</b>	<b>Weather Conditions:</b> <u>Clear, Windy, Cold</u>	<b>Precip.:</b> <u>2" Snow "</u>	<b>Temp. Hi:</b> <u>15</u> ° <b>Temp. Low:</b> <u>10</u> °
<b>INSPECTOR:</b> Time Arrived: <u>1:30 P.M.</u> Time Left:		<b>Contractor:</b> Time Arrived:      Time Left:	
<p>1. General Remarks and Work Accomplished:  <u>Called Dennis Prohaska, no answer. Walked out to DD 109 The S. of RR. @ Tree Line N. of High Line Route. Found 75'± of 12" conc. tile taken out in tree area. (10) Cottonwood trees need removed and stumps poisoned. Tile could then be repaired.</u></p>			
2. Changes or Extra Work Ordered:			
3. Test Samples Taken:			
4. Visitors to Site:			
5. Other Work Crews or Project (utilities, subcontractors, etc.) and Work Done:			
6. Attachments (total sheets attached <u>0</u> ):			

Looking W. From Co. Hwy



LOOKING N. UPSTREAM ON THE ROUTE





Looking S. @ The Ravine





# Drainage Work Order Request For Repair Hardin County

Date: 11/12/2019

Work Order #: WO00000279

Drainage District: DDs\DD 128 (51142)

Sec-Twp-Rge: 23-88-20 Qtr Sec: NE 1/4

Location/GIS: 88-20-23-400-005

Requested By: Dean Bright

Contact Phone: 641-751-3464

Contact Email: \_\_\_\_\_

Landowner (if different): \_\_\_\_\_

**Description:** DD 128 - Dean Bright reports area that had been previously repaired (WO127) is leaking in parcel #882023400005 in the West section of the NE corner. Seeping into an area 20' wide by 100 yards long. Area is harvested, good access. Dean requests repair. Motioned to have CGA investigate on 11/6/2019.

Repair labor, materials and equipment \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Repaired By: \_\_\_\_\_ Date: \_\_\_\_\_

Please reference work order # and send statement for services to: Hardin County Auditor's Office  
Attn: Drainage Clerk  
1215 Edgington Ave, Suite 1  
Eldora, IA 50627  
Phone (641) 939-8111  
Fax (641) 939-8245

For Office Use Only

Approved: Per Minutes Date: 11/6/2019



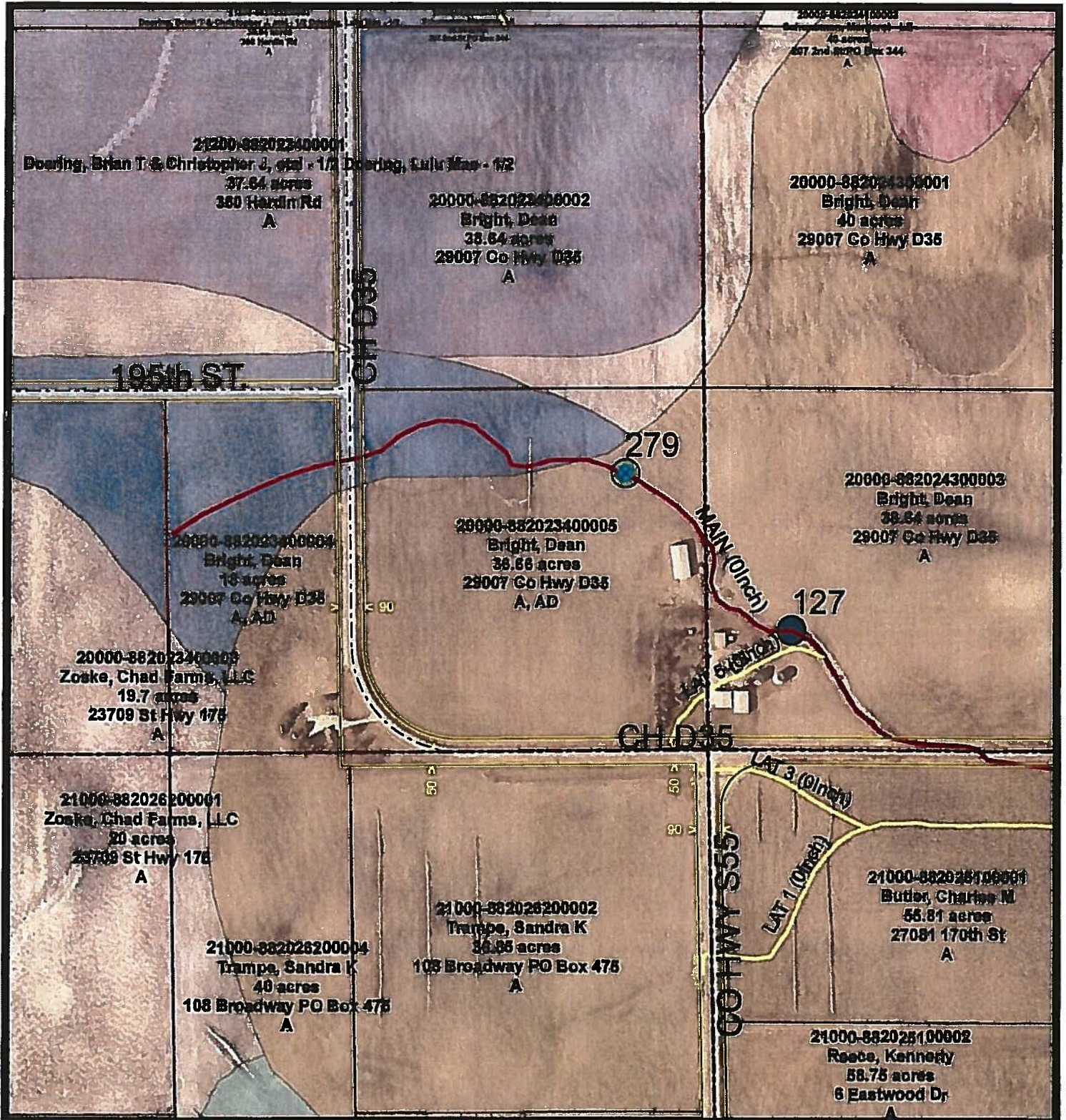
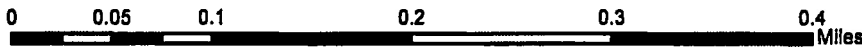
### Drainage Tiles

- Lateral
- Main
- Open Ditch
- Private Tile

# Hardin County Auditor's Office



Date: 11/12/201



The Data is provided "as is" without warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the requester. Hardin County makes no warranties, express or implied is to the use of the Data. There are no implied warranties of merchantability or fitness for a particular purpose. The requester acknowledges and accepts the limitations of the Data, including the fact that the Data is dynamic and is in a constant state of maintenance, correction and update. Cadastral Data represents land ownership, but does not define it. This Data does not replace a legal survey.

## Drainage District:

#128

## Investigation Summary:

- Landowner in the SE¼ SE¼ of Section 23, Township 88 North, Range 20 West reported an overly wet area near the assumed Main tile route in the farmed field. Said wet spot is reported to be near a previously completed repair of the Main tile.
- Field observation found large wet area in the field in the vicinity of the assumed Main tile route approximately 1000-feet east of County Highway D35.

## Contractor Time and Materials (spent while CGA was on-site):

None recorded as only field observation was conducted.

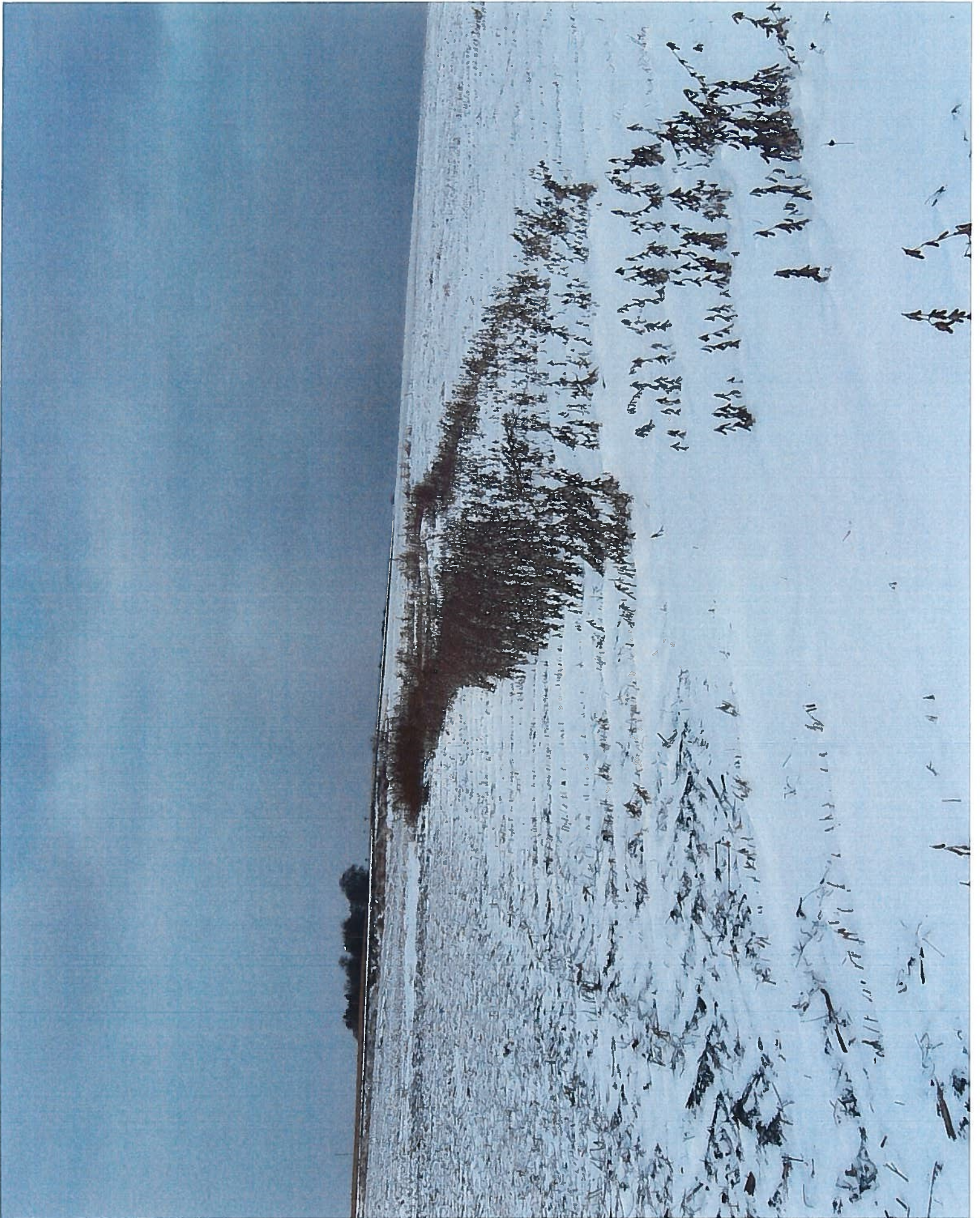
## Additional Actions Recommended:

Wet spot in field may be due to either broken private tile or the Main tile. It is not apparent which of these would be responsible, and an excavation of the area is necessary to determine the cause.



# Project Diary

Project: Hardin County Drainage District 128			
CGA PN: 6935.1	Days Charged:	Report No. 1	Proj. Mgr. ✓
Contractor: HANSON EX.		Date: 11/11/19	LEE GAUNTINE
Superintendent: JACOB HANOSACKER	Weather Conditions: Cloudy, Windy, Cold	Precip.: "	Temp. Hi: 16 ° Temp. Low: 10 °
INSPECTOR: Time Arrived: 9:00 A.M.      Time Left:		Contractor: Time Arrived:                      Time Left:	
1. General Remarks and Work Accomplished:			
<p>ABOUT 100' UPSTREAM FROM WATER WAY, THERE IS A TYPICAL WET AREA CAUSED BY A TILE COLLAPSED OR BLOCKAGE, THERE COULD BE A PRIV. LINE TO NORTH OF MAIN CAUSING PROBLEMS. INVESTIGATION OF MAIN SHOULD REVEAL PROBLEM. BEAN STUBBLE. FIX ASAP. TILE IN THIS AREA IS SHALLOW.</p>			
<p>CALLED JACOB HANOSACKER, DISCUSSED BACKFILL OF WATER WAY, DEAN BRIGHT WAS INVOLVED IN FINAL DECISION OF DIRT WORK, LOOKS GOOD. THINGS ARE DONE HERE. JACOB SAID HE NEEDS PUNCH LIST OF ANY WORK LEFT ON CONTRACT PROJECT.</p>			
4. Visitors to Site:			
5. Other Work Crews or Project (utilities, subcontractors, etc.) and Work Done:			
6. Attachments (total sheets attached <u>0</u> ):			















# Drainage Work Order Request For Repair

## Hardin County

Date: 10/14/2019

Work Order #: WO00000275

Drainage District: DDs\DD 131 (51146)

Sec-Twp-Rge: 17-89-21 Qtr Sec: SW NE

Location/GIS: 89-21-17-200-002

Requested By: Greg Huebner

Contact Phone: (515) 290-2083

Contact Email: \_\_\_\_\_

Landowner (if different): \_\_\_\_\_

**Description:**

DD 131 - Greg Huebner called in to report a large blowout on main line of 131 directly east of his building site, about 100 yards out from building site. He reports blowout is large - 8' - 10' across, Greg requests repair.

Repair labor, materials and equipment \_\_\_\_\_

Repaired By: \_\_\_\_\_ Date: \_\_\_\_\_

Please reference work order # and send statement for services to:

Hardin County Auditor's Office  
Attn: Drainage Clerk  
1215 Edgington Ave, Suite 1  
Eldora, IA 50627  
Phone (641) 939-8111  
Fax (641) 939-8245

For Office Use Only

Approved: \_\_\_\_\_ Date: \_\_\_\_\_



892117200002

Huebner, Gregory W (Deed)  
17537 125TH ST  
38.40 Acres Value \$207,180

View: Report | Picometry Imagery

892117100005

892117200005

D.D. No. 131

125th St

Have

892117400001

892117400007

892117300005

## Drainage District:

#131

## Investigation Summary:

- Landowner in the SW¼ NE¼ Section 17, Township 89 North Range 21 West reported a large blowout on the Main tile approximately 100-yards east of his farmstead.
- Visual observation found a sinkhole/blowout approximately 150-feet north of 125<sup>th</sup> Street and east of farmstead.
- Drainage tile was not visible in said sinkhole/blowout, so it was not determined if the tile had collapsed or if a wide joint was the cause. It was also not possible to determine if said tile is the Main tile until excavation has occurred.

## Contractor Time and Materials (spent while CGA was on-site):

None recorded as only visual observation was performed.

## Additional Actions Recommended:

The sinkhole/blowout needs to be excavated to determine if the District Main tile is the cause. Said excavation will also determine the appropriate actions necessary to complete the repair if it is the Main tile.



# Inspector's Project Diary

<b>Project:</b> Hardin County Drainage District <u>00 131</u>			
<b>CGA PN:</b> <u>6916.2</u>		<b>Days Charged:</b>	<b>Report No.</b>
<b>Contractor:</b> Gehrke, Inc.		<b>Date:</b> <u>11/11/19</u>	
<b>Superintendent:</b>	<b>Weather Conditions:</b> <u>Clear, Windy, Cold</u>	<b>Precip.:</b> <u>2" Snow</u>	<b>Temp. Hi:</b> <u>15</u> ° <b>Temp. Low:</b> <u>10</u> °
<b>INSPECTOR:</b> Time Arrived: <u>12:00 NOON</u> Time Left:		<b>Contractor:</b> Time Arrived:      Time Left:	
<p>1. General Remarks and Work Accomplished:</p> <p><u>CALLD AND TALKD TO GREG HUEBNER, HE CONFIRMED THAT HOLE WITH FLAGS 150' ± N. OF 125TH ST (E-W) WAS COLLAPSED WHEN COMBINE WENT OVER. HOLE IS 4' DEEP. CANT SEE TILE. FIX ASAP</u></p>			
2. Changes or Extra Work Ordered:			
3. Test Samples Taken:			
4. Visitors to Site:			
5. Other Work Crews or Project (utilities, subcontractors, etc.) and Work Done:			
6. Attachments (total sheets attached <u>0</u> ):			

Looking N. From CRUEL ROAD 125



Blow-out Hole, 4' deep







Project Name: Phase 1

Project Name: County Hwy. D25

# HARDIN COUNTY

1215 EDGINGTON AVE., SUITE 1  
ELDORA, IA 50627  
(641) 939-8108

## HARDIN COUNTY DRAINAGE DISTRICT UTILITY PERMIT APPLICATION

Applicant: Aureon (Iowa Network Services)  
Company Name

7760 Office Plaza Drive South  
Address

West Des Moines IA 50266  
City State Zip

Applicant Contact: Ryan Meints (Olsson) for Jeff Klocko (Aureon) ( 515 ) 830 - 0112  
Name Phone

rmeints@olssonassociates.com jeff.klocko@Aureon.com  
Email

Utility Type: Fiber Optics

Drainage District(s) Crossed: JDD 1-103, DD 118-232 Big Four, DD18, DD17

Facilities Crossed (specific tile, open ditch): JDD 1-103 Lat C, DD 118-232 Lat 2

Description of Work: Big Four-Main, DD18-Main, DD17-Main

*(Location plan of proposed utility must be attached.)* Directional bore and plow of conduit containing fiber optic cable per attached plans

Pursuant to Code of Iowa Section 468.186, approval is hereby requested for the right, privilege and authority to construct, operate and maintain utilities on, over, across or beneath established Hardin County Drainage Districts, subject to the attached Requirements for Construction On, Over, Across or Beneath Established Drainage District. Failure to comply with said requirements shall be ground for revocation of the permit by the Hardin County Board of Supervisors.

Applicant Signature 

7/30/2019  
Date

Submit Form and Location Plan To: Hardin County Auditor's Office  
Attn: Drainage Clerk  
1215 Edgington Ave, Suite 1  
Eldora, IA 50627  
Fax (641) 939-8225  
[drainage@hardincountyia.gov](mailto:drainage@hardincountyia.gov)

*For Office Use Only*

Application Approval:

By: \_\_\_\_\_  
*Board of Supervisor Chairman, Acting as Drainage District Trustee*

Date: \_\_\_\_\_

APPROVED PERMIT #: \_\_\_\_\_



## REQUIREMENTS FOR CONSTRUCTION ON, OVER, ACROSS OR BENEATH ESTABLISHED DRAINAGE DISTRICT

Upon issuance of a permit for utilities on, over, across or beneath established Hardin County Drainage Districts, the applicant shall be governed by these requirements and shall comply with all conditions contained herein.

1. The Applicant shall furnish the Drainage District, or its representative, plats showing the exact location of the proposed construction. If it is found that such locations are in conflict with the present or proposed facilities and that a more desirable location is possible, the Applicant shall review such possible alignment changes. **No construction is to commence with the drainage facility without an approved application.**
2. Applicant shall comply with Iowa One-Call requirements prior to commencing any work.
3. The Drainage District shall provide Applicant access to maps or other information regarding the location of all known drainage district facilities so that reasonable care may be taken by Applicant to avoid un-necessary damage to said drainage district facilities.
4. The Applicant shall hold the Drainage District harmless from any damage that may result to the Drainage District facility because of the construction or maintenance of the utility, and shall reimburse the Drainage District for any expenditures that the Drainage District may have to make on said Drainage District facilities resulting from Applicant's construction and installation of utilities, or their subsequent repair or modification.
5. The Applicant shall take all reasonable precaution during the construction of said utility to protect and safeguard the lives and property of the public and adjacent property owners and shall hold the Drainage District harmless from any damages or losses that may be sustained by adjacent property owners on account of such construction operations. Further, Applicant agrees to replace, repair or reimburse all damages to private property occasioned by Applicant's installation of subsequent modification or repairs.
6. The Drainage District assumes no responsibility for damages to the Applicants property occasioned by any construction or maintenance operation of said Drainage District facilities, subsequent to Applicants installation.
7. A copy of a certificate of insurance naming the County/Drainage District as additional insured for their permit work shall be provided to the County Auditor prior to installation. The limit of liability under the insurance policy shall not be less than \$1,000,000 per occurrence.
8. The Applicant agrees to give the Drainage District twenty-four (24) hours (Saturday and Sunday excluded) notice of its intention to commence construction on any lands within the jurisdiction of the Drainage District. Said notice shall be made in writing to the County Auditor or to the designated Drainage District representative.
9. The Applicant agrees to place permanent, visible markers or monuments at locations where utility crosses Drainage District facilities. These monuments or markers shall identify the owners name, address and phone number.
10. The Drainage District Trustees may appoint a representative to inspect and approve all construction across Drainage District facilities as part of this permit. All compensation, wages, mileage and other expenses for this representative will be paid by the Applicant. It will be the responsibility of the Applicant to make all contacts with private parties (adjacent owners/operators) to determine the location of private drainage facilities. Said representative will also inspect all crossing of Drainage District facilities and may, if required, observe the crossing of private drainage facilities, and shall have the authority to require the Applicant to excavate and expose the crossing of any Drainage District facility where the representative believes it prudent to visually examine Applicants crossing of the Drainage District facility. Further, said representative has the authority to suspend construction and installation by the Applicant within any Drainage District jurisdiction by verbal order to the contractor at the site and a telephone call to Applicants contact person listed on page 1 within six (6) hours of the verbal order.



11. The construction and maintenance of Applicants installation shall be carried on in such a manner as to not interfere with or interrupt the function of said Drainage District facilities without the express written consent of the Drainage District Representative. In the event it becomes necessary to temporarily stop the flow of water, the following shall be completed by the Applicant:
  - a. If the crossing involves a tile line, the replacement of tile with approved materials, in the manner approved by the Drainage Districts designated representative, shall be performed as rapidly as possible. If the approved method of repair is impossible and the volume of water flowing in the tile is sufficient to create the possibility of crop loss or property damage, the Contractor will be permitted to temporarily block the tile line to prevent the flow of this tile water into the pipeline, or tile line ditch. In the event this tile line is so temporarily blocked, the Contractor will be expected to provide sufficient pumping equipment to pump the impounded tile water across the construction ditch to the undisturbed tile line. Such temporary blockages of said Drainage District tile lines will be removed as rapidly as possible and any tile repairs caused by this blockage will be immediately repaired at the Applicants expense.
  - b. If the crossing involves an open ditch that is carrying sufficient flow of water to make it necessary to place a temporary dam across said open ditch, such temporary dams may be constructed only upon approval from the Drainage District designated representative. The maximum elevation of this impounded water shall be determined by the designated Drainage District representative and all excess water must be allowed to flow across the construction ditch through either a closed metal culvert pipe or by pumping. All temporary dam structures are to be removed as soon as the crossing is completed. The construction and removal of these dams shall be in such a manner that the smooth and efficient function of the drainage ditch is not impaired, with all costs and damages borne by Applicant.
12. The Applicant will at any time subsequent to the commencement of construction, and at Applicants sole expense, reconstruct or replace its installation as may be necessary to conform to new grade or alignments resulting from maintenance or construction operations by the Drainage District in connection with any of its drainage facilities. Applicant agrees to do this within forth-five (45) days of receipt of written request from the Drainage District, or such longer time period as the Drainage District may specify, without cost to the Drainage District. Such reconstruction or realignment of Applicants improvements shall be made in accordance with and approved by the Drainage District or its designated representative. If the Applicant is unable to comply within the time period specified above, the Drainage District may cause the work to be done and the Applicant will pay the cost thereof upon receipt of a statement of such costs.
13. CROSSING OF OPEN DITCH FACILITIES. Utility crossings shall be constructed as follows, as directed by the designated representative of the Drainage District:
  - a. Passage of installation in a horizontal plane five feet (5') below design grade of drainage ditch, as established by the Drainage District representative.
  - b. The above depth to extend to a point two (2) times the design base width of ditch either side of centerline of drainage ditch (measured along the centerline of utility) unless the existing base width is greater than the design bases width. If the existing base width is greater than the design with, the depth is to extend to a point two (2) times the existing width.
  - c. The rate of slope for transition from normal utility laying depth of crossings of drainage ditches shall not be steeper than 4:1.
  - d. If such ditch crossings occur at points of outlets of Drainage District or private tile lines or within twenty-five feet (25') of said outlets, such outlets must be relocated to a point not less than twenty-five feet (25') from such crossings. Such relocations shall be at the expense of the Applicant and as directed by the representative of the Drainage District.



14. CROSSING OF DRAINAGE DISTRICT TILE LINES. Utility crossings shall be constructed as follows, as directed by the designated representative of the Drainage District:
- All proposed installations must be placed under the existing Drainage District tile lines. These requirements may be waived only upon the review by and approval of the designated representative of the Drainage District. Such waiver must be in writing.
  - A minimum of one foot (1') clearance below existing Drainage District facilities must be maintained.
  - At all crossings of Drainage District tile lines with the proposed utility, one of the following must be used:
    - Replace Drainage District tile with reinforced concrete pipe of same or larger diameter than existing tile. Concrete pipe to be 2,000 D strength (Iowa Department of Transportation approved) with standard tongue and groove joints. Pipe to have a minimum of three (3) bolt-type connectors at each joint.
    - Replace Drainage District tile with cathodic protected corrugated metal pipe. Diameter of corrugated metal pipe to be a minimum of two inches (2") larger than outside diameter of tile line being replaced. (Specifications regarding gage, cathodic protection and other details to be subject to review and approval.)
    - Dual wall plastic with specific approval of Drainage District representative.
    - Bore new utility installation; maintain existing tile in an undisturbed state.
  - The length of tile to be replaced by any of the above alternates is as follows:
    - Eight-inch (8") tile and smaller: Six feet (6') either side of centerline of proposed installation, measured at right angles to the centerline of installation.
    - Ten inch (10") tile and larger: Ten feet (10') either side of centerline of proposed installation, measured at right angles to the centerline of installation.
  - At all crossings of Drainage District tile lines where the Drainage District and private tile lines are damaged by the construction, maintenance or repair of Applicants installation shall be repaired as directed by the Drainage Districts designated representative.
15. This permit is subject to existing regulations and statutes of the State of Iowa and future regulations, which may be promulgated or enacted.
16. This application is subject to revocation by Hardin County, if in its judgment it is necessary for legitimate purposes. In such event, written notice shall be provided to permit holder.
17. Applicant agrees to pay all other legitimate costs, fees and expenses associated with its crossing of the Drainage District facility, including but not limited to, publication costs, engineering costs and legal service costs. Said costs will be paid within thirty (30) days of the mailing of the statements to the Applicant.
18. Applicant agrees to provide a copy of as-built plan of the utility route and location, showing route changes that may have taken place during construction.
19. Applicant agrees to include a copy of these requirements to all bidding specifications; or if the construction and installation contract has been let by the time this permit is approved, Applicant agrees to provide a copy of these requirements to the contractor and to advise them that they are bound by the terms of these requirements.

## Drainage District:

#HH 118-232

## Utility Crossing Summary:

- Utility company (Iowa Network Services) requested to pass fiberoptic service above the Branch 2D tile and parallel to several other branch tiles of Drainage District 118-232. Said crossings took place on the south side of County Highway D25, located in the N½ Section 1, Township 88 North, Range 23 West.
- The contractor completing the work located and exposed the existing VCP Branch 2D tile to the west (See attached) with the fiberoptic cable passing 12 feet below said tile. Also located and exposed existing private CMP tile and connection to the Branch 2 tile at farmstead. Remainder of tile was not exposed.
- The contractor completing the work directionally bored the fiberoptic service at 3 feet ± below the soil level, maintaining 2 feet of separation above district tile while CGA was on-site to observe.

## Contractor Time and Materials (spent while CGA was on-site):

None recorded. All work was completed by contractor under Iowa Network services' employ.

## Additional Actions Recommended:

Based on the anticipated tile depth and using excavations as a guide, the fiberoptic cable should have cleared district tile. However, it is hard if not impossible to determine if the 2 foot of clearance was achieved at all instances. Area should be monitored for blowouts/sinkholes in the north and south road ditches.

In addition, CGA recommends the following variations from the permit be approved by the District Trustees:

- The required signage was not installed.
- The fiberoptic cable was installed above the district tile instead of below said cable due to tile depth.





C:\Users\jg\OneDrive\Documents\118-232\118-232.dwg (11/17/2011 11:28:11 AM) 11/17/2011 11:28:11 AM



NO.	REVISION	BY	DATE	NO.	REVISION	BY	DATE

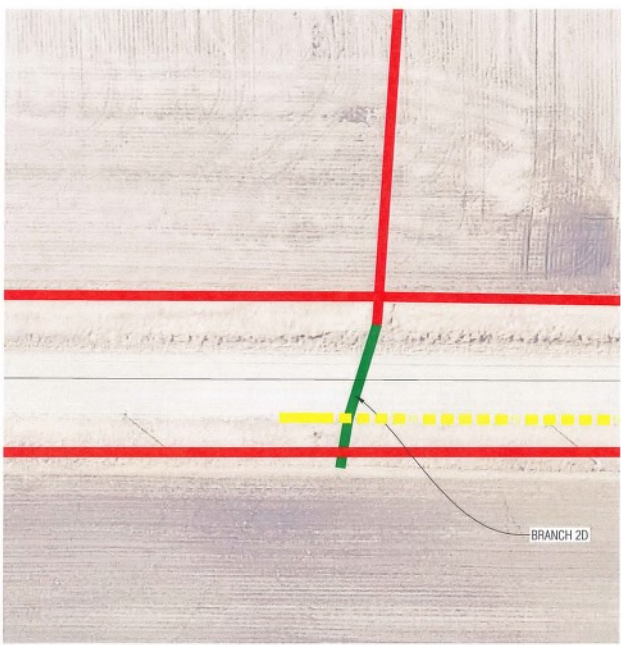


DESIGNED	JSS	DATE	3/23/2011
DRAWN	JSS	DATE	3/23/2011
CHECKED	JSS	DATE	3/23/2011
APPROVED	JSS	DATE	3/23/2011

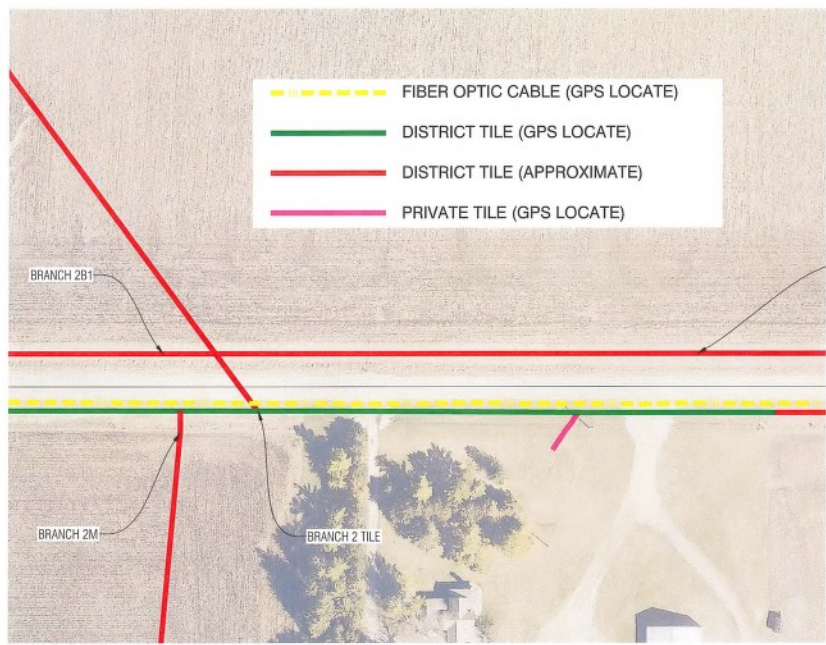
**D.D. HH 118-232 UTILITY CROSSING**  
HARDIN/HAMILTON COUNTIES, IOWA

**PLANVIEW**

PROJECT NO.	8779
SHEET NO.	1 OF 2



1 DETAILED PLANVIEW  
Scale: 1"=50'



- FIBER OPTIC CABLE (GPS LOCATE)
- DISTRICT TILE (GPS LOCATE)
- DISTRICT TILE (APPROXIMATE)
- PRIVATE TILE (GPS LOCATE)

2 DETAILED PLANVIEW  
Scale: 1"=100'

CGA AND OTHER INFORMATION IS FOR INFORMATION ONLY. IT IS NOT TO BE USED FOR ANY OTHER PURPOSE. © 2018 CGA

NO.	REVISION	BY	DATE	NO.	REVISION	BY	DATE



DESIGNED BY	DATE	SCALE
DRAWN BY	DATE	SCALE
CHECKED BY	DATE	SCALE
APPROVED BY	DATE	SCALE

D.D. HH 118-232 UTILITY CROSSING  
HARDIN/HAMILTON COUNTIES, IOWA

DETAILED PLANVIEWS

PROJECT NO.	0776
SHEET NO.	1 OF 2

CONSTRUCTION ENGINEERING  
OBSERVATION REPORT

DATE: 8/08/2019

PROJECT NUMBER:

DAYS OF WEEK: 

S	M	T	W	<b>T</b>	F	S
---	---	---	---	----------	---	---

COUNTY, ROUTE, ROAD: DD H-H 118-232  
DIV #2

SHEET NO. 1 OF 1

LOCATION: CO HWY D-25 BETWEEN AA AVE UPPER 70'S SUNNY WITH LIGHT  
& YOUNG AVE IN SE 1/4 SE 1/4 31-09-22 HARDIN WINDS

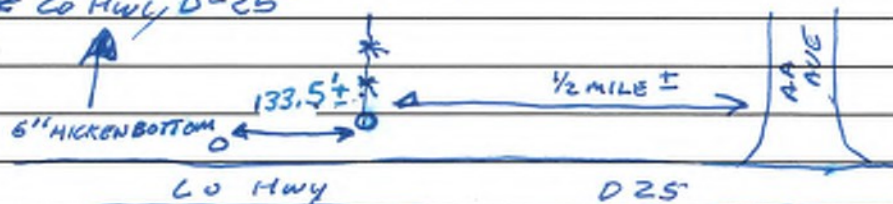
JOB# 6200 B164 SURVEY

DESCRIPTION OF WORK AND MATERIAL USED FOR EACH OPERATION, INCLUDING CONTRACTOR/SUB NAME, ITEM NO. AND LOCATION

9:25 A.M. OBSERVER ARRIVED ON SITE OF DRAINAGE TILE CROSSING FOR DD H-H 118-232 DIV #2. OBSERVER MET JIM WITH **KLK CELL 641-780-0296**. OBSERVER SHOWED HIM DRAINAGE MAP AND TOLD JIM THAT THERE IS POSSIBLY A 15" TILE THEY WILL CROSS WEST OF FENCELINE NORTH 1/2 MILE WEST OF AA AVE. MAP SHOWS THAT IT MAY CROSS ROAD. JIM ALSO STATED THAT CREW WILL BE PUTTING LINE ABOUT 3.0' DEEP ON SOUTH SHOULDER OF ROAD (PERMIT FOR THIS LOCATION) THEN AT CAVE JUMP TO NORTH SIDE.

9:35 A.M. **GEORGE KLK FOREMAN CELL 641-780-5716** ARRIVED AT LOCATION. ALSO TOLD CREW THAT ANOTHER 18" TILE DD ND 118-232 RUNNING PARALLEL WITH CO HWY D-25 WILL BE NEAR LOCATION OF NEW CABLE. OBSERVER SAID IF CABLE WENT ON NORTH SIDE OF ROAD THEN MAY NOT BE NEAR TILE RUNNING PARALLEL.

9:45 A.M. SEARCHED DITCH FOR BEE HIVE INTAKE THAT COULD TIE INTO DRAINAGE TILE WITH METAL DETECTOR. CREW ONLY FOUND 6" HICKEN BOTTOM IN NORTH DITCH. CREW STARTED PROBING TO FIND TILE THAT HICKEN BOTTOM WAS TIED INTO. 6" HICKEN BOTTOM IS LOCATED 133.5' ± WEST OF FENCELINE NORTH 1/2 MILE ± WEST OF AA AVE IN NORTH DITCH OF CO HWY D-25



I Certify that the work described in this report was incorporated into this contract unless otherwise noted.

Observer's Signature: Dean Penning

Date Prepared: 8/08/2019

Reviewed by:

Engineer

Date Reviewed \_\_\_\_\_



CONSTRUCTION ENGINEERING  
OBSERVATION REPORT

DATE: 8/3/2019

DAYS OF WEEK: 

S	M	T	W	<u>T</u>	F	S
---	---	---	---	----------	---	---

SHEET NO. 1 OF 1

PROJECT NUMBER:

COUNTY, ROUTE, ROAD: DD H-H 118-232

LOCATION: CO HWY 025 BETWEEN AA AVE & YOUNG IN SE 1/4 SE 1/4 31-89-22 HARDIN

UPPER 70'S SUNNY WITH LIGHT WINDS

JOB# 6200 B164 SURVEY

DESCRIPTION OF WORK AND MATERIAL USED FOR EACH OPERATION, INCLUDING CONTRACTOR/SUB NAME, ITEM NO. AND LOCATION

10:08 A.M. PICTURE # 1174 SEE PICTURE FOR DETAILS.

10:20 A.M. CREW DECIDED TO START EXCAVATING FOR TILE IN SOUTH DITCH OF CO HWY 0-25 ACROSS FROM 6" HICKEN BOTTOM

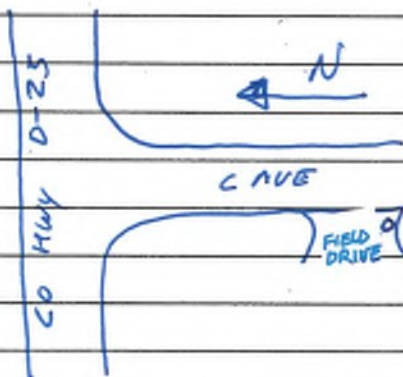
10:25 A.M. CREW WILL CALL LEE WHEN THEY FIND TILE. CREW ALSO SAID THAT BORE UNDER OPEN DITCH WAS NOT FINISHED YET. CREW WILL BE DOING THAT SOMETIME TODAY.

10:32 A.M. PICTURE # 1175 SEE PICTURE FOR DETAILS.

10:32 A.M. PICTURE # 1176 SEE PICTURE FOR DETAILS.

10:33 A.M. PICTURE # 1177 SEE PICTURE FOR DETAILS.

10:35 A.M. LOOKED FOR CONTROL POINT FOR GPS.



GPS # 10002  
3/4" IRON ROD (0.5' DEEP) 3.0' ± WEST OF WEST ROAD EDGE IN SE CORNER OF 1ST FIELD DRIVE SOUTH OF CO HWY 0-25

10:50 A.M. OBSERVER LEFT SITE.

I Certify that the work described in this report was incorporated into this contract unless otherwise noted.

Observer's Signature: Dean Penny

Date Prepared: 8/2/2019

Reviewed by: \_\_\_\_\_  Engineer

Date Reviewed \_\_\_\_\_

PICTURE # 1174 LOOKING NORTH IN NORTH DITCH CONWY DES  
PROBING FOR COUNTY TILE, CREW DID HIT TILE ON SOUTH  
SIDE OF INTAKE. DEPTH TO FL OF 6" HICKEN BOTTOM 4.0'±.  
WHEN CREW PROBED TILE IT ECHOED IN HICKEN BOTTOM ON SOUTH SIDE  
OF INTAKE. HICKEN BOTTOM IS JUST WIRED TO SFP & RUN TOP OF TILE



1/2 MILE  
FENCE  
NORTH



6" HICKEN BOTTOM  
133.5' WEST  
OF 1/2 MILE  
FENCE  
NORTH

PICTURE # 1175 IS LOOKING WEST AT 6" HICKEN BOTTOM  
IN NORTH DITCH. 6' PLUS OF FILL FROM FL DITCH  
TO TOP OF ROAD.

PICTURE # 1176 IS LOOKING WEST AT CREW EXCAVATING & PROBING  
TILE IN SOUTH DITCH OF HWY D-25  
THIS SIDE ROUGHLY 5.0' DEEP FROM ROAD TO FL DITCH,



PICTURE # 1177 IS LOOKING WEST AT CREW PROBING &  
EXCAVATING FOR TILE IN SOUTH DITCH

CONSTRUCTION ENGINEERING  
OBSERVATION REPORT

DATE:

8/12/19

PROJECT NUMBER:

8778

DAYS OF WEEK:

S M T W T F S

COUNTY, ROUTE, ROAD:

DD H-H 118-232 Dn, 2

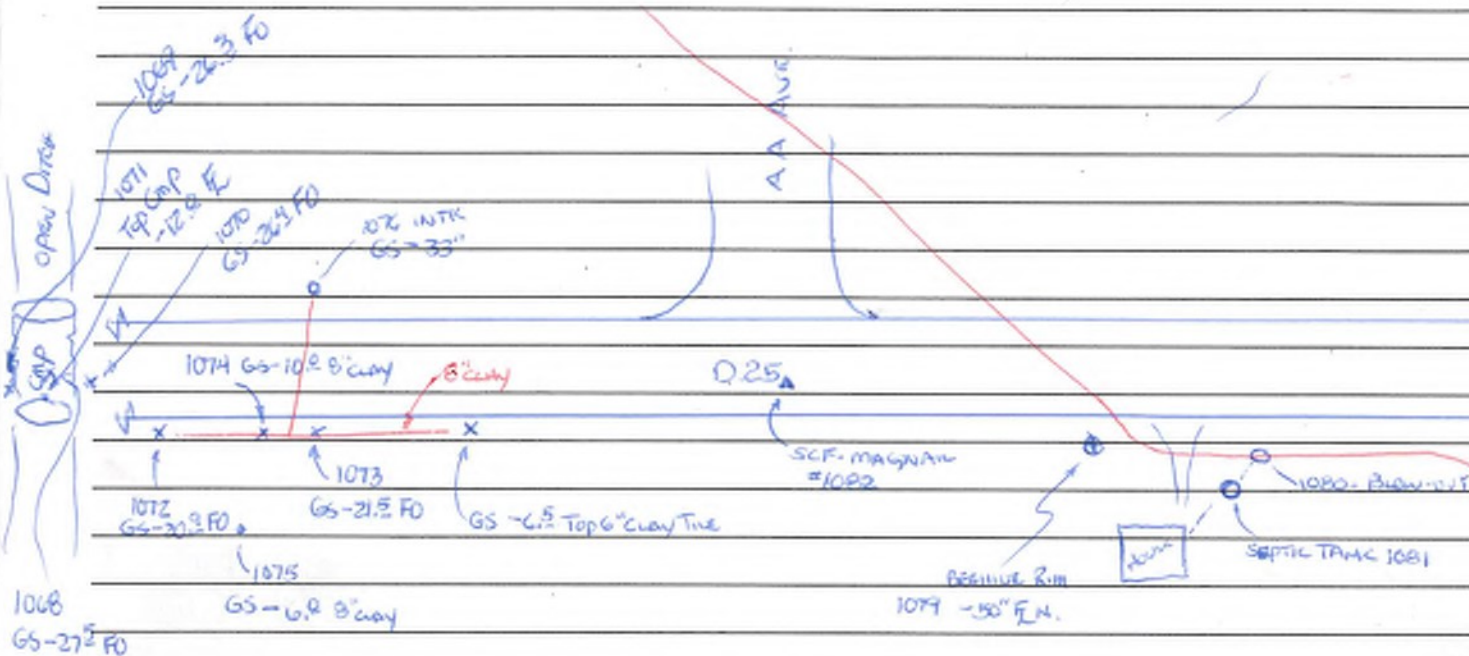
SHEET NO.

1 OF 1

LOCATION:

DESCRIPTION OF WORK AND MATERIAL USED FOR EACH OPERATION, INCLUDING CONTRACTOR/SUB NAME, ITEM NO. AND LOCATION

Clearing, Rain 72°, calm, Very Humid  
USED JOB 6200 BIG 4 SURVEY, COLLECTING SET WITHIN D.P. HAD COLLECTED ONLY STAKES FROM  
downward Computer updated JOB 6200. Real 10002 for



$$1068 = 1149.99 - 27.5 \text{ FO} = 1122.49$$

$$1069 = 1150.07 - 26.3 \text{ FO} = 1123.77$$

$$1070 = 1149.81 - 26.4 \text{ FO} = 1123.41$$

$$1071 = 1146.08 - 12.0 \text{ FCmp} = 1134.08$$

$$1073 = 1052.06 - 21.5 \text{ FO} = 1030.56$$

$$1074 = 1152.03 - 10.2 = 1142.03 \text{ Top 8\" clay}$$

CHERRY = 11.6 UNDER THE  
OPEN DITCH

PARRISH CHERRY = 12 UNDER THE

I Certify that the work described in this report was incorporated into this contract unless otherwise noted.

Observer's Signature:

*[Signature]*

Date Prepared:

8/12/19

Reviewed by:

Engineer

Date Reviewed

CONSTRUCTION ENGINEERING  
OBSERVATION REPORT

DATE: 08/13/2019

PROJECT NUMBER:

8778

DAYS OF WEEK:

S M W T F S

COUNTY, ROUTE, ROAD: CO HWY 025 FROM 263<sup>+</sup> ± EAST OF AA AVE TO 1723.6 ± EAST OF AA AVE

SHEET NO.

1 OF 3

LOCATION: DRAINAGE DISTRICT HH 118-232

MID 80'S TO LOWER 70'S SUNNY WITH LIGHT WINDS

DESCRIPTION OF WORK AND MATERIAL USED FOR EACH OPERATION, INCLUDING CONTRACTOR/SUB NAME, ITEM NO. AND LOCATION

JOB # 8778 HH 118-232 SURVEY

10:30 A.M. OBSERVER RECEIVED A CALL FROM OFFICE THAT JIM WITH KLK CONSTRUCTION CALLED THAT THEY FOUND A COUPLE MORE TILE FURUS TO SHOOT. OBSERVER WAS SOUTH OF IOWA FALLS DELIVERING A BATTERY TO ANOTHER EMPLOYEE. SINCE OBSERVER WAS IN AREA, WOULD JUST GET SOME PICTURES OF WHAT THEY HAD FOUND SO WE ARE NOT HOLDING THEM UP. BATTERY FOR THIS GPS AND DATA COLLECTOR WITH A JOB IN IT WAS BACK AT OFFICE. OBSERVER WILL STOP THERE AFTER DROPPING BATTERY OFF.

11:00 A.M. OBSERVER ARRIVED ON SITE AND FOUND GEORGE WITH KLK CONSTRUCTION. GEORGE SAID JIM WAS FURTHER TO THE WEST NEAR 3576 CO HWY D-25 WITH A FEW TILE EXPOSED.

11:15 A.M. OBSERVER FOUND JIM WITH KLK CONSTRUCTION AT ONE OF TILE EXPOSED LOCATIONS. OBSERVER TOOK A FEW PICTURES OF WHAT CREW HAD FOUND.

11:26 A.M. PICTURE #1 SEE PICTURE FOR DETAIL.

11:27 A.M. PICTURE #2 SEE PICTURE FOR DETAIL.

11:39 A.M. PICTURE #3 SEE PICTURE FOR DETAILS.

11:39 A.M. PICTURE #4 SEE PICTURE FOR DETAILS.

11:40 A.M. OBSERVER SET OFFSET HUB & LATH FOR 6" SPIRAL CMP & CLAY COUNTY TILE WITH 1/8" DEPTH TO SHOOT WITH GPS LATER.

12:04 P.M. PICTURE #5 SEE PICTURE FOR DETAILS.

12:08 P.M. PICTURE #6 SEE PICTURE FOR DETAILS.

12:25 P.M. OBSERVER TALKED TO BOTH GEORGE AND JIM WITH KLK CONSTRUCTION. BOTH SAID IT COULD BE A WHILE

I Certify that the work described in this report was incorporated into this contract unless otherwise noted.

Observer's Signature:

Dean Pennington

Date Prepared:

08/13/2019

Reviewed by:

Engineer

Date Reviewed

CONSTRUCTION ENGINEERING  
OBSERVATION REPORT

DATE: 08/13/2019

DAYS OF WEEK: S M T W T F S

PROJECT NUMBER:

8778

COUNTY, ROUTE, ROAD: CO HWY 025 FROM 265<sup>th</sup>  
EAST OF AA AVE TO 1723.6<sup>th</sup>  
EAST OF AA AVE

LOCATION: DRAINAGE DISTRICT HH 118-232

SHEET NO. 2 OF 3

MID 80'S TO LOWER 70'S SUNNY  
WITH LIGHT WINDS

DESCRIPTION OF WORK AND MATERIAL USED FOR EACH OPERATION, INCLUDING CONTRACTOR/SUB.  
NAME, ITEM NO. AND LOCATION

JOB # 8778 HH 118-232. SURVEY

TO FIND TILE WITH NOT MUCH LUCK YET.

12:30 P.M. OBSERVER INFORMED BOTH JIM AND GEORGE WITH KLK CONSTRUCTION  
THAT HE WAS LEAVING SITE TO GET DATA COLLECTOR AND GPS BATTERY.

1:40 P.M. OBSERVER BACK AT OFFICE

2:40 P.M. OBSERVER BACK ON SITE. OBSERVER SET UP GPS BASE ON  
#10002 3/4" IRON ROD 0.5' DEEP IN 1ST FIELD DRIVE ON WEST SIDE  
OF LAVE SOUTH OF CO HWY 025. MONUMENT IS 3.0' WEST OF WEST  
ROAD EDGE.

3:10 P.M. OBSERVER CHECKED INTO GPS #1082 MAG NAIL FLUSH IN ACC @  
AA AVENUE & CO HWY 025.

3:40 P.M. OBSERVER SHOT GS AT LOCATION ACCORDING TO WHAT KLK  
CONSTRUCTION PUT ON EDGE OF PAVEMENT. CREW SAID  
THEY EXPOSED IT HERE AND 14.0' TO THE WEST OF THIS  
LOCATION THEY COULD NOT FIND TILE SO BETWEEN  
THE LOCATION THEY EXPOSED & 14.0' WEST THE TILE  
STARTS GOING ACROSS THE ROAD. (SEE SKETCH 1 OF 3 FOR DETAILS)  
ALSO AT 2:14 P.M. JIM WITH KLK CONSTRUCTION CALLED TO SEE  
IF THEY COULD PULL CABLE IN 36" <sup>DEEP</sup> ALONG ROAD EDGE.  
TALK TO LEE AND HE SAID THAT IT SHOULD BE OK  
WITH HOW DEEP TILE IS. LEE SAID THAT WE DO NOT  
WANT THE CABLE ANY CLOSER THAN 2.0' ABOVE TOP  
OF TILE.

3:43 P.M. PICTURE #1178 SEE PICTURE FOR DETAILS.

3:44 P.M. PICTURE #1179 & #1180 SEE PICTURE FOR DETAILS.

4:10 P.M. OBSERVER SHOT LOCATION OF COUNTY 6" CMP SPIRAL TIE IN  
GPS 1090 AND TOP 6" CMP SPIRAL TO SW GPS #1091

4:13 P.M. PICTURE #1181 SEE PICTURE FOR DETAILS.

I Certify that the work described in this report was incorporated into this contract unless otherwise noted.

Observer's Signature: Dean Penning

Date Prepared: 08/13/2019

Reviewed by:

Engineer

Date Reviewed

CONSTRUCTION ENGINEERING  
OBSERVATION REPORT

DATE: 08/13/2019

DAYS OF WEEK: 

S	M	T	W	T	F	S
---	---	---	---	---	---	---

SHEET NO. 3 OF 3

PROJECT NUMBER: 8778  
COUNTY, ROUTE, ROAD: CO HWY 025 FROM 265' ±  
EAST OF AN AVE TO 1736' ±  
EAST OF AA & BE  
LOCATION: DRAINAGE DISTRICT HH 118-232

MID 80'S TO LOWER 70'S SUNNY  
WITH LIGHT WINDS

JOB # 8778 HH-118-232 SURVEY

DESCRIPTION OF WORK AND MATERIAL USED FOR EACH OPERATION, INCLUDING CONTRACTOR/SUB  
NAME, ITEM NO. AND LOCATION

4:20 P.M. PICTURE # 1183 SEE PICTURE FOR DETAILS.

4:30 P.M. OBSERVER SHOT LOCATION OF COUNTY TILE GPS # 1092 (SEE SKETCH 2 OF 3 FOR DETAILS)

4:39 P.M. PICTURE # 1184 & PICTURE # 1185 SEE PICTURE FOR DETAILS.

4:40 P.M. KLK CONSTRUCTION WAS BORING CABLE IN FRONT OF 3576 CO HWY 025.  
OBSERVER SHOT LOCATES. GPS # 1093 TO GPS # 1101 & GPS # 1105 TO  
GPS # 1110. (SEE SKETCH 2 OF 3 FOR DETAILS)

5:20 P.M. KLK CONSTRUCTION WAS DONE WITH BORE IN FRONT OF 3576 CO HWY 025

5:25 P.M. OBSERVER SHOT GPS # 1111 FL 18" BEEHIVE GPS # 1112 N RIM

BEEHIVE INTAKE GPS # 1113 65 ABOVE TILE (SEE SKETCH 2 OF 3 FOR DETAILS)

5:27 P.M. PICTURE # 1186 SEE PICTURE FOR DETAILS

5:30 P.M. OBSERVER HEADED TO SHOOT LOCATES FOR OPEN DITCH 6200.6 BIG 4.

6:10 P.M. OBSERVER DONE WITH 6200.6 BIG 4 AND BACK AT HH 118-232

6:15 P.M. OBSERVER SHOT BORE LOCATES NEAR APPROXIMATE  
LOCATION WHERE COUNTY TILE IS LOCATED BUT  
KLK CONSTRUCTION CREW NEVER FOUND TILE.  
THIS LOCATION MAP SHOWS TILE BENDS INTO FIELD  
(SEE SKETCH 3 OF 3 FOR DETAILS.)

6:20 P.M. OBSERVER CHECKED WITH KLK CONSTRUCTION  
AND INFORMED THEM THAT NEXT CROSSING ON OUR  
MAP SHOWS OPEN DITCH FOR DD NO 18 AND TILE CROSSING  
FOR DD NO 17 NEAR EAST SIDE OF 14425' CO HWY 025.

CREW ADVISED ME THEY WILL BE RUNNING NOW ON  
SOUTH SIDE OF CO HWY 025 INSTEAD OF JUMPING  
TO NORTH SIDE OF ROAD @ CAVE LIKE PERMIT SHOWS.

6:30 P.M. OBSERVER TORE DOWN GPS BASE AND LEFT SITE.

6:29 P.M. PICTURE # 1191 & 6:31 P.M. PICTURE # 1192 SEE PICTURE FOR DETAILS.

I Certify that the work described in this report was incorporated into this contract unless otherwise noted.

Observer's Signature: Dean R. Linn

Date Prepared: 08/13/2019

Reviewed by: \_\_\_\_\_  Engineer

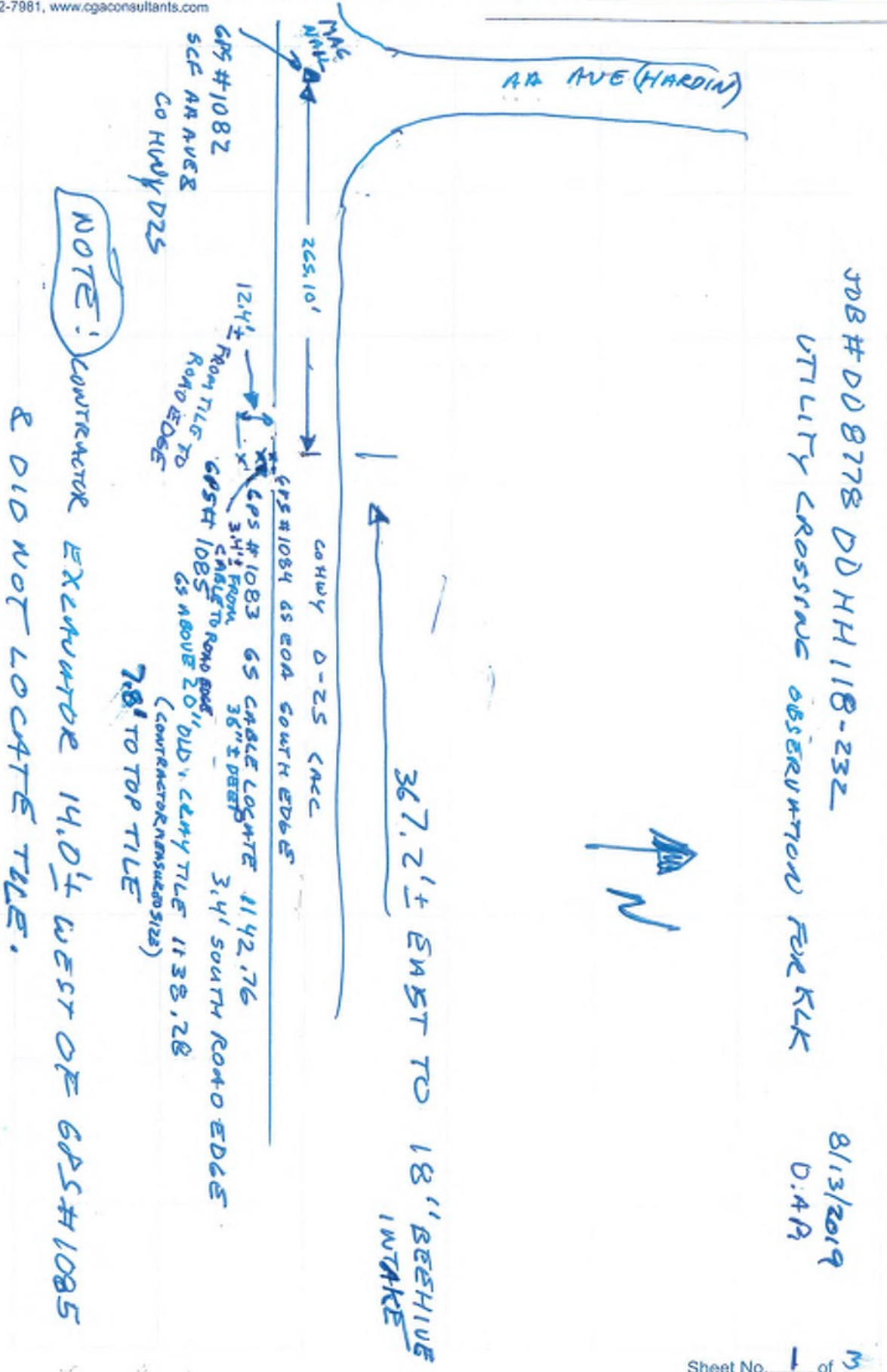
Date Reviewed \_\_\_\_\_



**Clapsaddle-Garber Associates, Inc.**

16 East Main Street, Marshalltown, Iowa 50158, ph 641-752-6701  
1523 South Bell Avenue, Suite 101, Ames, Iowa 50010, ph 515-232-1784  
5106 Nordic Drive, Cedar Falls, Iowa 50613, ph 319-266-0258  
739 Park Avenue, Ackley, Iowa 50601, ph 641-847-3273  
511 Bank Street, Webster City, Iowa 50595, ph 515-832-1876  
103 East State Street, Suite 430, Mason City, Iowa 50402, ph 641-423-1451  
800-542-7981, www.cgaconsultants.com

PN \_\_\_\_\_  
Computed By \_\_\_\_\_ Date \_\_\_\_\_  
Checked By \_\_\_\_\_ Date \_\_\_\_\_  
Subject \_\_\_\_\_



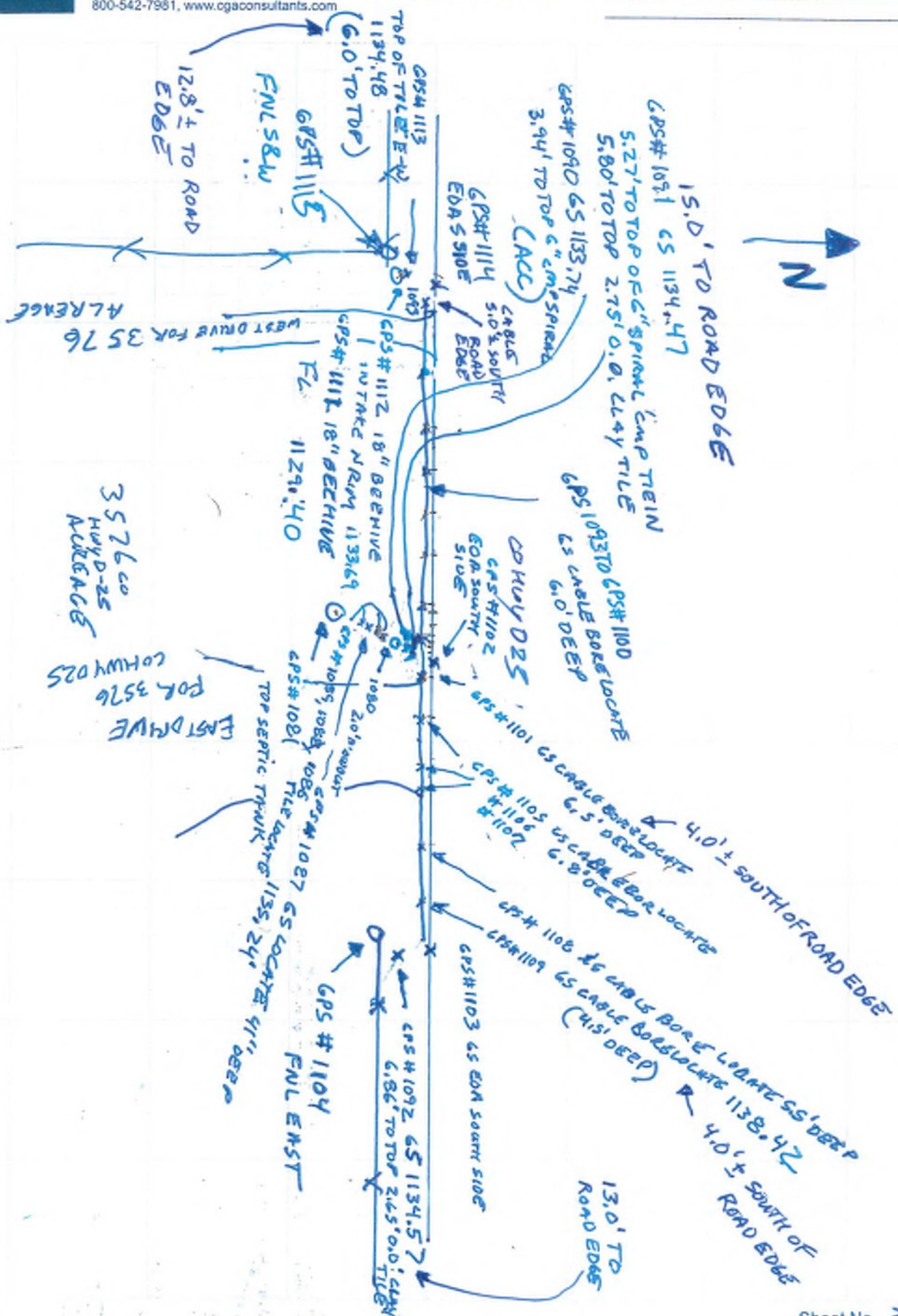




**Clapsaddle-Garber Associates, Inc.**

16 East Main Street, Marshalltown, Iowa 50158, ph 641-752-8701  
 1523 South Bell Avenue, Suite 101, Ames, Iowa 50010, ph 515-232-1784  
 5106 Nordic Drive, Cedar Falls, Iowa 50613, ph 319-266-0258  
 739 Park Avenue, Ackley, Iowa 50601, ph 641-847-3273  
 511 Bank Street, Webster City, Iowa 50595, ph 515-832-1876  
 103 East State Street, Suite 430, Mason City, Iowa 50402, ph 641-423-1451  
 800-542-7981, www.cgaconsultants.com

PN \_\_\_\_\_  
 Computed By \_\_\_\_\_ Date \_\_\_\_\_  
 Checked By \_\_\_\_\_ Date \_\_\_\_\_  
 Subject \_\_\_\_\_



JOB # DD 8778 DD HH 118-232  
 UTILITY CROSSING OBSERVATION FOR KKK

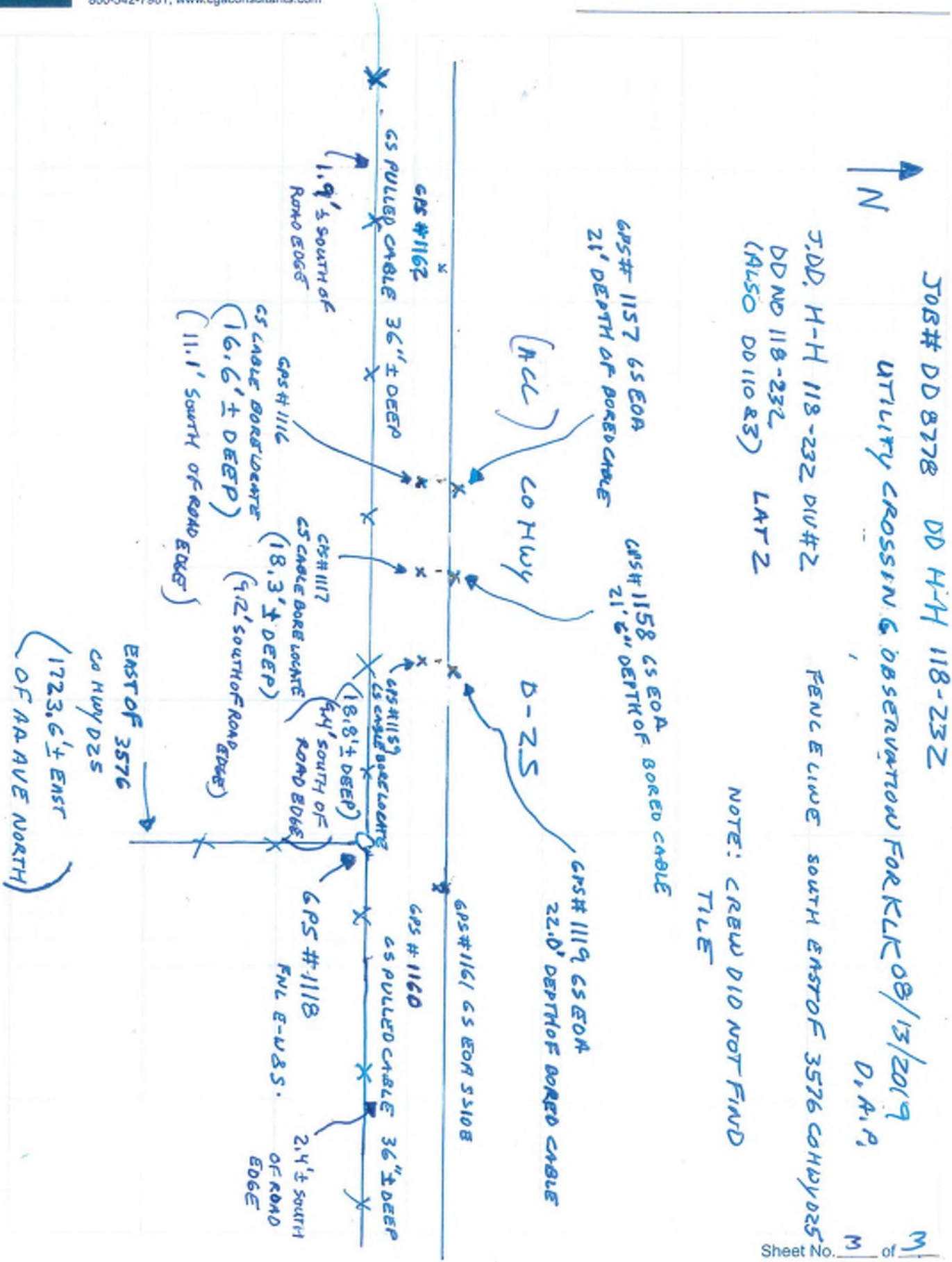
08/13/2019  
 D.M.R.



**Clapsaddle-Garber Associates, Inc.**

16 East Main Street, Marshalltown, Iowa 50158, ph 641-752-6701  
 1523 South Bell Avenue, Suite 101, Ames, Iowa 50010, ph 515-232-1784  
 5106 Nordic Drive, Cedar Falls, Iowa 50613, ph 319-266-0258  
 739 Park Avenue, Ackley, Iowa 50601, ph 641-847-3273  
 511 Bank Street, Webster City, Iowa 50595, ph 515-832-1876  
 103 East State Street, Suite 430, Mason City, Iowa 50402, ph 641-423-1451  
 800-542-7981, www.cgaconsultants.com

PN \_\_\_\_\_  
 Computed By \_\_\_\_\_ Date \_\_\_\_\_  
 Checked By \_\_\_\_\_ Date \_\_\_\_\_  
 Subject \_\_\_\_\_



THIS LOCATION HAS A 20' Ø BLOWOUT 51.7' NE  
OF SEPTIC TANK LID WHICH IS 13.2' SW  
OF MAIN. KKK CONSTRUCTION EXPOSED  
MAIN AT THIS LOCATION AND FOUND 6" SPIRAL  
CMP TIED INTO MAIN @ 12 O'CLOCK HEADING  
SW

GPS # 1021  
TOP SEPTIC  
TANK  
LID



PICTURE # 2 11:27 A.M. IS LOOKING SW JUST  
WEST OF EAST DRIVE ENTRANCE FOR 3576 CO  
HWY 025

GPS # 1021

65 ABOVE  
TILE

ALSO  
SEE SKETCHES  
2 OF 3  
FOR DETAILS



PICTURE # 1 11:26 A.M. IS LOOKING NE SHOWING  
6" SPIRAL CMP TIED INTO 2.75' O.D. CLAY TILE  
RUNNING E-W @ 12 O'CLOCK



11:39 AM. PICTURE#4 IS LOOKING WEST  
AT EXPOSED 2.65' O.D. COUNTY TILE  
GPS# 1092 65 ABOVE TILE 6.86' TO TOP OF TILE  
(ALSO SEE SKETCH (2 OF 3) FOR DETAILS)



GPS# 1104  
FNL EAST



11:39 A.M. PICTURE#3 IS LOOKING SOUTH FROM  
CO HWY D 25 EAST OF 3576 EAST DRIVE ENTRANCE AT  
TRENCH EXCAVATED TO EXPOSE COUNTY TILE

IN BACKGROUND KLK CONSTRUCTION  
EXCAVATING TO EXPOSE WHERE TILE  
CROSSED CO HWY D25.



W  
→

PICTURE#6 12:08 P.M. IS LOOKING WEST  
FROM EAST DRIVE ENTRANCE FOR 3576 CO HWY D25  
SHOWING LOCATION OF EXPOSED COUNTY TILE DD 118-232  
RUNNING E-W



W  
→

PICTURE#5 12:04 P.M. IS LOOKING EAST FROM  
EAST DRIVE ENTRANCE FOR 3576 CO HWY D25  
SHOWING EXPOSED TILE LOCATION DD 118-232  
RUNNING E-W.

PICTURE# 1178 IS LOOKING EAST ON SOUTH SIDE OF CO HWY 025  
SHOWING TRACKS WHERE CABLE WAS PULLED ALONG ROAD EDGE &  
BACK FILLED TRENCH WHERE TILE WAS EXPOSED GPS# 4085 265'±  
EAST OF AA AVENUE. WITHIN 14.0' OF THIS LOCATION TILE CROSSES  
ROAD,



PICTURE# 1179 IS LOOKING WEST TOWARDS AA AVENUE @  
APPROXIMATE AREA WHERE TILE CROSSES ROAD.

PICTURE #1180 IS LOOKING SOUTH FROM CO HWY D25  
SHOWING LOCATION DATA THAT KLK CONSTRUCTION  
CREW PAINTED ON ROAD EDGE FOR EXPOSED COUNTY  
TILE 265'± EAST OF AA AVENUE



PICTURE #1181 IS LOOKING SW FROM CO HWY D25 SHOWING OFFSET  
HUBS FOR COUNTY TILE AFTER CREW BACK FILLED TRENCH,  
WEST OF 3576 EAST DRIVE ENTRANCE

PICTURE # 1183 IS LOOKING NE FROM SEPTIC TANK LID  
WEST OF EAST DRIVE ENTRANCE FOR 3576 CO HWY D25.



GPS # 1081  
TOP SEPTIC  
LID



GPS # 1104 PNL EAST



PICTURE # 1184 IS LOOKING SW FROM CO HWY D25 SHOWING  
OFFSET HUB FOR COUNTY TILE AFTER CREW BACK FILLED TRENCH  
WEST OF 3576 EAST DRIVE ENTRANCE.



PICTURE# 1191 IS LOOKING WEST @ APPROXIMATE LOCATION WHERE MAPS SHOW COUNTY TILE BENOS SOUTH INTO FIELD. CREW COULD NOT FIND TILE & BORED CABLE THROUGH THIS AREA GPS # 1119, #1157, & GPS# 1158

(SEE SKETCH OF (30F3) FOR DETAILS)



PICTURE# 1192 IS LOOKING EAST SHOWING LOCATE MARKS FOR BORE & DEPTH OF BORE ON ROAD EDGE 1557' TO 1638±' EAST OF AA AVE

PICTURE # 1185 IS LOOKING WEST AT LOCATION OF EXPOSED  
TILE EAST OF EAST DRIVE ENTRANCE FOR 3576 CO HWY D25



PICTURE # 1186 IS LOOKING WEST TOWARDS WEST  
DRIVE ENTRANCE FOR 3576 CO HWY D25 SHOWING 18" BEEHIVE  
INTAKE IN DITCH WITH COUNTY TILE RUNNING E-W

8778 hh118-232 8-14-2019dp

1080,3634575.549,4930487.142,1133.400,BLOWOUT 2'  
1081,3634529.439,4930463.818,1135.149, TOP SEPTIC TANK  
1082,3634613.153,4929596.668,1145.454, SCF MAG ← CHECKED GOOD HORIZONTAL  
1083,3634597.524,4929861.596,1142.763,GS CABLE 36"DEEP ← VERTICAL @ AA AVE &  
1084,3634600.940,4929861.759,1142.927,EOA S EDGE ← CO HWY D25  
1085,3634588.507,4929862.086,1138.281,GS 20" OD CLAY TILE 7.8' TO TOP TILE  
1086,3634547.303,4930467.345,1135.194,GS LOCATE  
1087,3634553.680,4930471.479,1135.243,GS LOCATE 41" DEEP  
1088,3634563.456,4930477.947,1135.250,GS LOCATE  
1089,3634566.761,4930480.012,1135.319,GS LOCATE  
1090,3634581.986,4930490.823,1133.738,GS 3.94' TO TOP 6" SPIRAL CMP  
1091,3634586.276,4930494.904,1134.467,GS 5.27' TO TOP 6" SPIRAL CMP TIE IN 5.80' TO  
TOP 2.75' OD CLAY TILE  
1092,3634586.058,4930698.716,1134.568,GS 6.86' TO TOP 2.65" OD CLAY TILE  
1093,3634595.460,4930241.975,1139.700,GS CABLE BORE LOCATE 6.0'DEEP  
1094,3634595.016,4930295.175,1140.002,GS CABLE BORE LOCATE 6.0'DEEP  
1095,3634595.158,4930332.286,1138.818,GS CABLE BORE LOCATE 6.0'DEEP  
1096,3634596.111,4930362.264,1139.273,GS CABLE BORE LOCATE 6.0'DEEP  
1097,3634596.448,4930392.367,1139.273,GS CABLE BORE LOCATE 6.0'DEEP  
1098,3634595.628,4930422.028,1138.972,GS CABLE BORE LOCATE 6.0'DEEP  
1099,3634595.091,4930462.078,1138.502,GS CABLE BORE LOCATE 6.0'DEEP  
1100,3634595.228,4930482.579,1138.642,GS CABLE BORE LOCATE 6.0'DEEP  
1101,3634595.259,4930511.712,1138.497,GS CABLE BORE LOCATE 6.5'DEEP  
1102,3634599.238,4930502.506,1139.818,GS EOA S SIDE  
1103,3634599.011,4930699.272,1139.210,GS EOA S SIDE  
1104,3634565.656,4930686.085,1135.516,FNL EAST  
1105,3634594.844,4930541.626,1139.058,GS CABLE BORE LOCATE 6.8'DEEP  
1106,3634594.699,4930571.954,1139.359,GS CABLE BORE LOCATE 6.8'DEEP  
1107,3634595.562,4930592.348,1139.305,GS CABLE BORE LOCATE 6.8'DEEP  
1108,3634595.545,4930633.152,1138.669,GS CABLE BORE LOCATE 5.5'DEEP  
1109,3634595.096,4930672.307,1138.417,GS CABLE BORE LOCATE 4.5'DEEP  
1110,3634595.132,4930672.253,1138.414,GS CABLE BORE LOCATE 4.0'DEEP  
1111,3634585.111,4930229.354,1129.379,FL 18" BEEHIVE INTAKE  
1112,3634585.420,4930229.285,1133.694,18" BEEHIVE INTAKE N RIM  
1113,3634587.892,4930229.463,1134.484,GS 6.0' TO TOP TILE  
1114,3634600.476,4930231.515,1140.301,GS EOA S SIDE  
1115,3634565.961,4930202.521,1136.598,FNL S&W  
1116,3634586.829,4931156.251,1134.753,GS TILE BORE LOCATE  
1117,3634588.657,4931196.422,1136.053,GS TILE BORE LOCATE  
1118,3634563.933,4931320.238,1134.025,FNL E-W &S  
1119,3634597.676,4931241.249,1139.587,EOA 22'  
1157,3634597.963,4931157.541,1139.149,GS EOA 21'  
1158,3634597.823,4931198.605,1139.265,GS EOA 21'6"  
1159,3634588.297,4931236.347,1136.424,GS BORE CABLE LOCATE  
1160,3634595.277,4931339.490,1140.128,GS PULL CABLE 3.0' DEEP  
1161,3634597.639,4931339.409,1140.535,GS EOA S SIDE  
1162,3634596.380,4931056.594,1138.746,GS PULLED CABLE 36"DEEP  
10002,3634440.716,4936206.539,1163.310,CPT 3/4 .5DEEP ← SET BASE ON 1ST FIELD DRIVE  
ON WEST SIDE OF LAVE  
SOUTH OF CO HWY D25  
SE COR OF DRIVE  
3.0' WEST OF WEST GRAVEL  
ROAD EDGE

8778 hh118-232 8-12-19RB

1068,3634642.784,4923002.606,1149.999,GS -27.5  
1069,3634643.248,4922951.467,1150.067,GS -26.3  
1070,3634641.936,4923059.075,1149.809,GS -26.4  
1071,3634629.686,4923005.049,1146.078, TOP CMP 12TO FL  
1072,3634606.641,4926775.044,1151.941,GS -20.9FO  
1073,3634606.321,4926813.515,1152.058,GS -21.5FO  
1074,3634606.315,4926810.794,1152.032,GS -10.0 TILE 8"CLAY  
1075,3634580.533,4926806.674,1147.802,GS -6.0TILE 8"CLAY  
1076,3634655.322,4926825.566,1143.145,GS -33"@INTK  
1077,3634605.728,4926854.790,1152.783,GS -21.4FO  
1078,3634602.374,4927511.594,1154.004,GS -6.5TOP TILE6"CLAY  
1079,3634585.468,4930229.067,1133.608,RIM BEEHIVE-50"FLN  
1080,3634575.549,4930487.142,1133.400,BLOWOUT 2'  
1081,3634529.439,4930463.818,1135.149, TOP SYPTIC TANK  
1082,3634613.153,4929596.668,1145.454,SCF MAG