

**AGENDA
REGULAR DRAINAGE MEETING
WEDNESDAY, NOVEMBER 25, 2020 9:30 AM
LARGE CONFERENCE ROOM**

Due to Covid-19 health concerns, this meeting is open to the public via conference call only. The meeting date and time will remain the same. You may call at that time to access the meeting by following the instructions below:

To access the meeting call: 1-(312)-626-6799, when prompted enter meeting ID code: 820 7567 2007

You can also access the meeting online at:

<https://us02web.zoom.us/j/82075672007>

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

Documents:

[11_18_2020 - DRAINAGE MINUTES.PDF](#)

4. DD 82 WO 301- Discuss W Possible Action - Investigation Summary

Documents:

[DD 82 WO 301 - INVESTIGATION SUMMARY 11_23_20.PDF](#)

5. DD 4-112 - WO 2020-1 - Discuss W Possible Action - Utility Crossing Summary

Documents:

[2020-1 DD 4-112 - UTILITY CROSSING SUMMARY 11_23_2020.PDF](#)

6. DD's 1, 8, 8 Sub 2, 44, 62, & 78 - WO 2020-12 - Discuss W Possible Action - Utility Crossing Summaries

Documents:

[2020-12 DD 1 ONLY UTILITY CROSSING SUMMARY 11_23_20.PDF](#)
[2020-12 DD 8 ONLY UTILITY CROSSING SUMMARY 11_23_20.PDF](#)
[2020-12 DD 8 SUB 2 ONLY UTILITY CROSSING SUMMARY 11_23_20.PDF](#)
[2020 -12 DD 44 ONLY UTILITY CROSSING SUMMARY 11_23_20.PDF](#)
[2020-12 DD 62 ONLY UTILITY CROSSING SUMMARY 11_23_20.PDF](#)
[2020-12 DD 78 ONLY UTILITY CROSSING SUMMARY 11_23_20.PDF](#)

7. DD 46 - WO 2020-14 - Discuss W Possible Action - Utility Crossing Summary

Documents:

[2020-14 DD 46 UTILITY CROSSING SUMMARY 11_23_20.PDF](#)

8. Other Business

9. Adjourn Meeting

REGULAR DRAINAGE MEETING
Wednesday, November 18, 2020 9:30 AM

This meeting was held electronically and in person due to Covid-19 concerns.

11/18/2020 - Minutes

1. Open Meeting

Hardin County Drainage Chairperson Lance Granzow opened the meeting. Also present were Trustee BJ Hoffman,; Trustee Renee McClellan; Lee Gallentine of Clapsaddle-Garber Associates (CGA); Angela Silvey, Board Secretary; Michael Pearce, Network Specialist; and Denise Smith, Drainage Clerk.

2. Approve Agenda

Motion by Hoffman to approve the agenda. Second by McClellan. All ayes. Motion carried.

3. Approve Minutes

Motion by McClellan to approve the minutes of Drainage Meeting dated 11-10-2020. Second by Hoffman. All ayes. Motion carried.

4. DD 9 - WO 229 - Discuss W Possible Action - Change Order #2

Gallentine stated the original plans and profiles show the main tile and both laterals connect outside of the railroad right of way, once we went up there for exploratory, we found they both connect inside the right of way, so when we rerouted everything we made the reroute outside of the right of way, but it did require some extra lateral tile, which totalled an increase of \$3,500, but now we are not in the railroad's right of way. Gallentine stated that junction structure is 20' to 25' outside of the railroad right of way now. Hoffman stated so we can always get to it without needing the railroad's permission.

Motion by Hoffman to approve the DD 9 Work Order 229 Change Order #2 as presented. Second by McClellan.

In additional discussion on the motion, Granzow stated the decision was made without the Trustees authority but was made with the District's and the County's best interests in mind, and he knows us well enough, that yes, Granzow is fine with this, although we don't need to approve this, Granzow feels we should. Hoffman stated it was brought to our attention but it was not an actionable item.

All ayes. Motion carried.

5. DD 136 - Discuss W Possible Action - Heart Of Iowa Drainage Utility Permit #2020-16

Gallentine stated this was in the town of Cleves, Heart of Iowa filed a Drainage Utility Permit for DD 136, boring fiber optic through Cleves, Jay Duncan ended up contacting Gallentine last week, and Heart of Iowa does not end up crossing Lateral 7, they run parallel to Lateral 7, they are above the lateral, Heart of Iowa is only 2' to 3' deep and Lateral 7 is 7' to 8' deep. Gallentine stated he told Duncan he would talk with the Trustees, but was not sure what there was to shoot and monitor if Heart of Iowa is never crossing the district facility, that is what the purpose of the permit is for. McClellan asked if they are running above it instead of beside the lateral, Gallentine replied they are running offset of the lateral, Granzow stated they are running it through the easement, is that correct. Gallentine stated the district tile is about 2' of the road edge, inside the road right of way, Heart of Iowa is also inside the road right of way, the road right of way was there before the tile was, this is in DD 136, which was installed in the 1920's. Granzow stated that the only thing he would add on is that if it ever becomes a conflict, it will be Heart of Iowa's expense to fix it if we ever need to repair the tile. Smith stated that was noted in the discussion on the permit's original review and approval, so that is noted in the minutes as well. Granzow was happy that we don't have to cross any DD tile, Gallentine agreed, if we didn't have any damage to district facilities and they don't have to cross any he is happy with that.

Motion to acknowledge Drainage Permit 2020-16 and that Heart of Iowa is doing the right thing in their communication. Second by McClellan.

In additional discussion on the motion, Hoffman stated we need to remember instances like these when we deal with Heart of Iowa, that Jay Duncan and Bryan the staff of Heart of Iowa, this is a perfect example of going above or beyond, and whenever Hoffman sees Jay, Bryan or any of their technicians, he lets them know the County and the community really appreciates their efforts, when they don't even have to. Gallentine stated Heart of Iowa went

ahead and found the tile, they located it to do their due diligence, even though they are paralleling the tile, they still wanted to make sure. McClellan stated she wished all of our utilities were like this.

All ayes. Motion carried.

6. Discuss W Possible Action - Midland Drainage Utility Permits

Smith stated she wanted to provide the Trustees an update that she had sent Casey Huff of Midland an email requesting info on the status of locating the open Drainage Utility Permits, and had not had a response from Huff yet, until this morning. Huff's email stated that Midland is not currently on schedule to have the locates done on their open Drainage Utility Permits, that they had hoped to have this completed by Thanksgiving. Midland has pushed completion on the locates back to the end of the year, due to the Covid-19 situation they have had some staffing issues, and as soon as they can possibly get to it they will, and they hope to have it wrapped up by the end of this year.

7. Discuss W Possible Action - Drainage Utility Permit Invoices

Smith stated these are two drainage utility permit invoices from CGA for Drainage Utility Permits that have been closed. Gallentine stated these were for two different permits but similar to today's situation in DD 136, it took some time to get the information from the utility, to realize that they are not even crossing the district facility. There are two bills, one is for \$236 and one is for \$228, Gallentine had sent them to Smith, and Gallentine didn't know if the Trustees wanted to pay those, or if they want him to forward them on to the utility company, but DD 136 with Jay Duncan, as soon as he told Gallentine what was going on, Gallentine told Duncan he would just take this to the Supervisors, as we have such a good working relationship with Heart of Iowa, and that we understood the situation so quickly, there won't be any bill on that permit. Gallentine stated these two invoices reflect some emailing and work back and forth, the utilities filed the permit but didn't end up doing construction. Granzow stated unfortunately they filed for the permit and Granzow believes the costs still go with the permit, McClellan and Hoffman agreed. Granzow asked if the District should split half of it for their diligence. McClellan does not want to penalize them by making them pay the whole bill for being proactive and filing for a permit, and does not want them in the future to say well, we don't think we will cross it so let's not get a permit just in case, McClellan wouldn't have a problem splitting it but does not know if they would do that or not. Hoffman stated try to bill it all to the utility, and if they disagree let them come to us for a relief, and we can compromise at that time, but thinks most of these entities have a whole lot more money coming in than Hardin County has, McClellan would agree with that, send the utility the bill and if they have a problem with it they can contact us.

Gallentine asked if the Trustees would like him to send it through CGA's normal billing or would they like to have the Drainage Clerk forward them on. Hoffman asked what the typical process was, Gallentine stated typically CGA would bill the utility, Hoffman would suggest staying with the typical / standard process. Gallentine stated these were a couple of older Drainage Utility Permits, and now with Smith on board, he does not think we will get to this point again, as Smith is taking a more active roll in pursuing the utility companies than Gallentine is any more, which he appreciates. Gallentine stated no further action is needed, he just needed some direction.

8. Discuss W Possible Action - Drainage Investigation Waiver

Smith stated in last week discussion of Drainage Utility Permits, we had discussed the Drainage Investigation Waiver that Franklin County uses, and McClellan has mentioned this waiver a few times, this waiver states that the landowner may be responsible for expenses that may be incurred if the issue is found to be private tile, Smith added this to the agenda today at the Trustees request, so that they may review it and decide if it is something they want to pursue or if they would like to make changes to the language, Smith could draft a copy or attorney Mike Richards could draft a copy for Hardin County, it is entirely up to the Trustees what they would like to do. McClellan stated it should for sure be run by Mike Richards, and he will have to defend whatever may come out of it, and she does not know if Franklin County ran that by an attorney. Hoffman asked if Gallentine was already familiar with this. Gallentine replied that essentially what this ends up being is that if we go out and it ends up being private tile, then they just forward all the bills on to the landowner or whomever the requestor was. McClellan asked if they had any complaints over that. Gallentine stated yes, every time, but at least it starts the discussion and usually if they sign this type of thing and sometimes the Supervisors will say well we understand and we can pay half, but he can't think of an example where they have paid half, it is usually well you signed this so you will have to pay it. Gallentine stated the only issue he will point out is that sometimes they do not get work orders turned in because of this waiver, some guys will just gamble and go out and hire my own guy and fix it myself, well if you need this form filled out I don't need to tell you, but they can do that right now if they want to.

Hoffman asked if they get in over their head, do they have to finish what they started, at whose expense, that is one of those deals, where they might set out to fix it themselves and 6' of tile turns into 600', are they held harmless, and they say I started it but I don't have the means to finish it. Granzow would look at that as once you found out it was district tile, that was 600' you shouldn't have done. Hoffman stated or they may have known it was district tile when they started and they wanted to circumvent the process, Granzow stated if they want to circumvent the Trustees, then they can pay the bill, and we may redo it and charge you again. Gallentine stated

the one thing you may want to think about is like open ditch clean-out, sometimes guys will think the open ditch has silt but they don't know for certain and if they have to sign it, they are really reluctant to tell you about it, but that doesn't happen too often. Granzow stated you can visually see an open ditch, you are out there with tripods, not digging with a backhoe, Granzow does not have a problem excluding open ditches. Granzow stated he thinks there should be some verbiage in there stating that if you do discover it is district tile, you cease and desist, you have no authority going forward, and any authority in going forward may cost you in fines and penalties, and damages.

Motion by Hoffman to have the Drainage Clerk send Franklin County's Resolution 2016-18 to attorney Mike Richards for review and constructive criticism and report back to us. Second by McClellan.

In additional discussion on the motion, Granzow asked if Hoffman wanted the open ditches to be excluded as part of that motion. Hoffman stated yes, he would amend the motion "to include the exception of open ditches in the waiver language".

All ayes. Motion carried.

Hoffman stated at this point maybe this is all we need to do today, until attorney Richards responds, and then address this again as soon as possible upon receipt of Richard's reply. Granzow asked if the Trustees would like to have Richards to address the question of how to keep people from working on district tile without permission. Hoffman stated sure, and he thinks that some of that falls onto the three Trustees that may need to work with the Drainage Clerk and Mike Richards on how we can put something out in the newspaper to let people know this is what the process is and the consequence is if you start something and you end up in over your head, it is your bill. McClellan asked if when a farmer puts in private tile, doesn't he then know where that private tile is located. Granzow stated they are GPS'ed now. Hoffman stated with absentee landowners and people that purchase farms in huge farming operations like the one up by Britt, they don't know the history of a farm like you or I would know the history of our family farm, you know where to look if something is not working, these people that are buying up 80 acre parcels every other Wednesday at the Legion Hall, they don't know that history. Granzow stated you may not even get private tile maps with that, Gallentine stated if you have 5 acres under water, it's got to be the main to them, but sometimes it isn't. McClellan stated to her it seems you should dig up your private tile first to see if it is the issue. Hoffman stated but that costs them, if they refer it to the district then everyone in the district pays. McClellan asked can't they refer to their own contractors. Granzow stated as an example that happened to him, his neighbor has a pond, that pond is about 3/4 of a mile from Granzow's outlet, so the neighbor takes it upon himself to take his ranger and drive it through Granzow's corn field to listen to the water run, he got a phone call, and yes they have responsibilities, yes he took responsibility to make sure the main was running, now he knows it is a private tile, he didn't do enough damage to have crop loss but it is the concept that the neighbor did not have the right to drive on Granzow's property, Granzow stated we do have that right as Trustees, but landowners do not. Granzow's point is that at least the neighbor took the diligence to look and see that the main was flowing, and he hasn't filed anything yet. Granzow stated this is a touchy thing because we still have the possibility of going in reverse in doing this and we still have an issue coming up of a \$24,000 bill for private tile, now contractors when they go do GPS they can be off as far as they want, they just click, they don't mark the spot they put the tile.

Hoffman stated he remembered his first GPS, back in 1993 that he bought for ice fishing only, which was guaranteed to be within 12 meters, now GPS is less than a meter. Granzow stated it can be as accurate as about 3", Hoffman stated yes depending on the quality of equipment, Gallentine stated it used to get you in the room now it can get you down to the carpet. Granzow stated if they put the mark where they actually connected they might be that far off when they actually push the button, McClellan was just thinking that if this is your main and your private tile comes through here, private tile depending on where the pond is, check your own first or check and see that the main is running. Gallentine stated that in Franklin County, they may get one a year that this waiver applies to, it really is not very many instances this applies. Granzow stated he hoped the most cost would be for digging the hole, Hoffman stated a lot of people will hurry up and wait and see if it resolves, and if we have a really wet time, you may have a hard time realizing what the drainage coefficient should be, and if we have a really dry time and then you get a little rain, you have to have the hydrology of the soils to add up to an issue, most people will wait and see if it resolves.

Smith asked if Gallentine had any issues with unreported repairs on district tile, where they may just go ahead and make a repair on district tile and not let anyone know or repairs not being done to district standards. Gallentine stated the only thing he runs into is once in a while he will get a call from a contractor who is in the field doing private tile and the district main may need repaired and the contractor will say I need to replace 100' and you need to authorize that, Gallentine tells them I can't authorize that, you need to talk to the Auditor's office and turn in a work order, and a month later I will ask the Auditor, did you ever get a work order, and the answer is no, Gallentine stated either the contractor didn't fix it or didn't go through the effort to report it. Hoffman stated the contractor is not going to let equipment set for two weeks waiting on a work order authorization. McClellan asked if the landowner pays for that then, Gallentine stated yes. Granzow stated we have taken steps to help in that instance

by authorizing the Drainage Clerk to authorize repairs up to \$1,500. Gallentine stated that is mainly in Franklin County he runs into this, as Hardin County has been good at communicating that you need to reach out to the Drainage Clerk. Gallentine stated the one from Franklin County this year, was hey I have been out out here 3 years in a row and replaced another 20' of the main, we need to replace another 400' of it, Gallentine stated he can't authorize that, and never got an official request on it. Granzow asked if the Franklin County Auditor has any authority to replace district tile. Gallentine does not thinks so. Granzow stated he thinks it saves people a lot of money by doing that.

9. Other Business

10. Adjourn Meeting

Motion by McClellan to adjourn. Second by Hoffman. All ayes. Motion carried.



Drainage Work Order Request For Repair

Hardin County

Date: 9/24/2020

Work Order #: WO00000301

Drainage District: DDs\DD 82 (51111)

Sec-Twp-Rge: 17-87-21 **Qtr Sec:** W1/2 SW1/4

Location/GIS: 87-21-17-300-004

Requested By: Connie Eklund

Contact Phone: (612) 554-7550

Contact Email: coneklund@gmail.com

Landowner (if different): _____

Description: DD 82 - Landowner Connie Eklund reports sinkhole in parcel #872117300004, sinkhole at DD tile just east of I Ave and south of field entrance. There is area of washout and erosion that continues into the field, looks like it has gone on for some time. Field has been in CRP for years, not currently in crops and not had soil turned over in years so only just discovered. Landowner would like to farm this in the spring and 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:** _____



872119400004

D.D. No. 82 Ave

W 301

872117300004

MAIN

250th St

872117300005

177

119200001

872120100001

872120100005

20

8721

Drainage District:

#82

Investigation/Repair Summary:

- Landowner in the SW¼ SW¼ Section 17, Township 87 North, Range 21 West reported a sinkhole above the assumed Main tile route on the east side of I Avenue.
- Visual observation found a surface swale/washout that had formed and eroded due to overland flow of water, originating from the concrete box culvert below I Avenue, following the lowest point of elevation through the field, and running to the wooded area at the beginning of the open ditch. During the observation, some pieces of broken VCP tile were found in the swale, but there is no indication that they originated from the Main tile and may be part of the erosion protection that was installed near the box culvert and beginning of the wooded area. Lastly, no distinct signs of a sinkhole/blowout or any defect with the Main tile were observed.

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

None recorded as only visual observation was performed.

Additional Actions Recommended:

Since there doesn't appear to be any defect with the Main tile, it does not appear that there are any issues for the District to repair. However, given the amount of erosion due to overland flow of water, the District Trustees may decide to install an intake on each side of I Avenue.



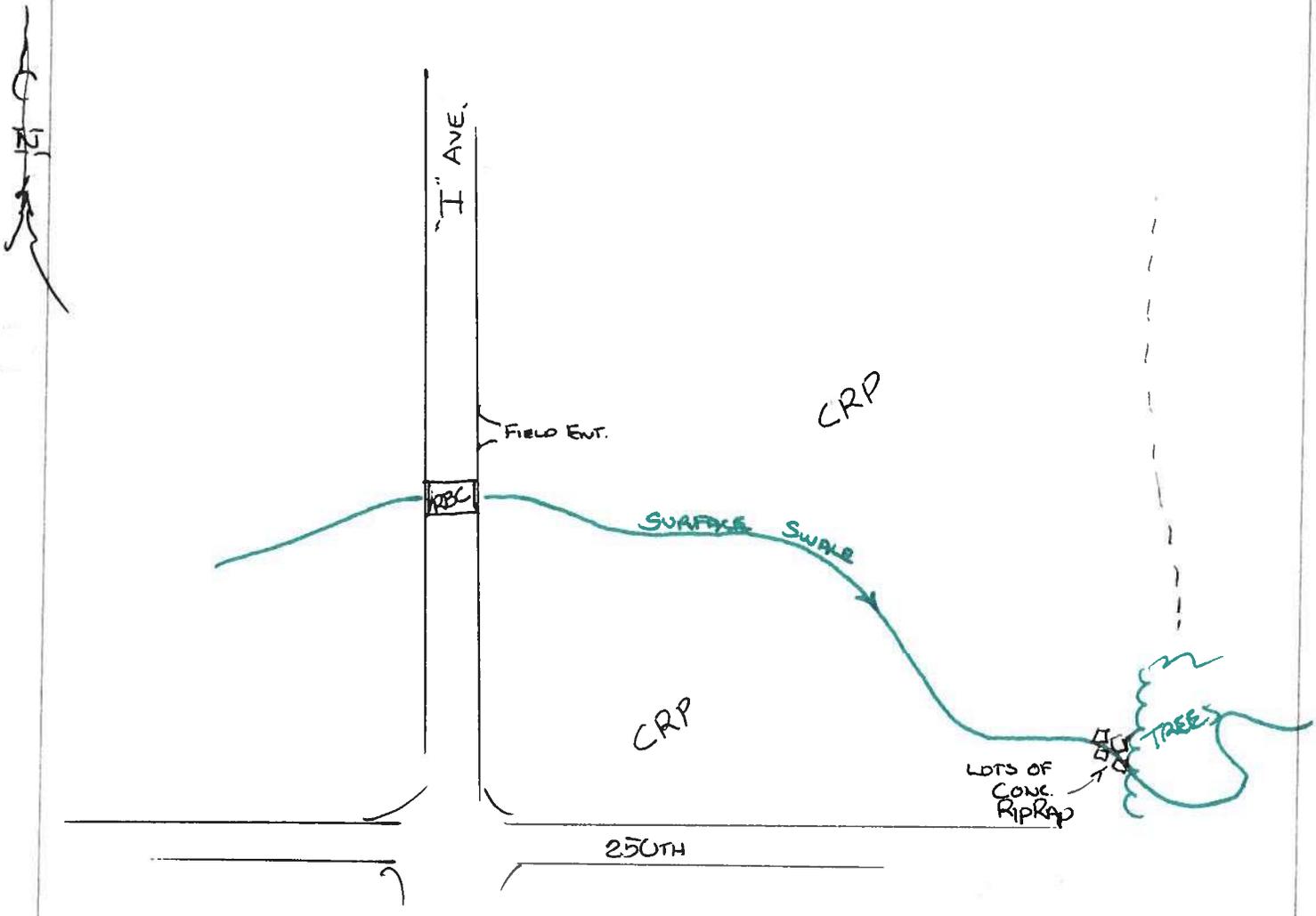
Project Diary (continued)

CGA PN:

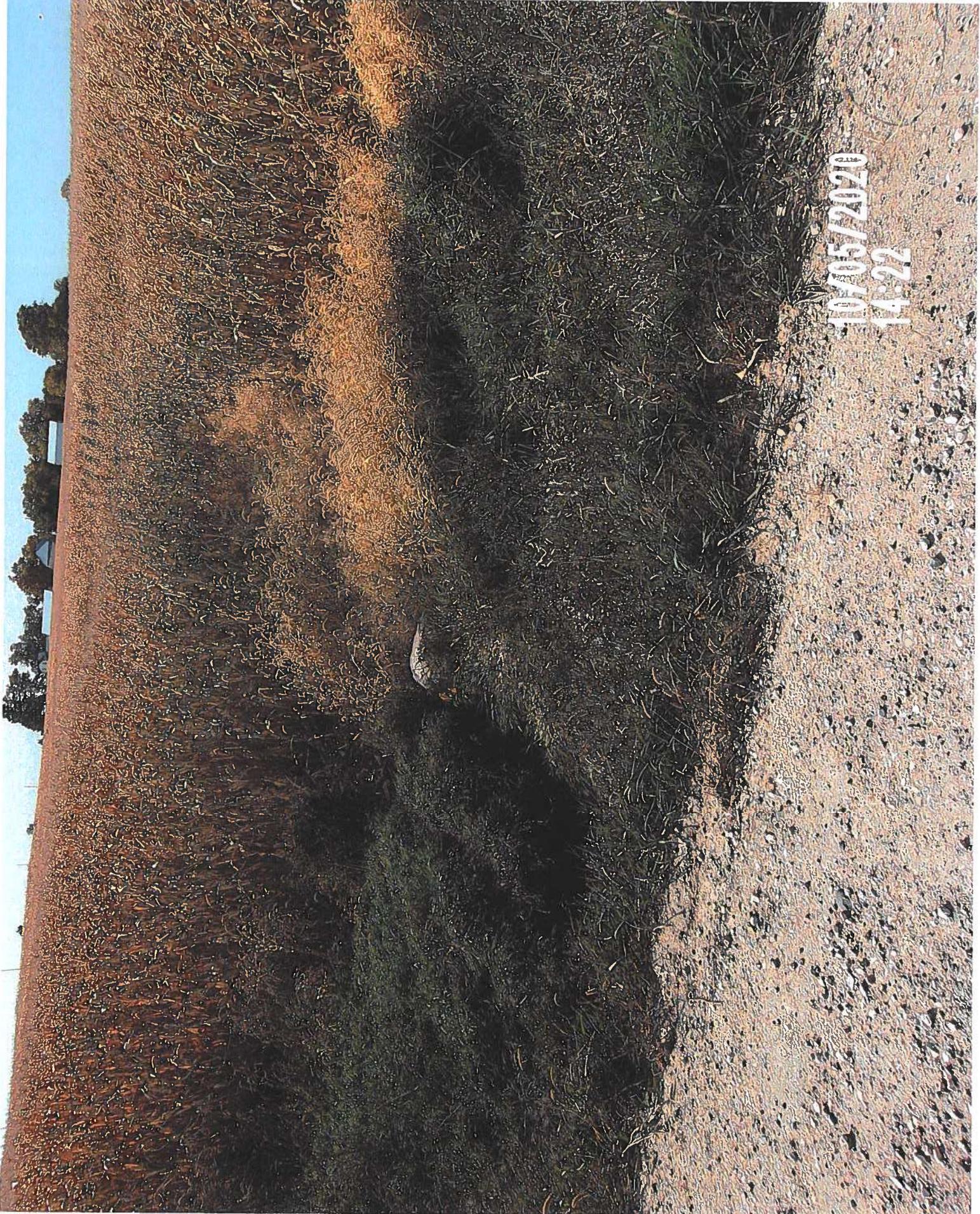
Report
No.

Date:

1. General Remarks and Work Accomplished (Continued):

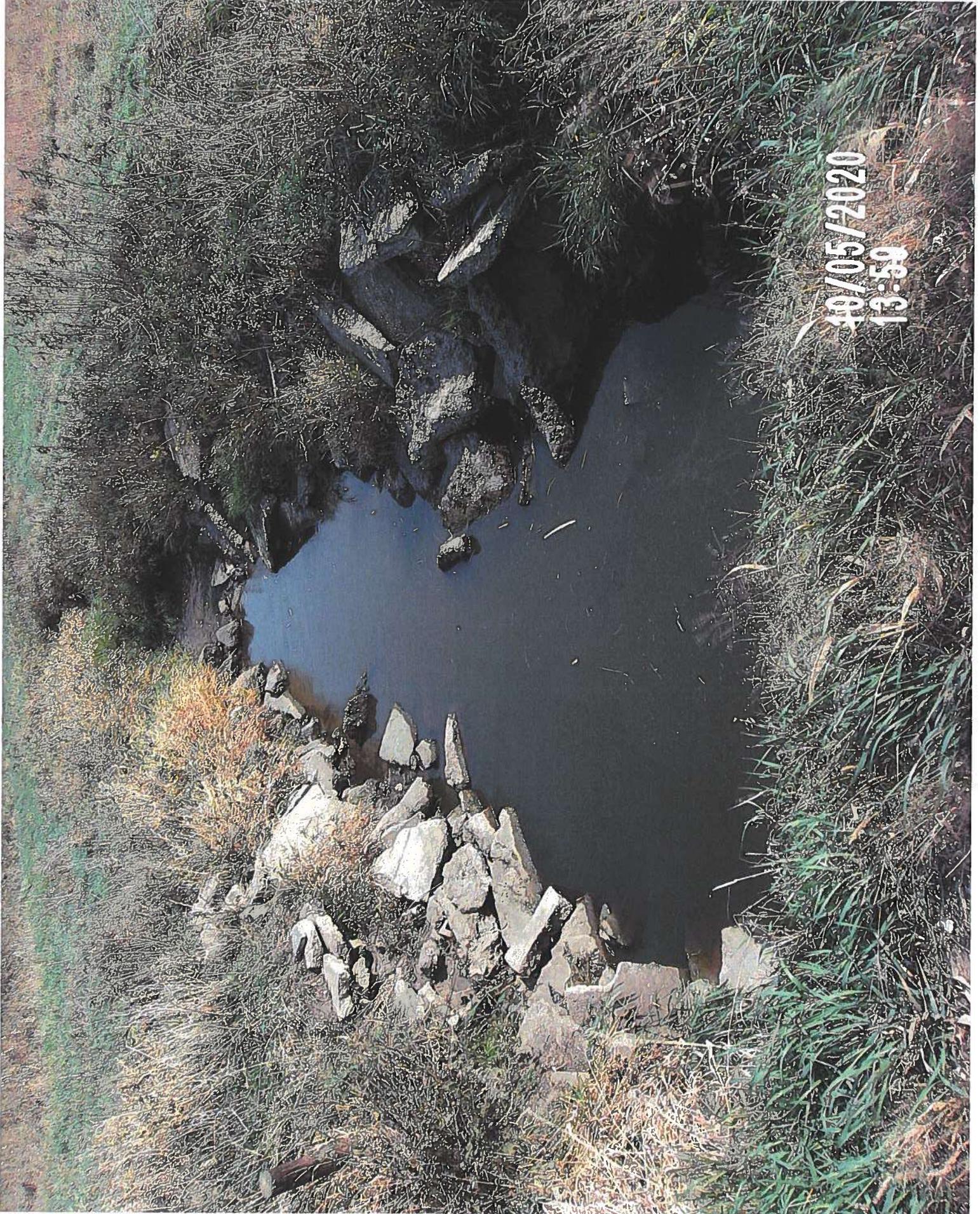


LOOKING W. FROM "I" AVE.



10/05/2020
14:22

WASH-OUT FROM BOX CULVERT



10/05/2020
13:59

LOOKING WEST @ HBC ON Jth AVE.



10/05/2020
14:00

CLAY 6" CHARD BY ROAD



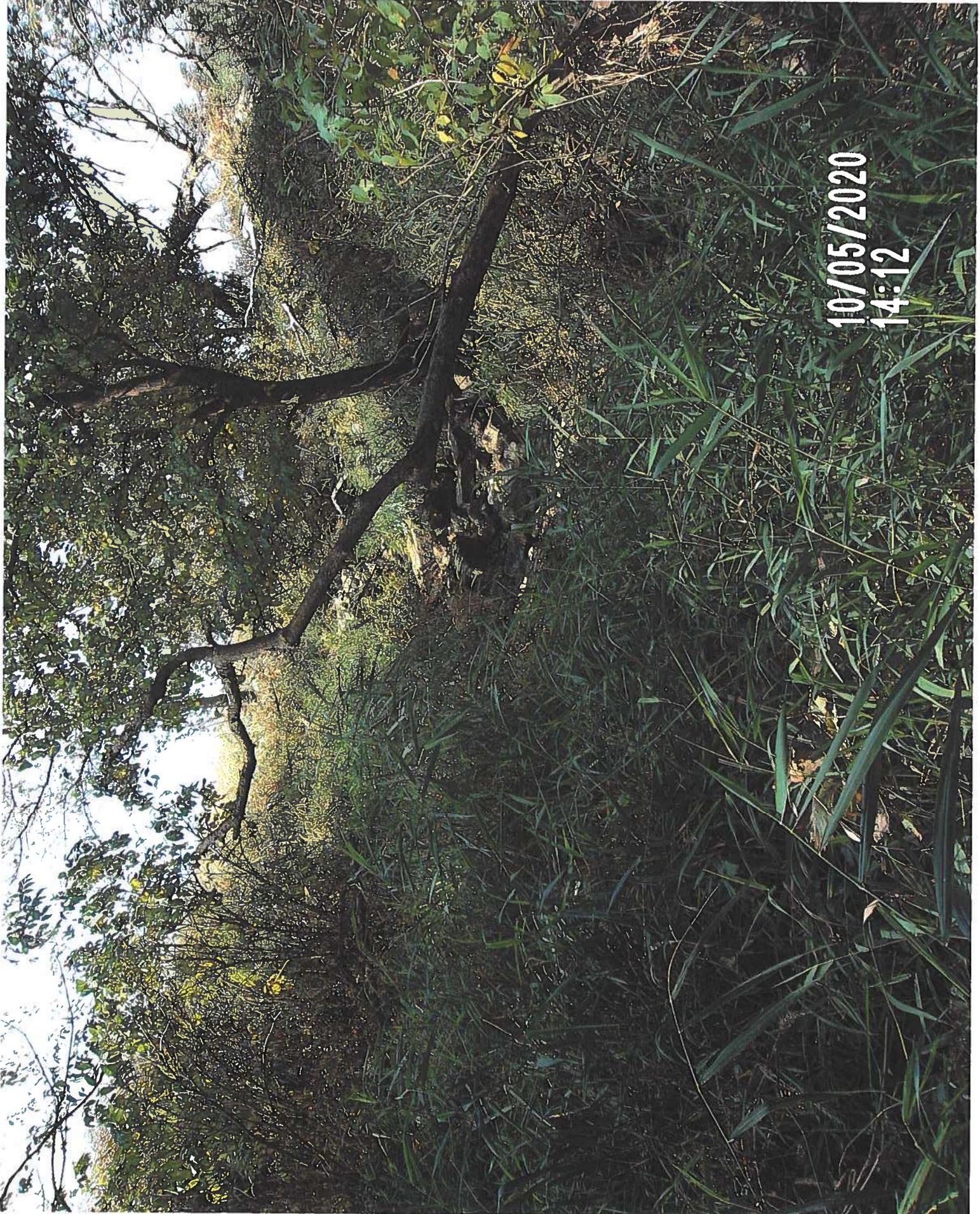
LOOKING E. BY TREES ; SURFACE WASH-OUT



10/05/2020
14:08

LOOKING WEST FROM TREES

10/05/2020
14:12





Drainage Work Order Request For Repair

Hardin County

Date: 2/27/2020

Work Order #: 2020-1

Drainage District: DDs\DD 45 (51070)

Sec-Twp-Rge: 35-86-21 **Qtr Sec:** _____

Location/GIS: 86-21-35-400-008

Requested By: Aaron Landmesser

Contact Phone: (641) 487-7399

Contact Email: aaron@minervavalley.net

Landowner (if different): Shirley R Cowles

Description: DD 45- Minerva Valley Tel. Co. - 33849 LL Ave. Installation of buried fiber optic cable. Construction consists of plowing and directional boring. Cable to be placed minimum of 36" deep.

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:** _____



HARDIN COUNTY

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

HARDIN COUNTY DRAINAGE DISTRICT UTILITY PERMIT APPLICATION

Applicant: Minerva Valley Tel. Co.
Company Name

104 North Pine
Address

Zearing Iowa 50278-0176
City State Zip

Applicant Contact: Aaron Landmesser (641) 487 - 7399
Name Phone

aaron@minervavalley.net
Email

Utility Type: Telecommunications

Drainage District(s) Crossed: District # DD 45

Facilities Crossed (specific tile, open ditch): District #45 lies north of 33849 LL Ave ends in open ditch

Description of Work: Installation of buried fiber optic cable. Construction consists of plowing
and directional boring. Cable to be placed minium of 36" deep.
(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.

Aaron Landmesser
Applicant Signature

2-26-2020
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

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.



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
02/07/2020

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER UNITEL 1128 Lincoln Mall Suite 200 Lincoln NE 68508	CONTACT NAME: Joanne Mohn PHONE (A/C, No, Ext): (402) 434-7200 FAX (A/C, No): (402) 434-7272 E-MAIL ADDRESS: jmohn@unitelinsurance.com																					
INSURED Minerva Valley Telephone Company, Inc. PO Box 176 Zearing IA 50278-0176	<table border="1"> <tr> <th colspan="2">INSURER(S) AFFORDING COVERAGE</th> <th>NAIC #</th> </tr> <tr> <td>INSURER A:</td> <td>National Farmers Union P & C</td> <td>18217</td> </tr> <tr> <td>INSURER B:</td> <td>Hartford Casualty Insurance Co</td> <td>29424</td> </tr> <tr> <td>INSURER C:</td> <td></td> <td></td> </tr> <tr> <td>INSURER D:</td> <td></td> <td></td> </tr> <tr> <td>INSURER E:</td> <td></td> <td></td> </tr> <tr> <td>INSURER F:</td> <td></td> <td></td> </tr> </table>	INSURER(S) AFFORDING COVERAGE		NAIC #	INSURER A:	National Farmers Union P & C	18217	INSURER B:	Hartford Casualty Insurance Co	29424	INSURER C:			INSURER D:			INSURER E:			INSURER F:		
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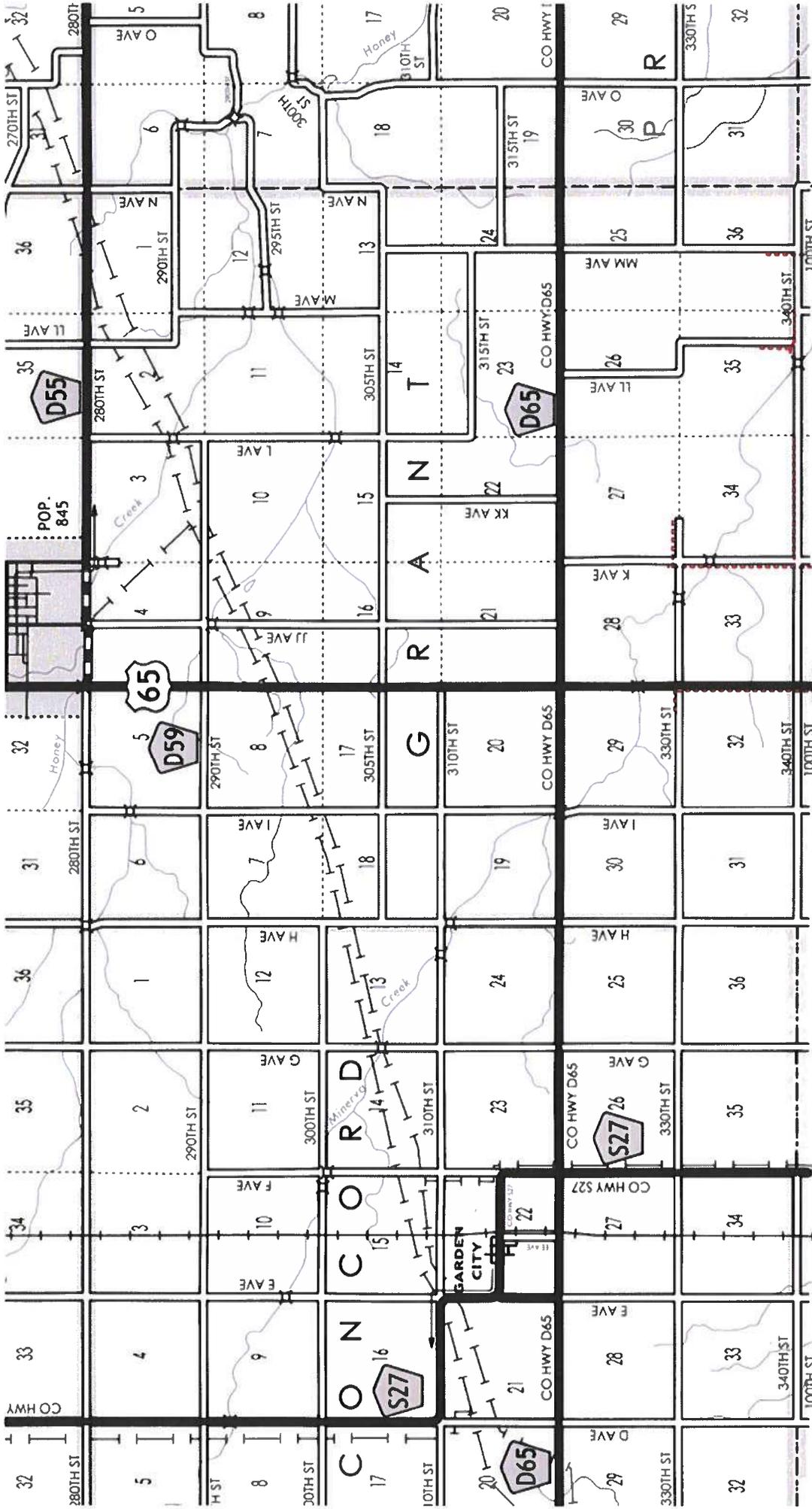
COVERAGES CERTIFICATE NUMBER: 19-20 COI REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS

INSR LTR	TYPE OF INSURANCE	ADOL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER <input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PROJECT <input type="checkbox"/> LOC OTHER:		Y	1RU0153508	10/06/2019	10/06/2020	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 100,000 MED EXP (Any one person) \$ 5,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ UNLIMITED PRODUCTS - COMP/OP AGG \$ 2,000,000
A	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input checked="" type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY			1RU0153508	10/06/2019	10/06/2020	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ Underinsured motorist \$ 1,000,000
A	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED <input checked="" type="checkbox"/> RETENTION \$ 10,000			1CB0153509	10/06/2019	10/06/2020	EACH OCCURRENCE \$ 2,000,000 AGGREGATE \$ 2,000,000
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below		Y/N	81WEBV2698	10/06/2019	10/06/2020	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTHER E L EACH ACCIDENT \$ 500,000 E L DISEASE - EA EMPLOYEE \$ 500,000 E L DISEASE - POLICY LIMIT \$ 500,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Hardin County Engineer is included as an Additional Insured with respect to the General Liability

CERTIFICATE HOLDER Hardin County Engineer Taylor Roll 708 18th St Eldora IA 50627	CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE
---	--



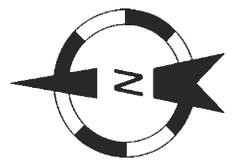
STORY CO. MARSHALL CO.

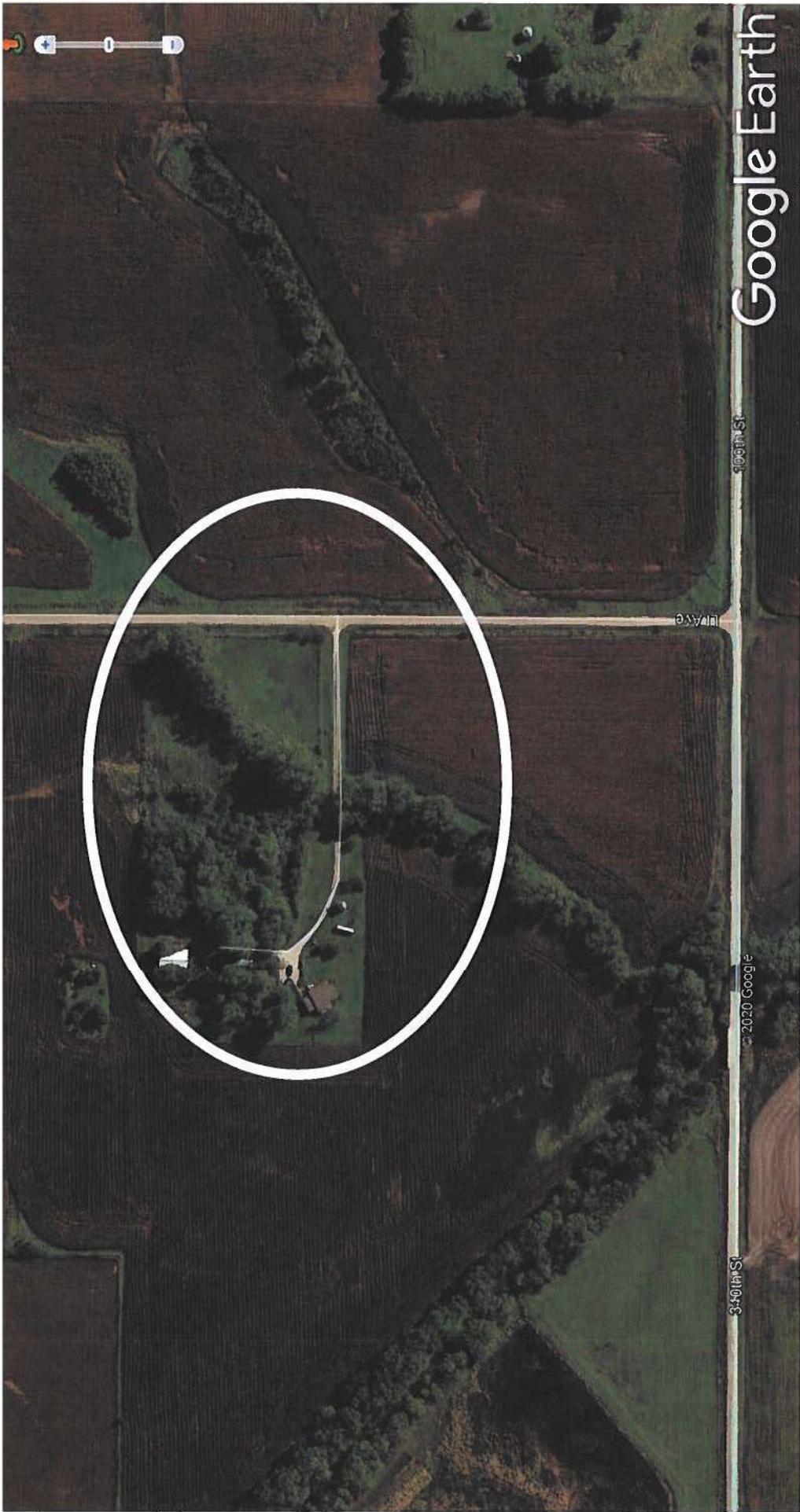
R-21W

R-22W

State: Iowa
 County: Hardin
 Range: 21 W
 Twsp: 86 N

Zearing, Iowa
 Proposed Fiber Route
 Existing Fiber Route





Google Earth

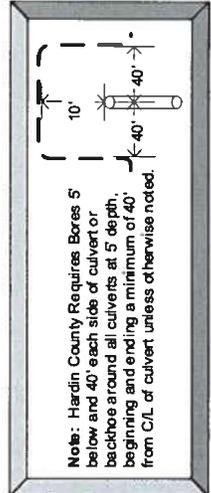
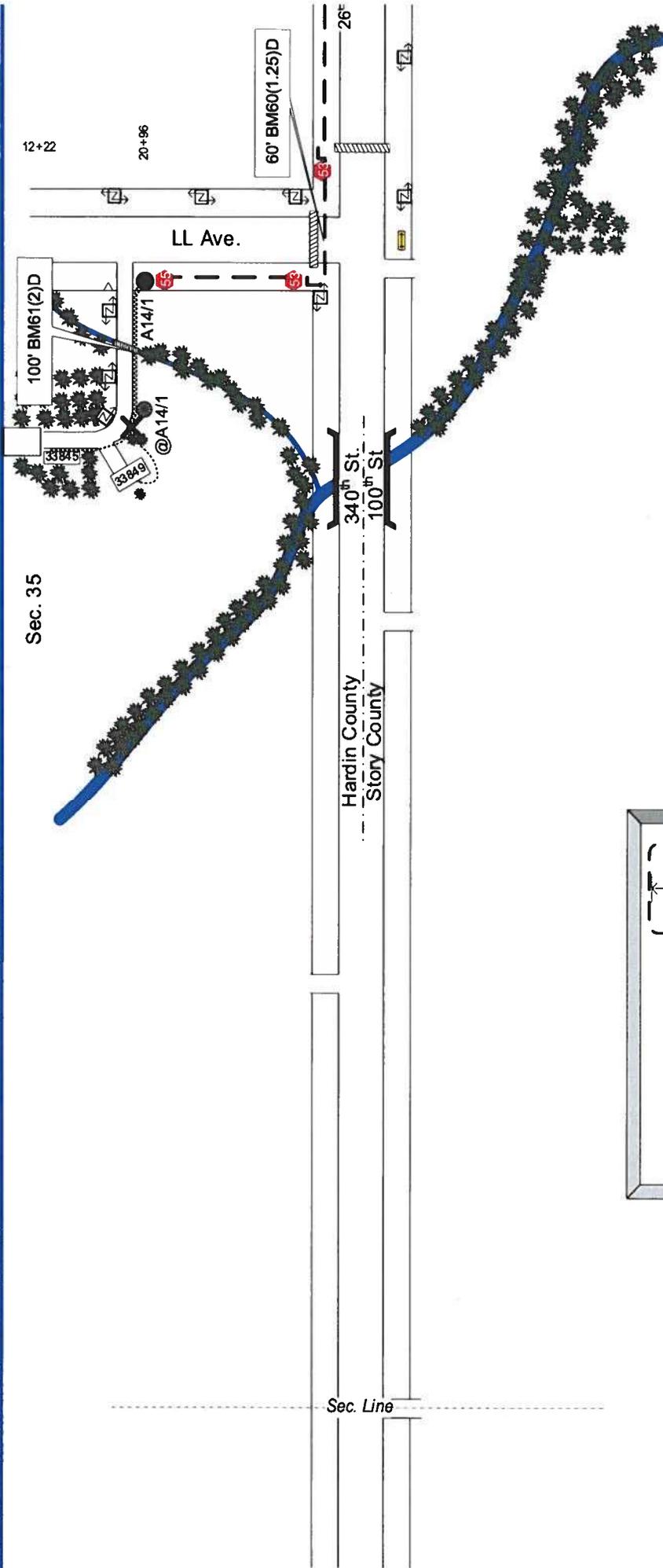
906th St

3401st St

© 2020 Google

3401st St

Sec. 35



Note: Hardin County Requires Bores 5' below and 40' each side of culvert or backhoe around all culverts at 5' depth, beginning and ending a minimum of 40' from CIL of culvert, unless otherwise noted.

Hardin County:

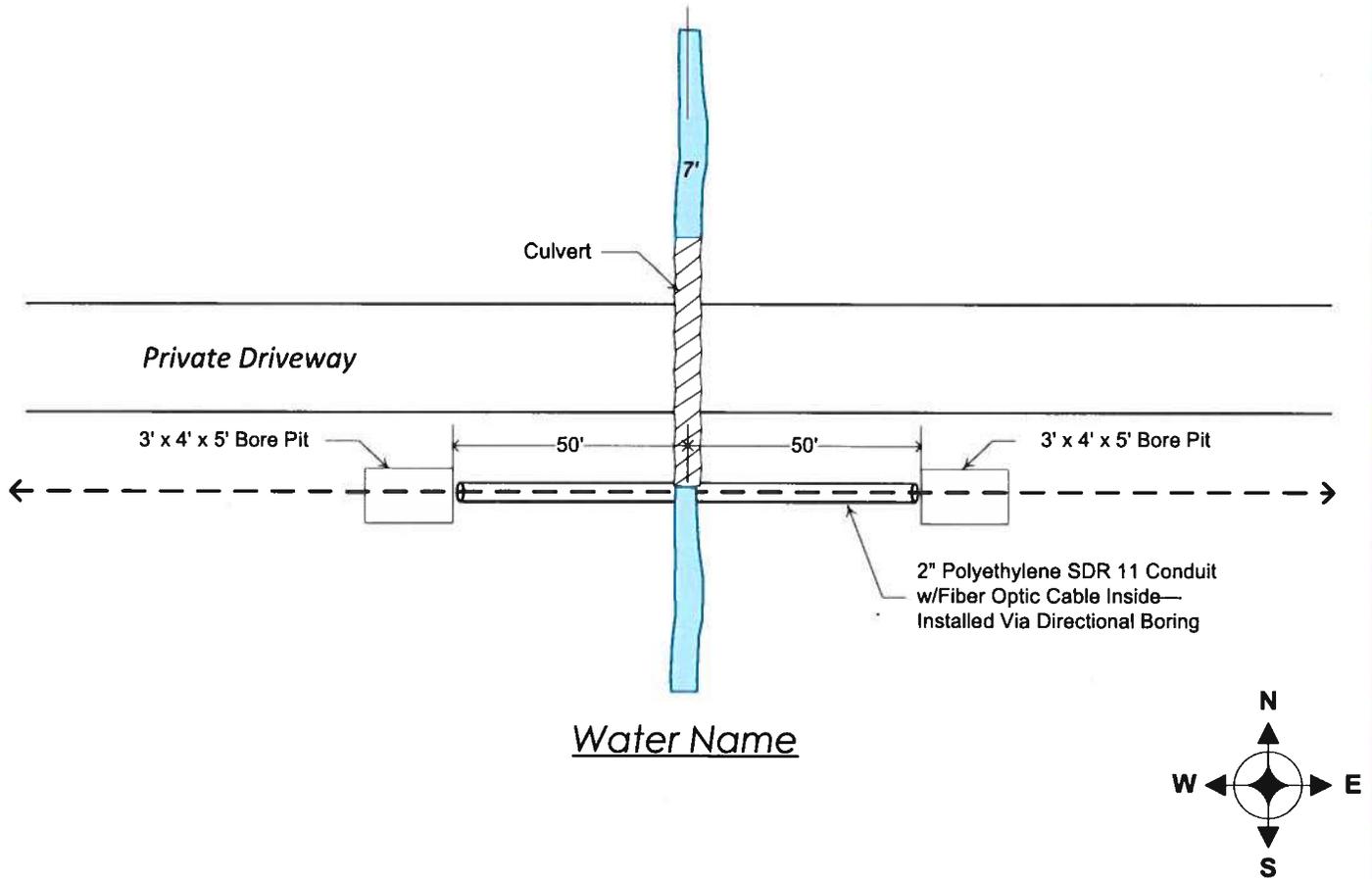
All utilities in Hardin County shall be located between the bottom of the backslope and bottom of the foreslope, unless otherwise approved in writing by the County Engineer prior to installation.

Sec. 2

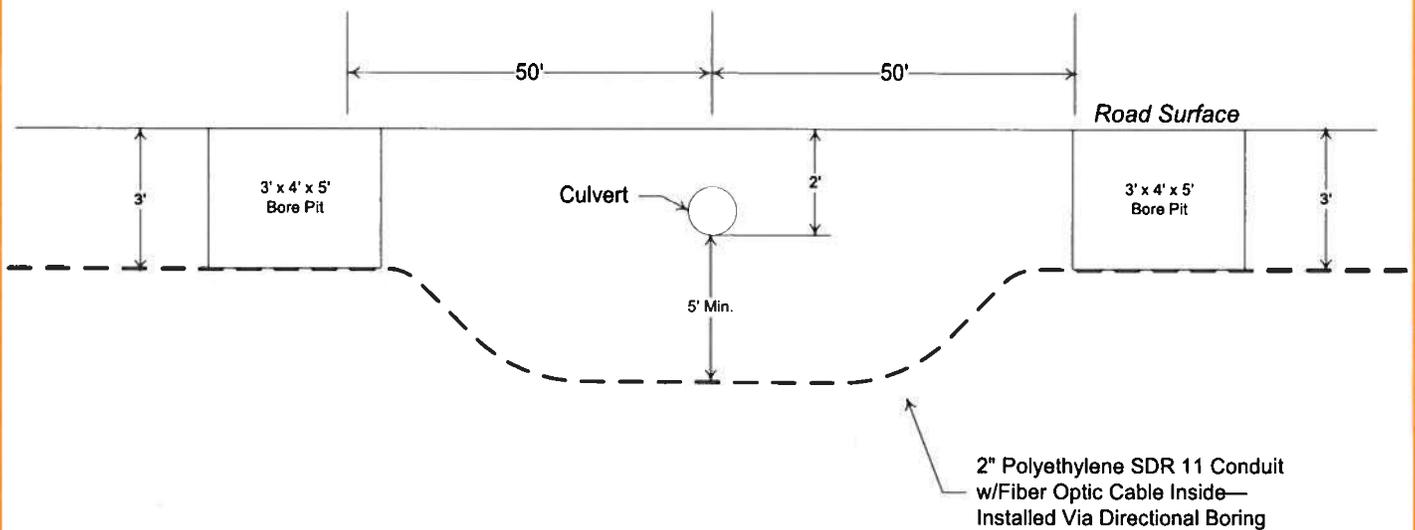
From	To	PType	Units	Feet	BM	HBFO	HO	ONT	Remarks	
(A/23)	A14/1	BHF(30R)	BFO 12W	2196	2(5/8)(8)	1	S	1	2	A14 Rte.
A14/1	A14/1		BFO 12	50	53	2				50' Tail In HH.
	A14/1				55	1				
	A14/1				60(1.25)D	60				
A14/1	X@A14/1		SEBO 4I	640						
	X@A14/1		SEBO 4I	640						
	X@A14/1		SEBOV(2x.75)E36	1280						

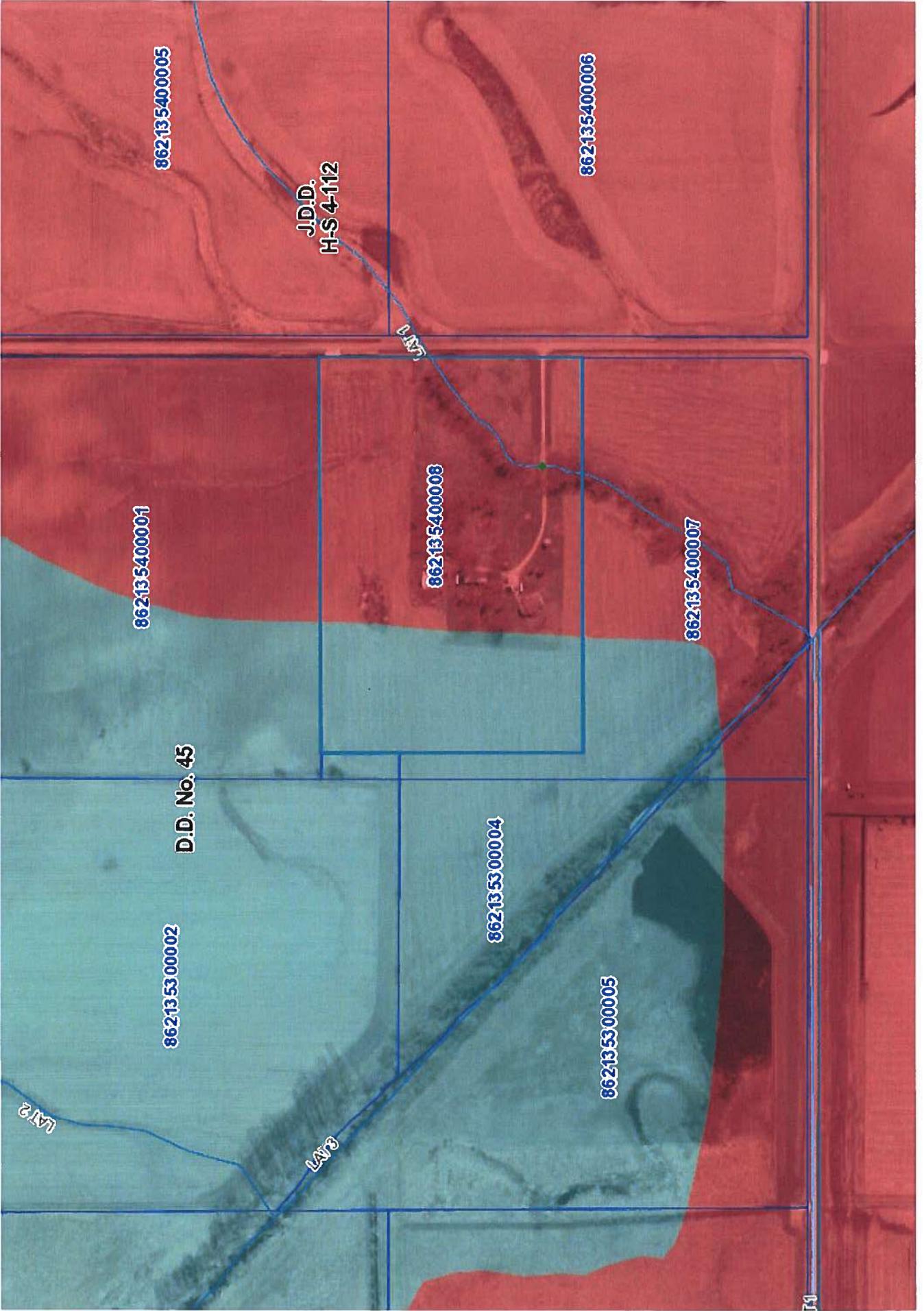
Water Crossing Detail

PLAN VIEW



Profile View





862135400005

862135400006

J.D.D.
H-S 4-112

862135400001

862135400008

862135400007

D.D. No. 45

862135300002

862135300004

862135300005

LAT 2

LAT 3

LAT 1



Utility Permit #: 2020-1

Utility Observation Report

General Information	
Project Name and Number:	Utility Crossing #6853
Drainage District Number:	DD 4-112
Drainage District Facility ID:	Lateral 3 or 1
Project Location: (1/4, Sec, Twp, Rng and road)	SW SE 35-86-21
Date of Observation:	10/27/2020
Observer Name/Title:	Chris Sweeney

Field Observations	
District facility type:	<input checked="" type="checkbox"/> Tile <input type="checkbox"/> Open Ditch Other:
Utility Orientation:	<input type="checkbox"/> Parallel <input checked="" type="checkbox"/> Crossing <input type="checkbox"/> Overhead <input checked="" type="checkbox"/> Over <input type="checkbox"/> Under <input type="checkbox"/> Same Elevation Other:
Source of utility elevation and/or location:	<input type="checkbox"/> Probed <input checked="" type="checkbox"/> Exposed <input type="checkbox"/> Utility Reported Other:
Utility Elevation:	1051.3'
Source of district facility elevation and/or location:	<input type="checkbox"/> Probed <input checked="" type="checkbox"/> Exposed <input type="checkbox"/> Utility Reported Other:
District Facility Elevation: (include where measured)	1043.71' (Top of tile)
Vertical clearance from district facility: (must be greater than 1-foot for tile, and 5-feet for designed open ditch bottom)	7.6'



Utility Permit #: 2020-1

Horizontal clearance from District Tile or Open Ditch centerline:	NA
Tile outlets within 25-feet relocated? (If applicable)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Original tile size & material:	<input type="checkbox"/> RCP <input checked="" type="checkbox"/> CMP <input type="checkbox"/> SW HDPE <input type="checkbox"/> DW HDPE <input type="checkbox"/> VCP Other: 12-inch
Tile replaced by utility?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Tile replacement material:	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input checked="" type="checkbox"/> N/A Other:
Condition of District tile:	Questionable/poor
Signage present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A

Notes

Utility was installed in existing driveway significantly higher than District facility apparent elevation. Did not locate district tile directly below utility but found the assumed Lateral 1 or 3 CMP tile in the downstream direction. The Lateral 1 or 3 tile was found at a previous repair in a state of disrepair and may warrant further investigation into its overall condition in this area.

Signage was not installed at time of observation and will need to be confirmed with Utility if desired by District Trustees.

CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

10-27-20

DAYS OF WEEK:

S M T W T F S

SHEET NO.

1 OF 1

PROJECT NUMBER:

6853

COUNTY, ROUTE, ROAD:

DD 112-4

LOCATION:

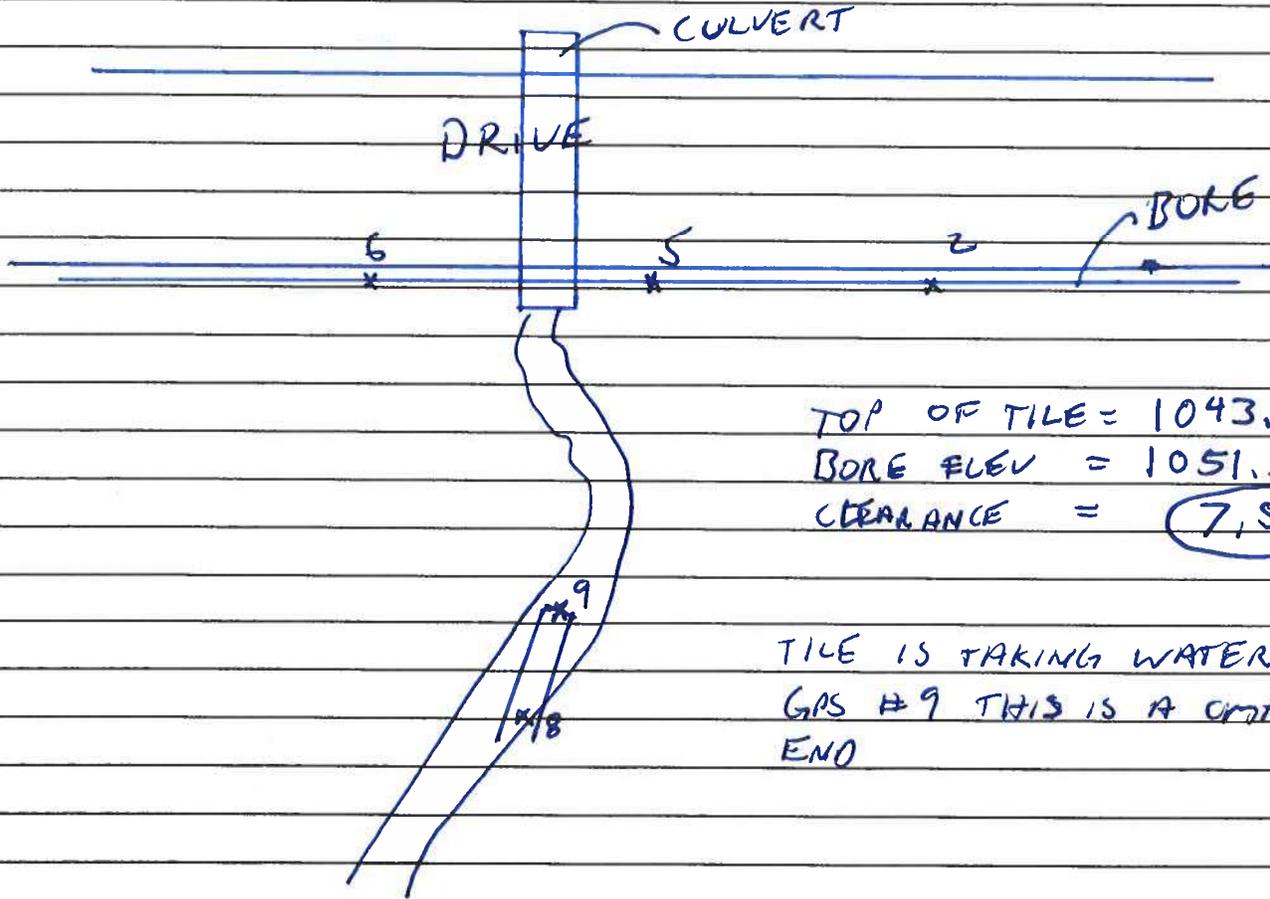
LL AVE

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

STARTED TO NEW JOB T 8048 GAS MON ✓ 8031, 9808

TIED OUT BORE @ 2, 5, & 6

TIED OUT TILE @ 9+8 I COULD NOT FIND ANY EXISTING TILE N. OF #9 THERE IS ONLY A 15'± SECTION OF TILE BENT ON THE SURFACE.



TOP OF TILE = 1043.71'
BORE ELEV = 1051.30
CLEARANCE = 7.59'

TILE IS TAKING WATER @
GAS #9 THIS IS A CMP
END

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

Observer's Signature:

Chris [Signature]

Date Prepared:

10-29-20

Reviewed by:

Engineer

Date Reviewed

BORE @ 5



2020/10/27



2020/10/27

BORE @ 5

15' ± SECTION OF CMP



2020/10/27



2020/10/27

PNO CMP @ 8+9

@ 9 Look Mt @ Bore



2020/10/27



2020/10/27

TILE @ 9

6853 DD112-4 2020-10-27 cs

1,8485917.365,14933913.287,1104.060,Autonomous Setup
2,8486725.803,14926990.751,1051.993,700
3,8486725.997,14926991.281,1053.175,300
4,8486725.760,14926977.559,1052.619,300
5,8486725.729,14926976.526,1051.297,700
6,8486725.419,14926954.243,1051.289,700
7,8486726.034,14926955.241,1052.542,300
8,8486676.945,14926953.948,1043.628,513 12
9,8486681.023,14926957.006,1043.709,513 12 end
10,8486679.537,14926955.570,1044.626,300 fl stream
8031,8485956.912,14919409.440,1080.316,gps mon 8031
8048,8485917.365,14933913.287,1104.060,gps mon 8048
9808,8496500.871,14933924.072,1136.203,gps mon 9808



Drainage Utility Permit Application

Hardin County

Applicant: Heart of Iowa Communication Coop - Jay Duncan

Contact Email: jduncan@heartofiowa.coop

Contact Phone: (641) 486-2211

Utility Type: N/A - Utility Permits Only

Drainage District: DDs\DD 44 (51069)

Description of Work: DDs 44, 62, 1, 128, 78, 63, 8, 93 & 94 - Heart of Iowa - Install fiber optic cable in rural areas of Eldora & Steamboat Rock. Will work with CGA on facility crossings.

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 Districts. 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
Phone (641) 939-8111
Fax (641) 939-8245
drainage@hardincountyia.gov

For Office Use Only

Application Approval:

By:  Date: 6-7-2020
Board of Supervisor Chairman, Acting as Drainage District Trustee

APPROVED PERMIT # 2020-12

- Application in TCM
- GIS Annotation
- Approval Emailed



HARDIN COUNTY

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

HARDIN COUNTY DRAINAGE DISTRICT UTILITY PERMIT APPLICATION

Applicant: Heart of Iowa Communications Cooperative
 Company Name
PO Box 130
 Address
 Union IA 50258-0130
 City State Zip
 Applicant Contact: Jay Duncan (641) 486 - 2211
 Name Phone
jduncan@heartofiowa.coop
 Email

Utility Type: Fiber Optic

Drainage District(s) Crossed: 44, 62, 1, 128, 78, 63, 8, 93 & 94

Facilities Crossed (specific tile, open ditch): tile and open ditch

Description of Work: Install fiber optic cable in rural areas of Eldora and Steamboat Rock. Will work with CGA on
facility crossings.
 (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.

[Signature]
Applicant Signature

6/10/2020
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

For Office Use Only

Application Approval:
 By: [Signature] Date: 6-7-2020
Board of Supervisor Chairman, Acting as Drainage District Trustee
 APPROVED PERMIT #: _____



HARDIN COUNTY

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

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.



HARDIN COUNTY

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

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.



HARDIN COUNTY

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

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.



Utility Permit #2020-12

Utility Observation Report

General Information	
Project Name and Number:	Utility Permit 6749.6
Drainage District Number:	#1
Drainage District Facility ID:	Main & Laterals
Project Location: (1/4, Sec, Twp, Rng and road)	SW of 17 & SE of 18, T88N-R19W NE & SE 24-T88N-R20W
Date of Observation:	10/20 & 10/21/2020
Observer Name/Title:	Chris Sweeney

Field Observations	
District facility type:	<input checked="" type="checkbox"/> Tile <input type="checkbox"/> Open Ditch Other:
Utility Orientation:	<input type="checkbox"/> Parallel <input checked="" type="checkbox"/> Crossing <input type="checkbox"/> Overhead <input type="checkbox"/> Over <input checked="" type="checkbox"/> Under <input type="checkbox"/> Same Elevation Other:
Source of utility elevation and/or location:	<input type="checkbox"/> Probed <input type="checkbox"/> Exposed <input checked="" type="checkbox"/> Utility Reported Other:
Utility Elevation:	@ GPS 1476 – 1057.4', @ GPS 1469 – 1066.8', @ GPS 1483 – 1062.4', @ GPS 1466 – 1066.3', @GPS 1486 – 1046.4', @ GPS 1488 – 1037.9'
Source of district facility elevation and/or location:	<input type="checkbox"/> Probed <input checked="" type="checkbox"/> Exposed <input type="checkbox"/> Utility Reported Other:
District Facility Elevation: (include where measured) *Flowline*	@ GPS 1476 – 1069.4', @ GPS 1469 – 1074.9', @ GPS 1483 – 1074.3', @ GPS 1466 – 1075.5', @GPS 1486 – 1054.8', @ GPS 1488 – 1048.9'
Vertical clearance from district facility: (must be greater than 1-foot for tile, and 5-feet for designed open ditch bottom)	@ GPS 1476 – 12', @ GPS 1469 – 8.2', @ GPS 1483 – 9.9', @ GPS 1466 – 7.2', @GPS 1486 – 8.4', @ GPS 1488 – 11'



Utility Permit #2020-12

Tile outlets within 25-feet relocated? (If applicable)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Original tile material:	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> SW HDPE <input type="checkbox"/> DW HDPE <input type="checkbox"/> VCP Other: GPS 1476 14" VCP, 1469 8" HDPE, 1466 12" HDPE, 1486 22" HDPE. & 1488 24" HDPE, 1483 6" CMP
Tile replaced by utility?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Tile replacement material:	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input checked="" type="checkbox"/> N/A Other:
Condition of District tile:	Intact where observed. Some tile not visible due to GPS shots being recorded in intake.
Signage present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A

Notes

Signage was not installed at time of observation and will need to be confirmed with Utility if desired by District Trustees.

CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

10-20-20

PROJECT NUMBER:

6749

DAYS OF WEEK:

S M W T F S

COUNTY, ROUTE, ROAD:

DD1

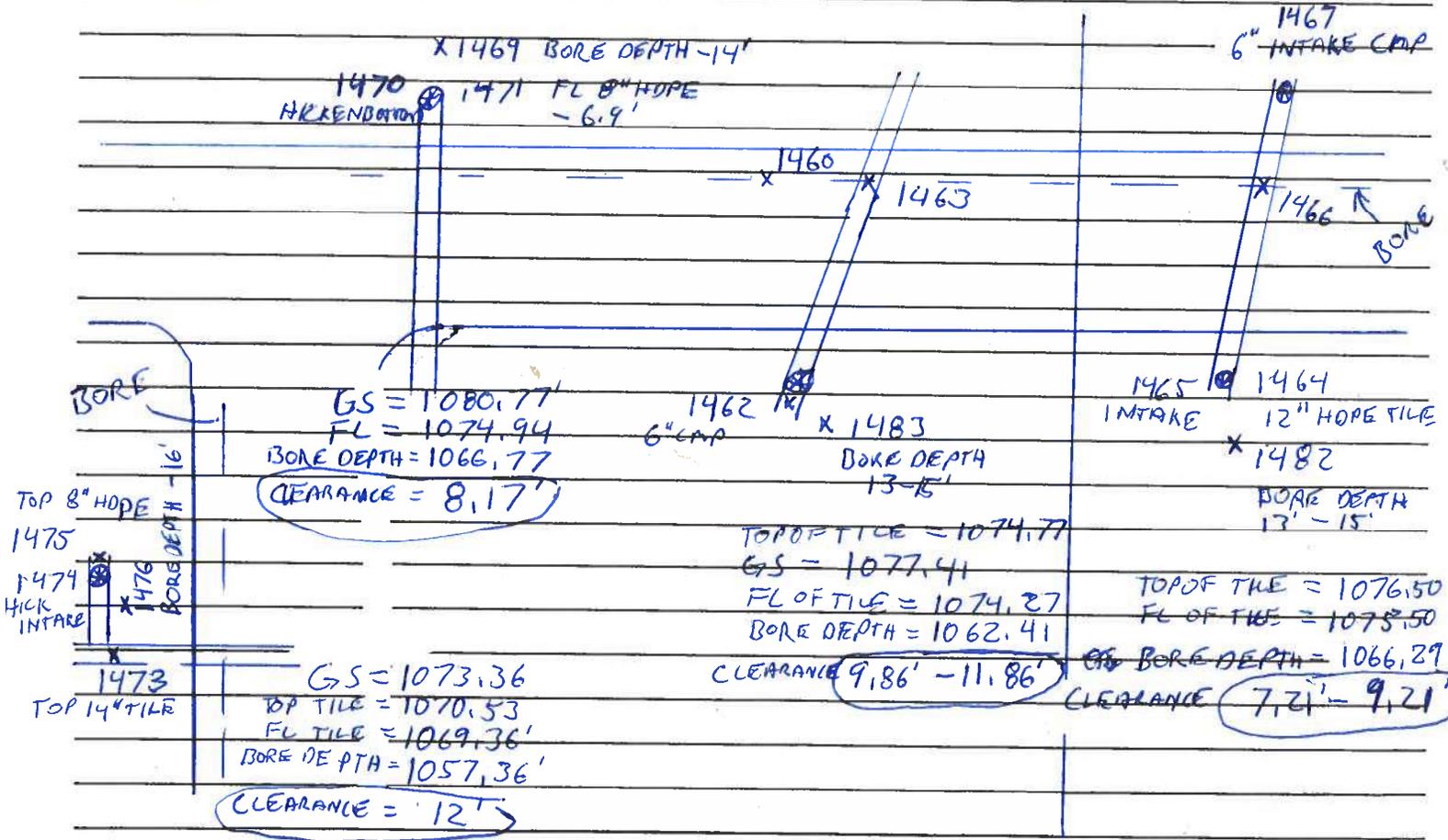
SHEET NO.

1 OF 1

LOCATION: INT UAVE + 185TH ST

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

ARRIVED ON SITE AND CREWS ~~HA~~ WERE BACK FILLING ROADS ~~AND~~ HOLES IN ROADS. I ASKED THE CREW WHERE WERE THE LATH AND THEY SAID THAT THEY HAD BEEN PULLED. THEY THEN PROCEEDED TO PULL OUT 5 LATH THAT HAD DEPTHS OF '13', '15', + '14' WRITTEN ON THEM. THESE LATH WERE THE LATH THAT WAS MARKING THE DEPTH OF THE BORE



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

Observer's Signature:

Chris [Signature]

Date Prepared:

10-20-20

Reviewed by:

Engineer

Date Reviewed

DEPTH @ 1476



1470 LOOKING N.

1470 LOOKING E



BORF DEPTH @ 1469

1470 / 1469



1468 LOOKING E

1462 LOOKING S



1462

1464 LOOKING E



2020/10/20



2020/10/20

146 ㉟

1466 Looking N.



1473 Looking S.

SETTING POST @ 1475



2020/10/20



2020/10/20

GPS 1473



GAS # 1473

CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

10-21-20

DAYS OF WEEK:

S M T ~~W~~ T F S

SHEET NO.

1 OF 1

PROJECT NUMBER:

6749.6

COUNTY, ROUTE, ROAD:

001

LOCATION:

T-AVE + MAIN + D-35

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

K 2/3 TIED OUT CROSSINGS

T AVE + MAIN

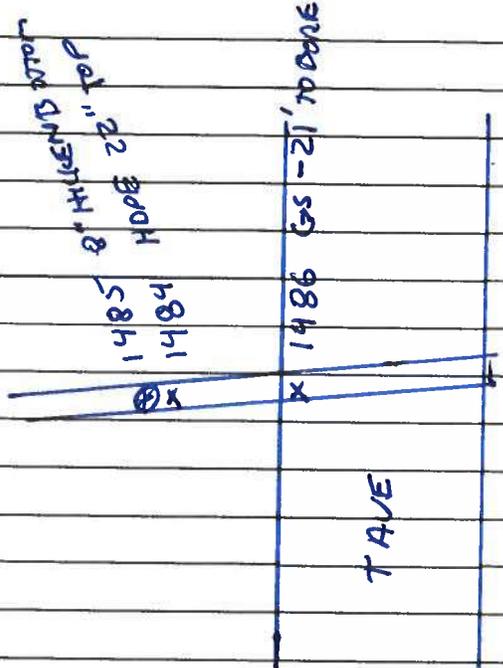
TOP TILE = 1056.60'

GS @ BORE = 1067.36'

FL @ TILE = 1054.77'

BORE DEPTH = 1046.36'

CLEARANCE = -8.41'



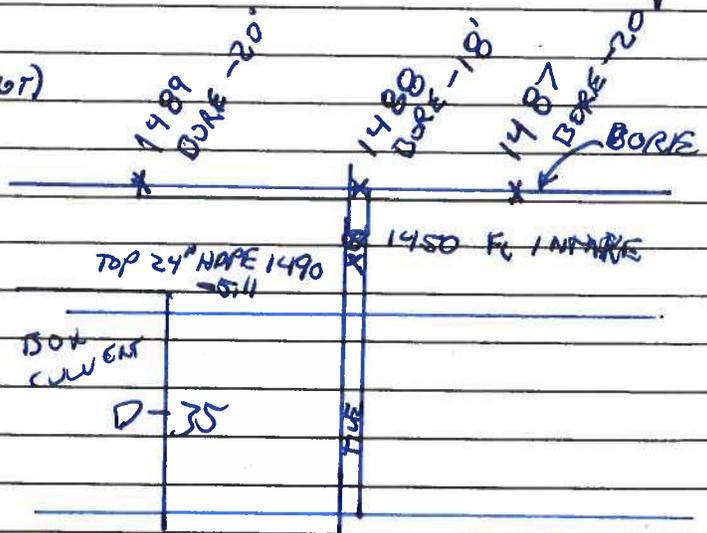
D-35 + MAIN

FL INTAKE = 1048.92' (LEGACY SHOT)

GS @ BORE = 1055.93'

BORE DEPTH = 1037.93'

CLEARANCE = -10.99'



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

Observer's Signature:

As [Signature]

Date Prepared:

10-21-20

Reviewed by:

Engineer

Date Reviewed

SOLE DEPTH @ 1486



#1484 LOOKING W.

1484 Looking S



2020/10/21



2020/10/21

1484 Looking N.

1450 LOOKING E



2020/10/21



2020/10/21

1450



BORE DEPTH @ 1488

6749 DD1 2020-10-20 cs

1029,3610467.913,5021161.228,1047.398,GS
1030,3610469.784,5021162.986,1046.620,GS
1031,3610472.229,5021164.935,1047.798,GS
1032,3610488.970,5021178.450,1047.579,GS
1033,3610519.275,5021203.495,1048.814,GS
1034,3610559.731,5021237.242,1051.086,GS
1035,3610584.710,5021218.858,1051.882,GS
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1037,3610508.130,5021126.913,1048.021,GS
1038,3610498.384,5021112.637,1047.646,GS
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1062,3610662.563,5021156.018,1053.698,GS
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1068,3610542.547,5021011.494,1047.954,GS
1069,3610539.261,5021005.132,1046.756,GS
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1072,3610537.352,5021034.476,1047.926,trd12 dbl 6.0w
1073,3610538.942,5021027.165,1048.116,trd30 trpl 6.0w
1074,3610547.876,5020997.285,1047.903,trd30 6.0w
1075,3610551.122,5020985.672,1047.620,trd24 quad 6.0w
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1082,3610408.870,5020845.205,1050.542,GS
1083,3610447.936,5020813.997,1050.060,GS
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1105,3610608.005,5020931.183,1048.315,GS
1106,3610599.667,5020920.607,1048.455,GS
1107,3610587.613,5020905.629,1048.562,GS
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1113,3610520.975,5020824.463,1049.433,GS
1114,3610516.464,5020819.536,1048.436,GS
1115,3610510.101,5020811.177,1048.038,GS
1116,3610487.035,5020782.274,1049.352,GS
1117,3610525.861,5020750.914,1049.402,GS
1118,3610542.952,5020772.386,1048.160,GS
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6749 DD1 2020-10-20 cs

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 1132,3610683.262,5020944.374,1049.129,GS
 1133,3610711.407,5020978.766,1050.256,GS
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 1137,3610403.522,5021100.649,1042.360,FL EXIST CLAYTILE
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 1143,3610286.034,5021244.327,1041.358,CL FL
 1144,3610239.126,5021302.853,1041.117,CL FL
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 1147,3610426.676,5021086.431,1045.893,EOG
 1148,3610421.267,5021096.391,1045.565,EOG
 1149,3610416.528,5021094.151,1043.598,EOG
 1150,3610412.776,5021100.644,1043.585,EOG
 1151,3610408.373,5021097.676,1042.246,EOG
 1152,3610404.876,5021095.347,1042.086,EOG
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 1156,3610405.267,5021074.631,1045.759,EOG
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 1158,3610416.607,5021080.603,1041.487,TOP ROCK
 1159,3610418.856,5021084.271,1041.926,TOP ROCK
 1160,3610412.159,5021087.792,1041.388,TOP ROCK
 1161,3610409.071,5021092.936,1041.898,TOP ROCK
 1162,3610425.318,5021062.830,1044.827,TOP CMP NEW
 1163,3610415.812,5021080.187,1044.761,TOP CMP NEW
 1164,3610429.847,5021054.782,1044.616,TOP CLAYTILE @COLLAR
 1165,3610400.608,5021070.375,1049.386,TOP END WIER
 1166,3610432.500,5021088.488,1049.407,TOP END WIER
 1167,3610417.964,5021080.079,1047.332,TOP WIER NOTCH
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6749 DD1 2020-10-20 cs

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1199,3614495.830,5022973.021,1053.178, TOP CLAY@COLLAR
1200,3614465.363,5022954.280,1052.898, TOP CLAY@COLLAR
1201,3614593.451,5023078.958,1053.147, TOP HDPE@COLLAR
1202,3614598.493,5023086.534,1053.220, TOP CLAY@COLLAR
1203,3613994.403,5022690.458,1058.478,GS TILELOCATE
1204,3613955.814,5022669.720,1058.368,GS TILELOCATE
1205,3613904.918,5022641.151,1058.711,GS TILELOCATE
1206,3613859.710,5022615.113,1058.726,GS TILELOCATE
1207,3613817.225,5022590.224,1059.074,GS TILELOCATE
1208,3613773.844,5022565.563,1058.872,GS TILELOCATE
1209,3613730.644,5022539.174,1058.947,GS TILELOCATE
1210,3613690.127,5022514.803,1058.267,GS TILELOCATE
1211,3613645.972,5022491.771,1058.182,GS TILELOCATE
1212,3614861.364,5023409.807,1054.040, TOP CLAY TILE
1213,3614848.870,5023407.259,1054.008, TOP CLAY TILE
1214,3614795.987,5023395.222,1058.907, CL 53+50
1215,3614928.670,5023427.894,1054.103, TOP CLAY TILE
1216,3614938.310,5023430.673,1054.118, TOP CLAY TILE
1217,3614546.048,5023021.312,1056.519,48+99.887 CL
1218,3614602.688,5023103.479,1057.485,50+00 CL
1219,3614645.165,5023193.577,1057.151, 51+00 CL
1220,3614686.775,5023284.230,1056.967, 52+00 CL
1221,3614731.649,5023390.331,1064.006,GS
1222,3615131.725,5023476.423,1054.941, TOP CLAY 22"
1223,3614750.776,5023367.822,1059.011, CL 53+00
1224,3615116.931,5023472.903,1054.730, TOP CLAY 22"

6749 DD1 2020-10-20 cs

1225,3615041.710,5023455.911,1054.625, TOP CLAY 22"
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1227,3614979.735,5023438.076,1054.903, TOP 12"PE
1228,3615021.260,5023473.733,1058.460, TOP 4"CLAY
1229,3615191.127,5023493.678,1054.916, TOP 22"CLAY
1230,3615213.393,5023500.784,1055.011, TOP 22"CLAY
1231,3614978.909,5023440.781,1054.397, TOP 12"TAP(T)COLLAR
1232,3614981.034,5023434.556,1055.277, TOP 12"EXTERNAL PE COLLAR
1233,3615016.496,5023450.772,1054.277, TOP 6"RUBER INSERT A TEE
1234,3615587.747,5023680.859,1059.031, TOP 7"CLAYTILE
1235,3615598.315,5023683.961,1058.399, TOP 7"CLAYTILE
1236,3615633.798,5023696.803,1055.602, TOP 22"CLAY MAIN
1237,3615567.794,5023654.445,1055.380, TOP 22"CLAY MAIN
1238,3614980.469,5023442.044,1054.707, TOP 24"@S 12"INTK
1239,3615564.641,5023673.214,1064.421, GS TILELOCATE 7"
1240,3615552.462,5023669.321,1064.447, GS TILELOCATE 7"
1241,3615514.949,5023661.488,1065.890, GS TILELOCATE 7"
1242,3615502.566,5023657.381,1065.931, GS TILELOCATE 7"
1243,3615694.365,5023737.548,1055.624, TOP 22"CLAYMAIN
1244,3615723.337,5023753.921,1055.598, TOP 22"CLAYMAIN
1245,3615575.663,5023677.281,1059.224, TOP 8"HDPE DUAL
1246,3615580.246,5023678.572,1059.296, TOP 8"HDPE DUAL
1247,3615581.724,5023677.967,1058.821, TOP 8"HDPE DUAL
1248,3615585.313,5023666.834,1055.119, TOP 8"PE SADDALTAP
1249,3615768.852,5023780.108,1055.663, TOP 22"CLAYMAIN
1250,3615809.032,5023803.842,1056.068, TOP 24"HDPP EXTERNAL COLLAR
1251,3615831.082,5023817.054,1056.035, TOP 22"CLAYMAIN
1252,3615874.170,5023850.234,1055.926, TOP 22"CLAYMAIN
1253,3615916.526,5023881.008,1056.071, TOP 22"CLAYMAIN
1254,3616060.931,5023970.908,1056.837, TOP 22"CLAYMAIN
1255,3616047.358,5023962.098,1056.313, TOP 22"CLAYMAIN
1256,3613237.711,5022270.928,1050.854, TOP 24"CLAYMAIN
1257,3613249.401,5022276.496,1050.981, TOP 24"CLAYMAIN
1258,3613182.823,5022236.438,1050.845, TOP 24"CLAYMAIN
1259,3613193.031,5022243.979,1051.106, TOP 24"CLAYMAIN
1260,3612881.617,5022057.942,1050.593, TOP 24"CLAYMAIN
1261,3612900.225,5022068.581,1050.659, TOP 24"CLAYMAIN
1262,3612749.983,5022037.386,1050.019, TOP 24"CLAYMAIN
1263,3612768.176,5022039.778,1050.182, TOP 24"CLAYMAIN
1264,3613635.333,5022485.742,1051.438, TOP 24"CLAYMAIN
1265,3613646.506,5022492.263,1051.525, TOP 24"CLAYMAIN
1266,3613677.848,5022508.660,1051.670, TOP 24"CLAYMAIN
1267,3613704.331,5022523.752,1051.655, TOP 24"CLAYMAIN
1268,3613708.409,5022520.969,1053.790, UGTL
1269,3613843.403,5022603.590,1051.990, TOP 24"CLAY
1270,3613891.875,5022633.199,1052.042, TOP 24"CLAY
1271,3613987.243,5022686.770,1052.185, TOP 24"CLAYTILE
1272,3614048.410,5022713.867,1053.381, TOP 6"CLAYTILE
1273,3614069.683,5022727.776,1053.256, TOP 7"CLAYTILE

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1274,3614095.394,5022752.574,1054.424, TOP 4" PE TILE
1275,3614115.348,5022758.031,1052.477, TOP 24" CLAY TILE
1276,3618829.667,5021441.306,1092.767,300
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1282,3619022.020,5021446.960,1093.829,324
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1307,3619068.173,5021009.895,1100.723,300
1308,3619104.755,5021007.425,1100.975,300
1309,3619172.995,5021003.398,1099.445,300
1310,3619228.698,5020999.333,1098.054,300
1311,3619281.840,5020906.067,1097.556,300
1312,3619235.600,5020909.336,1100.463,300
1313,3619197.371,5020911.961,1101.177,300
1314,3619144.262,5020914.333,1100.336,300
1315,3619073.650,5020917.884,1099.983,300
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1322,3619066.080,5020825.154,1102.787,300

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1325,3619062.334,5020729.168,1106.669,300
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1328,3619003.149,5020754.174,1107.534,300
1329,3619001.895,5020730.885,1107.302,300
1330,3618934.830,5020733.674,1106.552,300
1331,3618906.039,5020734.137,1106.586,300
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1337,3619130.903,5020638.765,1104.056,300
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1339,3619106.110,5020556.710,1109.015,300
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1349,3619066.156,5020460.209,1108.707,300
1350,3619096.430,5020459.521,1108.773,300
1351,3619130.643,5020458.404,1108.578,300
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1365,3619142.283,5020300.159,1107.234,300
1366,3619203.707,5020299.921,1106.630,300
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1371,3618987.441,5020226.671,1103.811,300

FL

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 1378,3618992.846,5020119.321,1105.213,324 N S
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 1382,3619066.959,5020128.123,1106.185,300
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 1386,3619134.043,5020160.530,1107.380,300
 1387,3619193.954,5020158.504,1108.657,300
 1388,3619194.030,5020127.729,1109.483,300
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 1401,3619300.053,5020936.519,1095.939,300
 1402,3619301.755,5021034.968,1095.243,300
 1403,3619304.174,5021134.321,1092.359,300
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 1405,3619300.414,5021332.324,1087.088,300
 1406,3619303.248,5021401.972,1085.888,300
 1407,3613440.676,5022375.708,1056.509,UGTL heart of iowa
 1408,3613441.874,5022392.903,1056.715,UGTL heart of iowa
 1409,3613440.657,5022403.703,1057.569,UGTL heart of iowa
 1410,3613444.973,5022393.548,1057.473,tped is&w
 1411,3613459.170,5022390.799,1051.082,TOP 24"CLAY
 1412,3613361.129,5022404.591,1057.573,ugel o flag e-w
 1413,3613361.910,5022370.259,1056.941,ugel o flag e-w
 1414,3613363.023,5022333.730,1055.662,ugel o flag e-w
 1415,3613363.241,5022315.618,1057.445,ugel o flag e-w
 1416,3613350.649,5022333.109,1051.066,TOP 24" CLAY TILE
 1417,3613459.212,5022390.826,1048.984,fl 24" clay
 1418,3613351.539,5022333.538,1049.043,fl 24" clay
 1419,3613355.612,5022394.761,1059.302,hub
 1420,3613375.009,5022397.269,1058.162,hub

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1421,3613427.045,5022403.706,1058.108,hub
1422,3613444.713,5022405.920,1058.499,hub
1423,3613369.685,5022377.849,1051.409,CASING STEEL TOP 36" 2.96'TOFTOFL
1424,3613351.693,5022333.533,1048.862,TILE FL 24" CLAY OLD GPS 1418
1425,3613426.160,5022383.574,1051.659,CASING STEEL TOP 36" 2.95'TOFTOFL
1426,3613427.453,5022383.663,1051.202,TILE TOP 24" HDPP PERF 2.17'TOFTOFL
1427,3613368.881,5022377.734,1051.181,TILE TOP 24" HDPP PERF 2.17'TOFTOFL
1428,3613367.235,5022377.509,1051.195,TILE TOP 24" HDPP 22.5 BEND
1429,3613364.753,5022375.950,1051.190,TILE TOP 24" HDPP 22.5 BEND
1430,3613363.554,5022373.804,1051.181,TILE TOP 24" HDPP 11.25 BEND
1431,3613363.296,5022372.921,1051.188,TILE TOP 24" HDPP PERF 2.17'TOFTOFL
1432,3613361.843,5022387.826,1054.261,FOC TOP HEART OF IOWA
1433,3613363.258,5022377.513,1054.109,FOC TOP HEART OF IOWA
1434,3613356.145,5022354.841,1051.196, TOP 24" HDPP TILE 2.17'TOFTOFL
1435,3613362.978,5022363.091,1053.629,FOC TOP HEART OF IOWA
1436,3613348.832,5022336.291,1051.210, TOP 24" HDPP TILE 2.17'TOFTOFL
1437,3613342.775,5022328.772,1051.016,TILE TOP 24" CLAY 2.15'TOFTOFL
1438,3613430.029,5022384.080,1051.175,TILE TOP 24" HDPP PERF 2.17'TOFTOFL
1439,3613433.289,5022384.519,1051.174,TILE TOP 24" HDPP PERF 2.17'TOFTOFL
1440,3613443.094,5022386.703,1051.185,TILE TOP 24" HDPP PERF 2.17'TOFTOFL
1441,3613440.963,5022383.901,1051.912,FOC TOP HEART OF IOWA
1442,3613441.323,5022389.769,1053.700,FOC TOP HEART OF IOWA
1443,3613420.715,5022390.920,1054.800,TILE 5" CLAY TILE
1444,3613421.889,5022387.945,1053.851,TILE TOP 5" SW NONPERF HDPE
1445,3613429.277,5022384.065,1051.558, TOP 6" INSERTA TEE
1446,3613423.061,5022386.013,1053.799,TILE TOP 5" SW NONPERF HDPE ADAPTER
1447,3613424.575,5022385.580,1053.405,TILE TOP 5" SW NONPERF HDPE
1448,3613426.610,5022386.699,1053.307,TILE TOP 5" SW NONPERF HDPE
1449,3613428.568,5022385.996,1053.011,TILE TOP 5" SW NONPERF HDPE
1450,3613431.814,5022384.336,1048.923,FL 24"*12" HDPE TEE
1451,3613457.033,5022389.587,1051.121,TILE TOP 24" CLAY 2.12'TOFTOFL
1452,3621298.057,5029408.748,1077.253,001 bore pit
1453,3613455.831,5022388.662,1051.175,TILE TOP 24" 2.17'TOFTOFL 22.5 BEND
1454,3613454.441,5022388.437,1051.202,TILE TOP 24" HDPP 2.17'TOFTOFL
1455,3613346.819,5022331.667,1051.155,TILE TOP 24" HDPP PERF 2.17'TOFTOFL
1456,3613346.447,5022330.825,1051.152,TILE TOP 24" HDPP PERF 2.17'TOFTOFL
1457,3613426.984,5022374.243,1051.038,TILE TOP 24" CLAY NORTH END REMOVAL
1458,3613375.561,5022346.448,1049.046,TILE FL 24" CLAY SOUTH END END REMOVAL
1459,3613348.564,5022331.679,1054.251, 30" INTAKE N RIM
1460,3621298.375,5029426.166,1081.109,700
1461,3621296.462,5029458.719,1081.275,700
1462,3621266.039,5029443.987,1074.772,513 6 w/6" intake
1463,3621297.284,5029462.181,1081.223,700
1464,3621273.981,5030183.825,1076.499,421 12"
1465,3621274.301,5030183.971,1078.425,922 6" hick
1466,3621306.575,5030187.512,1082.736,700
1467,3621326.547,5030189.226,1080.229,922 6" cmp
1468,3621326.678,5030189.280,1076.230,507?
1469,3621311.974,5029148.050,1080.770,001 bore depth -14'

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1470,3621309.761,5029148.201,1080.698,922 8" hick
 1471,3621309.931,5029148.225,1081.839,507 -6.9
 1472,3621297.288,5029148.559,1083.064,700
 1473,3620513.044,5029110.046,1070.532,962 14"
 1474,3620529.706,5029110.146,1072.954,922 8" hick
 1475,3620529.891,5029110.149,1070.707,421 8" n-s
 1476,3620518.612,5029110.950,1073.364,001 bore depth -16'
 1477,3620575.258,5029128.520,1079.667,700
 1478,3620524.839,5029128.438,1079.517,700
 1479,3620471.908,5029132.171,1075.824,700
 1480,3620475.026,5029131.780,1079.823,503
 1481,3620600.076,5029129.837,1079.897,001 bore pit
 1482,3621271.586,5030186.950,1079.288,300 bore depth 13-15'
 1483,3621262.040,5029444.807,1077.407,300 bore depth 13-15'
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 2001,3610767.525,5022350.950,1058.413,324 WCP E W REM N
 2002,3610767.804,5022262.373,1056.899,324 E W
 2003,3610768.182,5022144.163,1055.780,324 E W
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 2005,3610768.899,5021981.993,1057.440,324 E W
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 2007,3610770.727,5021754.560,1056.887,324 E W
 2008,3610772.312,5021636.206,1055.271,324 WCP E W
 2009,3610772.126,5021515.885,1052.109,324 WCP E S N
 2010,3610665.072,5021515.266,1053.727,324 S N
 2011,3610573.850,5021517.451,1054.576,324 S N
 2012,3610475.495,5021517.435,1054.532,324 S N
 2013,3610397.081,5021518.730,1056.490,324 S N
 2014,3610337.849,5021519.313,1056.842,324 S N
 2015,3610307.553,5021520.063,1056.132,324 S N
 2016,3610235.564,5021522.297,1052.563,324 S N
 2017,3610147.461,5021521.584,1046.755,324 S N
 2018,3609310.215,5021527.211,1063.237,324 WCP S N
 2019,3609389.602,5021526.969,1062.207,324 S N
 2020,3609464.363,5021527.490,1057.738,324 S N
 2021,3609556.027,5021527.090,1052.747,324 S N
 2022,3609642.916,5021526.102,1050.203,324 S N
 2023,3609736.158,5021526.319,1048.282,324 S N
 2024,3609830.412,5021524.948,1047.547,324 S N
 2025,3609926.741,5021523.602,1047.161,324 S N
 2026,3609988.402,5021523.018,1047.757,324 S N
 2027,3609916.531,5021532.105,1045.548,300
 2028,3609998.300,5021539.374,1045.625,300
 2029,3610003.531,5021560.206,1045.449,300
 2030,3609938.242,5021534.802,1045.517,300
 2031,3609827.311,5021534.308,1046.502,300
 2032,3609715.016,5021534.778,1047.271,300
 2033,3609709.442,5021534.476,1047.239,300
 2034,3609663.545,5021535.312,1048.207,300



Drainage Utility Permit Application

Hardin County

Applicant: Heart of Iowa Communication Coop - Jay Duncan

Contact Email: jduncan@heartofiowa.coop

Contact Phone: (641) 486-2211

Utility Type: N/A - Utility Permits Only

Drainage District: DDs\DD 44 (51069)

Description of Work: DDs 44, 62, 1, 128, 78, 63, 8, 93 & 94 - Heart of Iowa - Install fiber optic cable in rural areas of Eldora & Steamboat Rock. Will work with CGA on facility crossings.

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 Districts. 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
Phone (641) 939-8111
Fax (641) 939-8245
drainage@hardincountyia.gov

For Office Use Only

Application Approval:

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

Date: 6-7-2020

APPROVED PERMIT # 2020-12

- Application in TCM
- GIS Annotation
- Approval Emailed



HARDIN COUNTY

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

HARDIN COUNTY DRAINAGE DISTRICT UTILITY PERMIT APPLICATION

Applicant: Heart of Iowa Communications Cooperative
 Company Name
PO Box 130
 Address
 Union IA 50258-0130
 City State Zip
 Applicant Contact: Jay Duncan (641) 486 - 2211
 Name Phone
jduncan@heartofiowa.coop
 Email
 Utility Type: Fiber Optic
 Drainage District(s) Crossed: 44, 62, 1, 128, 78, 63, 8, 93 & 94
 Facilities Crossed (specific tile, open ditch): tile and open ditch
 Description of Work: Install fiber optic cable in rural areas of Eldora and Steamboat Rock. Will work with CGA on
(Location plan of proposed utility must be attached.) facility crossings.

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.

[Signature]
Applicant Signature

6/10/2020
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

For Office Use Only

Application Approval:
By: [Signature] Date: 6-7-2020
Board of Supervisor Chairman, Acting as Drainage District Trustee

APPROVED PERMIT #: _____



HARDIN COUNTY

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

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.



HARDIN COUNTY

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

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.



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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.



Utility Permit #:2020-12

Utility Observation Report

General Information	
Project Name and Number:	Utility Permit 6666.4
Drainage District Number:	#8
Drainage District Facility ID:	Main
Project Location: (1/4, Sec, Twp, Rng and road)	NE 30-88-19 U Ave, south of D35
Date of Observation:	10/23 & 10/24/2020
Observer Name/Title:	Chris Sweeney

Field Observations	
District facility type:	<input checked="" type="checkbox"/> Tile <input type="checkbox"/> Open Ditch Other:
Utility Orientation:	<input type="checkbox"/> Parallel <input checked="" type="checkbox"/> Crossing <input type="checkbox"/> Overhead <input type="checkbox"/> Over <input checked="" type="checkbox"/> Under <input type="checkbox"/> Same Elevation Other:
Source of utility elevation and/or location:	<input type="checkbox"/> Probed <input type="checkbox"/> Exposed <input checked="" type="checkbox"/> Utility Reported Other:
Utility Elevation:	1065.5'
Source of district facility elevation and/or location:	<input type="checkbox"/> Probed <input checked="" type="checkbox"/> Exposed <input type="checkbox"/> Utility Reported Other:
District Facility Elevation: (include where measured)	1071.8' (flowline, slightly downstream, exposed)
Vertical clearance from district facility: (must be greater than 1-foot for tile, and 5-feet for designed open ditch bottom)	6.3'



Utility Permit #:2020-12

Horizontal clearance from District Tile or Open Ditch centerline:	
Tile outlets within 25-feet relocated? (If applicable)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Original tile material:	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> SW HDPE <input type="checkbox"/> DW HDPE <input checked="" type="checkbox"/> VCP Other: 6"
Tile replaced by utility?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Tile replacement material:	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input checked="" type="checkbox"/> N/A Other:
Condition of District tile:	Intact
Signage present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A

Notes	
Signage was not installed at time of observation and will need to be confirmed with Utility if desired by District Trustees.	

CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

10-24-20
10-23-20

PROJECT NUMBER:

6666.5

COUNTY, ROUTE, ROAD:

DOB

LOCATION:

V AVE

DAYS OF WEEK:

S M T W T F S

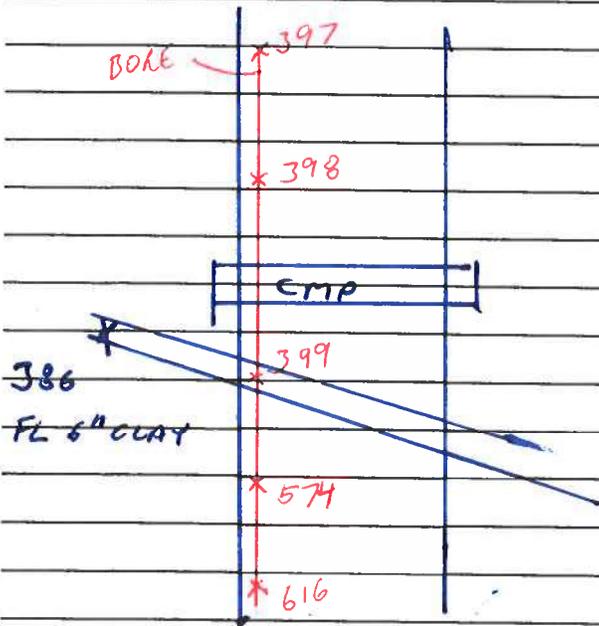
SHEET NO.

1 OF 1

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

TI 1 ✓ 180

TIED OUT TILE



TILE FL @ 386 = 1071.82

BORE DEPTH = 1065.48

CLEARANCE = 6.34'

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

Observer's Signature: _____

Date Prepared: _____

Reviewed by: _____

Engineer

Date Reviewed _____

BORE @ 386



2020/10/29



2020/10/29

BORE DEPTH @ 386

6666 DD8 2020-11-10

- 1, 3610944.202, 5029244.721, 1098.632, CP 3/4
- 2, 3609899.457, 5029141.385, 1048.076, TOP CMP
- 3, 3609923.128, 5029093.654, 1060.470, TILE LOCATE
- 4, 3609933.547, 5029079.378, 1050.715, TILE LOCATE
- 5, 3609968.090, 5029024.826, 1051.921, TILE LOCATE
- 6, 3609979.808, 5028947.099, 1051.208, TILE LOCATE
- 7, 3609993.458, 5028857.845, 1052.244, TILE LOCATE
- 8, 3610008.070, 5028768.799, 1052.537, TILE LOCATE
- 9, 3610023.929, 5028679.861, 1053.151, TILE LOCATE
- 10, 3610041.470, 5028575.129, 1047.790, FL 20"CLAY
- 11, 3610055.590, 5028484.250, 1053.982, TILE LOCATE
- 12, 3610069.804, 5028399.798, 1054.265, TILE LOCATE
- 13, 3610085.984, 5028302.372, 1054.179, TILE LOCATE
- 14, 3610104.918, 5028219.427, 1054.389, TILE LOCATE
- 15, 3610152.002, 5028145.704, 1054.483, TILE LOCATE
- 16, 3610222.078, 5028090.133, 1055.023, TILE LOCATE
- 17, 3610304.736, 5028041.447, 1054.881, TILE LOCATE
- 18, 3610392.401, 5027990.318, 1055.247, TILE LOCATE
- 19, 3610477.433, 5027940.067, 1054.680, TILE LOCATE
- 20, 3610524.772, 5027911.782, 1055.123, TILE LOCATE
- 21, 3610548.832, 5027898.055, 1049.536, FL 20"CLAYTILE
- 22, 3610624.223, 5027853.747, 1055.364, TILE LOCATE
- 23, 3610694.533, 5027812.869, 1055.995, TILE LOCATE
- 24, 3610762.814, 5027773.081, 1056.611, TILE LOCATE
- 25, 3610837.095, 5027730.708, 1057.252, TILE LOCATE
- 26, 3610905.963, 5027690.506, 1057.624, TILE LOCATE
- 27, 3610980.454, 5027646.514, 1058.040, TILE LOCATE
- 28, 3611045.382, 5027608.473, 1058.574, TILE LOCATE
- 29, 3611078.831, 5027589.319, 1059.000, TILE LOCATE
- 30, 3611121.100, 5027564.616, 1058.998, TILE LOCATE
- 31, 3611169.937, 5027535.943, 1059.395, TILE LOCATE
- 32, 3611243.334, 5027491.851, 1059.808, TILE LOCATE
- 33, 3611306.313, 5027447.529, 1060.597, TILE LOCATE
- 34, 3611362.455, 5027398.024, 1061.254, TILE LOCATE
- 35, 3611374.960, 5027383.836, 1061.462, TILE LOCATE
- 36, 3610745.703, 5027763.710, 1057.231, FENCE E-W
- 37, 3610747.318, 5027894.440, 1057.470, FENCE E-W &S
- 38, 3610746.650, 5028036.230, 1058.006, FENCE E-W
- 39, 3610450.240, 5027900.055, 1055.767, FENCE N-S
- 40, 3610024.795, 5028672.703, 1049.541, TOP 20" VCP TILE
- 41, 3610030.498, 5028637.209, 1049.560, TOP 20" VCP 1.82' TOFL
- 42, 3610041.859, 5028571.434, 1049.561, TOP 20" VCP 1.82' TOFL
- 43, 3610003.137, 5028586.269, 1054.425, FENCE E-W
- 44, 3610033.228, 5028630.785, 1049.563, FL 8" VCP
- 45, 3610049.049, 5028585.809, 1054.106, FENCE S&E
- 46, 3610050.013, 5028642.162, 1054.410, FENCE E-W
- 47, 3609920.715, 5029098.323, 1064.824, W GRAVEL road EDGE
- 48, 3609909.902, 5029120.516, 1064.378, E GRAVEL road EDGE
- 49, 3610688.197, 5029186.545, 1088.040, MAG TOP CMP

6666 DD8 2020-11-10

50,3610031.504,5028630.731,1049.826,TOP 24"*8" HDPE TILE TEE
51,3610032.772,5028631.012,1049.802,TOP 8" HDPE STUB ON TEE 0.72'TOFL
52,3610042.103,5028634.598,1050.151,TOP 8" VCP TILE .64'TOFL
53,3610553.795,5027894.872,1051.134,TOP 20" VCP 1.82'TOFL
54,3610548.741,5027898.106,1051.320,TOP 20" VCP TILE 1.82'TOFL
55,3610071.476,5028389.732,1048.076,7+79.000 C
56,3610082.780,5028321.664,1048.076,8+48.000 C
57,3610093.204,5028270.742,1048.076,9+00.000 C
58,3610181.690,5028122.161,1048.076,10+78.000 C
59,3611063.689,5027597.990,1048.076,21+04.500 C
60,3610185.054,5028113.628,1048.301,fl
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62,3610177.949,5028119.507,1048.236,fl
63,3610177.691,5028119.967,1050.043,top main 24od/21id start repair
64,3610183.785,5028110.426,1049.851,tile 5" cpp from w
65,3611055.573,5027602.544,1051.368,fl
66,3611055.129,5027602.766,1053.010,top main 24od/21id start repair
67,3611050.376,5027596.051,1058.677,ground elev
68,3611073.898,5027592.018,1051.418,fl
69,3611074.617,5027591.733,1053.022,top main 24od/21id end repair
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73,3610760.280,5027891.617,1056.823,damage
74,3610746.994,5027893.934,1057.373,fcw ews
75,3610746.371,5027582.718,1057.332,fnb e-w
76,3610761.445,5027632.796,1056.917,damage
77,3610769.278,5027616.536,1057.034,damage
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79,3610751.648,5027581.554,1056.882,damage
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98,3610742.799,5028081.443,1056.739,damage

6666 DD8 2020-11-10

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104,3610070.121,5028402.175,1053.921,ground elev
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106,3610072.988,5028377.096,1047.995,fl
107,3610082.782,5028320.424,1048.041,fl
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109,3610083.536,5028314.768,1047.860,fl
110,3610083.624,5028314.163,1049.658,top main 24od/21id end repair
111,3610088.591,5028271.591,1049.339,tile 5" cpp from ssw
112,3610092.341,5028265.700,1048.053,fl
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114,3610093.723,5028256.238,1047.988,fl
115,3610093.787,5028256.088,1049.791,top main 21od end repair
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132,3610136.381,5028125.200,1054.235,damage
133,3610135.480,5028159.148,1054.278,damage
134,3610127.650,5028180.856,1054.092,damage
135,3610142.750,5028187.003,1054.202,damage
136,3610152.233,5028172.692,1054.064,damage
137,3610179.750,5028161.921,1054.164,damage
138,3610197.840,5028160.565,1054.259,damage
139,3610217.653,5028133.025,1054.349,damage
140,3610230.876,5028125.782,1054.304,damage
141,3610262.517,5028124.453,1054.401,damage
142,3610264.660,5028122.876,1054.422,damage
143,3610119.159,5028229.306,1054.115,damage
144,3610129.254,5028235.216,1054.233,damage
145,3610134.264,5028269.851,1054.173,damage
146,3610116.189,5028343.800,1053.936,damage
147,3610119.027,5028190.421,1054.020,damage

6666 DD8 2020-11-10

148,3610082.293,5028218.036,1054.366,damage
149,3610051.962,5028260.729,1054.516,damage
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151,3610041.477,5028350.833,1054.598,damage
152,3610111.815,5028361.905,1053.944,damage
153,3610112.295,5028391.905,1053.936,damage
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163,3610726.246,5028138.639,1056.577,damage
164,3610729.190,5028154.655,1056.686,damage
165,3610730.477,5028488.654,1057.965,damage
166,3610746.616,5028486.416,1059.484,fnb e-w
167,3610730.218,5028817.725,1065.621,damage
168,3610746.006,5028821.790,1066.707,fnb e-w
169,3610727.520,5028998.574,1074.006,damage
170,3610746.023,5029000.223,1075.135,fnb e-w
171,3610719.384,5029051.753,1078.046,damage
172,3610696.638,5029089.681,1081.090,damage
173,3610685.583,5029113.391,1083.058,damage
174,3610690.262,5029175.821,1088.973,damage
175,3610720.166,5029172.845,1089.420,damage
176,3610744.147,5029143.985,1088.550,damage
177,3610742.055,5029075.904,1081.822,damage
178,3610745.245,5029177.777,1090.616,bc cp +1.0
179,3610726.302,5029180.428,1089.950,bc pp +1.0
180,3613382.019,5029192.232,1101.968,mag
181,3610743.885,5029211.641,1092.114,stn 0.9d
182,3610690.928,5029177.100,1088.866,gp gpw +1.0
183,3610743.906,5029224.697,1092.412,tie sir 12x2
184,3608124.836,5026605.803,1075.469,ir 58 flsh
185,3608105.752,5029231.049,1092.114,Cogo
186,3608120.069,5025290.278,1075.370,reading
187,3608134.370,5029236.852,1075.469,Cogo
188,3613337.576,5025364.869,1064.826,FOL
189,3613338.175,5025378.933,1065.132,FOL
190,3613337.903,5025386.558,1065.045,FOL
191,3613337.793,5025399.127,1065.330,FOL
192,3613338.405,5025409.939,1065.049,FOL
193,3613338.298,5025419.426,1065.182,FOL
194,3613338.415,5025432.356,1065.103,FOL
195,3613347.017,5025435.835,1064.670,FOL
196,3613347.338,5025425.503,1064.561,FOL

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197,3613347.006,5025413.883,1064.817,FOL
198,3613347.914,5025401.079,1064.988,FOL
199,3613346.634,5025385.924,1065.625,FOL
200,3613342.678,5025378.688,1065.270,FOL
201,3613343.251,5025365.417,1064.561,FOL
202,3613327.901,5025400.916,1061.582, TOP CLAYTILE
203,3613328.384,5025401.010,1060.415, FL 12"CLAY
204,3613305.552,5025401.316,1064.038,GS TILE LOCATE
205,3613262.989,5025401.224,1064.147,GS TILE LOCATE
206,3613217.936,5025401.353,1063.837,GS TILE LOCATE
207,3613154.862,5025401.531,1063.604,GS TILE LOCATE
208,3613093.866,5025400.926,1063.279,GS TILE LOCATE
209,3613027.406,5025399.928,1063.128,GS TILE LOCATE
210,3612961.901,5025399.295,1062.911,GS TILE LOCATE
211,3612900.078,5025398.083,1062.610,GS TILE LOCATE
212,3612870.371,5025397.503,1062.599,GS TILE LOCATE
213,3610781.318,5024180.965,1081.118, GRAV
214,3610867.242,5024181.732,1078.152,WCP
215,3611760.855,5024116.032,1066.473, FL 4"HICK INTK
216,3611761.044,5024116.985,1068.108,GS
217,3611759.787,5024128.204,1072.088,EOG
218,3611760.521,5024156.800,1071.886,EOG
219,3611737.819,5024169.926,1067.631,EOC BEEHIVE INTK
220,3611736.072,5024169.961,1067.641,EOC BEEHIVE INTK
221,3611736.026,5024168.300,1067.633,EOC BEEHIVE INTK
222,3611737.404,5024168.040,1067.649,EOC BEEHIVE INTK
223,3611285.815,5024180.372,1073.099,WCP
224,3611737.197,5024169.595,1066.303, FL 6"CLAY INTK
225,3611738.767,5024174.556,1067.644,GS TILELOCATE
226,3611776.129,5024190.360,1069.182,GS TILELOCATE
227,3611763.343,5024185.557,1069.017,GS TILELOCATE
228,3611754.799,5024182.128,1069.095,GS TILELOCATE
229,3611775.695,5024162.123,1067.895, FL CMP18
230,3611778.779,5024122.148,1068.057, FL CMP18
231,3611662.166,5024167.922,1066.003, FL 12"CLAY
232,3611682.273,5024167.971,1068.371,GS TILELOCATE
233,3611713.405,5024170.383,1068.094,GS TILELOCATE
234,3611730.412,5024172.252,1068.494,GS TILELOCATE
235,3611739.447,5024174.955,1066.395, TOP 12"CLAY @6"CONC TO INTK
236,3611786.028,5024195.851,1069.281,gs tile locate debris
237,3611810.943,5024214.361,1069.325,gs tile locate
238,3611836.701,5024238.881,1069.251,gs tile locate
239,3611868.701,5024276.661,1068.899,gs tile locate
240,3611896.372,5024316.684,1068.930,gs tile locate
241,3611927.043,5024361.240,1068.579,gs tile locate
242,3611957.024,5024406.514,1068.230,gs tile locate
243,3611985.586,5024451.003,1067.911,gs tile locate
244,3612022.842,5024508.258,1067.265,gs tile locate
245,3612045.514,5024569.183,1066.370,gs tile locate

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246,3612053.548,5024631.541,1066.092,gs tile locate
247,3612055.545,5024691.771,1065.594,gs tile locate
248,3612055.999,5024762.258,1065.431,gs tile locate
249,3612055.275,5024824.249,1066.101,gs tile locate
250,3612053.419,5024842.015,1066.351,gs tile locate
251,3611663.694,5024167.785,1067.378,gs bgn televise
252,3613325.442,5025139.286,1067.015,GS CORN DAMAGE 1
253,3613328.839,5025195.589,1066.349,GS CORN DAMAGE 1
254,3613329.990,5025252.853,1065.759,GS CORN DAMAGE 1
255,3613330.252,5025310.421,1065.848,GS CORN DAMAGE 1
256,3613330.537,5025361.091,1064.945,GS CORN DAMAGE 1
257,3613330.133,5025407.852,1064.492,GS CORN DAMAGE 1
258,3613312.183,5025401.548,1064.148,GS CORN DAMAGE 1
259,3613307.073,5025394.266,1064.255,GS CORN DAMAGE 1
260,3613306.969,5025377.661,1064.756,GS CORN DAMAGE 1
261,3613324.268,5025345.702,1065.499,GS CORN DAMAGE 1
262,3613324.073,5025293.404,1065.784,GS CORN DAMAGE 1
263,3613323.570,5025239.809,1065.856,GS CORN DAMAGE 1
264,3613320.948,5025156.840,1066.809,GS CORN DAMAGE 1
265,3613319.382,5026092.582,1067.820,GS BEAN DAMAGE 1
266,3613294.017,5026078.369,1067.931,GS BEAN DAMAGE 1
267,3613254.527,5026047.817,1067.854,GS BEAN DAMAGE 1
268,3613208.991,5026028.235,1067.656,GS BEAN DAMAGE 1
269,3613156.458,5026011.479,1067.334,GS BEAN DAMAGE 1
270,3613103.757,5025992.499,1066.841,GS BEAN DAMAGE 1
271,3613053.047,5025969.281,1066.105,GS BEAN DAMAGE 1
272,3613020.372,5025942.262,1065.510,GS BEAN DAMAGE 1
273,3612995.905,5025910.790,1064.741,GS BEAN DAMAGE 1
274,3612966.291,5025850.791,1065.485,GS BEAN DAMAGE 1
275,3612933.366,5025848.272,1065.876,GS BEAN DAMAGE 1
276,3612835.387,5025849.261,1066.136,GS BEAN DAMAGE 1
277,3612733.767,5025849.600,1065.724,GS BEAN DAMAGE 1
278,3612619.154,5025850.926,1066.056,GS BEAN DAMAGE 1
279,3612481.483,5025851.414,1064.621,GS BEAN DAMAGE 1
280,3612329.685,5025852.569,1063.809,GS BEAN DAMAGE 1
281,3612203.936,5025853.671,1063.823,GS BEAN DAMAGE 1
282,3612056.186,5025854.885,1064.277,GS BEAN DAMAGE 1
283,3611920.231,5025856.205,1063.448,GS BEAN DAMAGE 1
284,3611870.019,5025858.737,1063.541,GS BEAN DAMAGE 1
285,3611836.709,5025863.580,1063.833,GS BEAN DAMAGE 1
286,3611820.196,5025844.850,1063.460,GS BEAN1/CORN2 DAMAGE
287,3611818.122,5025815.272,1063.417,GS CORN DAMAGE 2
288,3611823.124,5025812.309,1063.354,GS CORN DAMAGE 2
289,3611822.952,5025730.878,1063.238,GS CORN DAMAGE 2
290,3611820.290,5025727.716,1063.297,GS CORN DAMAGE 2
291,3611820.237,5025697.753,1063.380,GS CORN DAMAGE 2
292,3611839.552,5025683.183,1063.041,GS CORN DAMAGE 2
293,3611965.799,5025681.025,1062.006,GS CORN DAMAGE 2
294,3611994.490,5025650.904,1061.879,GS CORN DAMAGE 2

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295,3612010.069,5025610.847,1061.762,GS CORN DAMAGE 2
296,3612015.603,5025570.400,1061.595,GS CORN DAMAGE 2
297,3612016.833,5025547.954,1061.590,GS CORN DAMAGE 2
298,3611997.635,5025547.324,1061.653,GS CORN DAMAGE 2
299,3611996.785,5025538.079,1061.537,GS CORN DAMAGE 2
300,3612003.186,5025843.395,1063.440,GS BEAN DAMAGE 1
301,3612163.532,5025842.907,1063.849,GS BEAN DAMAGE 1
302,3611938.802,5025525.947,1061.747,GS CORN DAMAGE 2
303,3611944.114,5025503.914,1061.798,GS CORN DAMAGE 2
304,3611955.785,5025481.290,1061.672,GS CORN DAMAGE 2
305,3611963.111,5025466.235,1061.582,GS CORN DAMAGE 2
306,3611978.062,5025457.648,1061.407,GS CORN DAMAGE 2
307,3612010.089,5025439.343,1061.475,GS CORN DAMAGE 2
308,3612043.455,5025420.557,1061.385,GS CORN DAMAGE 2
309,3612097.376,5025401.776,1061.538,GS CORN DAMAGE 2
310,3612122.462,5025394.610,1061.537,GS CORN DAMAGE 2
311,3612118.482,5025382.741,1061.493,GS CORN DAMAGE 2
312,3612126.103,5025380.410,1061.474,GS CORN DAMAGE 2
313,3612128.168,5025391.499,1061.405,GS CORN DAMAGE 2
314,3612159.467,5025382.287,1061.599,GS CORN DAMAGE 2
315,3612173.752,5025379.846,1061.609,GS CORN DAMAGE 2
316,3612176.266,5025392.261,1061.675,GS CORN DAMAGE 2
317,3612192.357,5025391.757,1061.711,GS CORN DAMAGE 2
318,3612194.010,5025408.356,1061.600,GS CORN DAMAGE 2
319,3612198.388,5025481.643,1061.382,GS CORN DAMAGE 2
320,3612195.321,5025492.208,1061.343,GS CORN DAMAGE 2
321,3612161.026,5025509.843,1061.332,GS CORN DAMAGE 2
322,3612084.139,5025510.311,1061.476,GS CORN DAMAGE 2
323,3612034.209,5025548.104,1061.515,GS CORN DAMAGE 2
324,3612025.720,5025606.259,1061.555,GS CORN DAMAGE 2
325,3612006.828,5025656.984,1061.820,GS CORN DAMAGE 2
326,3611992.775,5025677.804,1061.973,GS CORN DAMAGE 2
327,3611972.952,5025695.686,1062.109,GS CORN DAMAGE 2
328,3611867.280,5025696.645,1062.723,GS CORN DAMAGE 2
329,3611852.019,5025699.189,1062.996,GS CORN DAMAGE 2
330,3611837.401,5025712.608,1063.177,GS CORN DAMAGE 2
331,3611835.222,5025721.136,1063.194,GS CORN DAMAGE 2
332,3611835.212,5025757.610,1063.147,GS CORN DAMAGE 2
333,3611847.379,5025757.709,1062.967,GS CORN DAMAGE 2
334,3611871.843,5025753.122,1062.648,GS CORN DAMAGE 2
335,3611874.806,5025770.591,1062.859,GS CORN DAMAGE 2
336,3611834.841,5025768.434,1063.145,GS CORN DAMAGE 2
337,3611835.085,5025786.417,1063.274,GS CORN DAMAGE 2
338,3611861.868,5025787.290,1063.113,GS CORN DAMAGE 2
339,3611901.292,5025787.054,1062.876,GS CORN DAMAGE 2
340,3611924.618,5025786.588,1062.823,GS CORN DAMAGE 2
341,3611959.853,5025786.494,1062.610,GS CORN DAMAGE 2
342,3611960.550,5025793.451,1062.725,GS CORN DAMAGE 2
343,3611914.254,5025793.760,1062.909,GS CORN DAMAGE 2

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344,3611834.906,5025794.612,1063.425,GS CORN DAMAGE 2
 345,3611837.214,5025835.922,1063.493,GS CORN DAMAGE 2
 346,3611841.496,5025842.377,1063.743,GS CORN DAMAGE 2
 347,3611848.359,5025844.903,1063.448,GS BEAN1/CORN2 DAMAGE
 348,3612363.833,5025841.241,1063.703,GS BEAN DAMAGE 1
 349,3612519.906,5025839.965,1065.581,GS BEAN DAMAGE 1
 350,3612662.705,5025839.151,1066.121,GS BEAN DAMAGE 1
 351,3612822.826,5025837.681,1066.224,GS BEAN DAMAGE 1
 352,3612993.134,5025836.524,1063.772,GS BEAN DAMAGE 1
 353,3613010.920,5025897.667,1064.100,GS BEAN DAMAGE 1
 354,3613026.924,5025927.167,1064.495,GS BEAN DAMAGE 1
 355,3613063.791,5025962.206,1065.534,GS BEAN DAMAGE 1
 356,3613123.491,5025987.251,1066.739,GS BEAN DAMAGE 1
 357,3613215.260,5026017.195,1067.367,GS BEAN DAMAGE 1
 358,3613255.099,5026033.322,1067.882,GS BEAN DAMAGE 1
 359,3613291.440,5026055.604,1068.057,GS BEAN DAMAGE 1
 360,3613308.716,5026072.685,1067.796,GS BEAN DAMAGE 1
 361,3611807.128,5024179.743,1069.707,GS BEAN DAMAGE 2
 362,3611807.511,5024205.868,1069.525,GS BEAN DAMAGE 2
 363,3611773.044,5024205.956,1069.285,GS BEAN DAMAGE 2
 364,3611772.629,5024179.468,1069.244,GS BEAN DAMAGE 2
 365,3611420.994,5024166.126,1070.135,gs tile locate
 366,3610877.829,5024172.845,1072.540,fl 12 vcp
 367,3611004.766,5024168.777,1076.314,GS TILE LOCATE
 368,3610780.475,5024176.691,1081.202,GS TILE LOCATE lat 1
 369,3610745.385,5024185.485,1073.260,fl 10 clay
 370,3610731.977,5024189.648,1074.838,top 6" vcp end sse
 371,3610723.432,5024193.682,1077.814,gs tile locate lat 3
 372,3610699.198,5024204.419,1077.851,GS TILE LOCATE
 373,3610663.693,5024216.153,1078.463,GS TILE LOCATE
 374,3610631.328,5024225.297,1078.691,GS TILE LOCATE
 375,3610571.166,5024231.812,1078.927,GS TILE LOCATE
 376,3610514.654,5024232.289,1079.249,GS TILE LOCATE
 377,3610488.920,5024230.942,1079.279,GS TILE LOCATE end
 378,3610658.913,5024217.869,1078.296,GS TILE LOCATE lat
 379,3614977.645,5029155.400,1093.738,922 6" cmp fl
 380,3614977.568,5029159.219,1094.050,531 6"
 381,3615001.288,5029204.084,1096.287,922 6" hick
 382,3614178.858,5029158.883,1089.078,962 8"
 383,3614182.984,5029159.147,1088.848,952 fl
 384,3613091.049,5029220.989,1085.891,922 6" cmp fl
 385,3613092.172,5029227.725,1088.782,922 5" hdpe
 386,3612041.404,5029172.589,1071.820,963 6"
 387,3615048.527,5029193.040,1100.049,700 -40"
 388,3615019.041,5029193.061,1099.751,700 -11-3"
 389,3614997.961,5029192.823,1099.620,700 -12'
 390,3614976.254,5029193.703,1099.440,700 -8'10"
 391,3614951.315,5029193.683,1099.374,700 -3'
 392,3614242.019,5029195.844,1096.399,700 -34"

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393,3614181.655,5029195.146,1096.557,700 -13'4"
394,3614159.950,5029196.109,1096.495,700 -13'7"
395,3614137.128,5029195.851,1096.574,700 -11.5'
396,3614109.446,5029196.837,1096.493,700 -31"
397,3612089.676,5029192.323,1079.377,700 -6'4"
398,3612050.868,5029191.569,1079.246,700 -12'10"
399,3612034.216,5029192.217,1079.233,700 -13'9"
400,3611953.245,5025489.282,1057.912,vcp fl
401,3611946.368,5025513.371,1058.054,vcp fl
402,3611946.438,5025512.973,1059.737,top 18 conc
403,3611948.530,5025506.310,1059.730,top 18 conc
404,3611949.843,5025507.455,1059.512,top 15 conc
405,3611957.254,5025503.587,1059.549,top 15 conc
406,3611965.065,5025499.490,1059.470,top 15 conc
407,3611972.098,5025495.678,1059.486,top 15 conc
408,3611979.283,5025491.916,1059.444,top 15 conc
409,3611986.381,5025488.171,1059.450,top 15 conc
410,3611993.441,5025484.492,1059.453,top 15 conc
411,3612000.614,5025480.783,1059.522,top 15 conc
412,3612007.803,5025477.232,1059.490,top 15 conc
413,3612014.955,5025473.358,1059.544,top 15 conc
414,3612022.013,5025469.625,1059.524,top 15 conc
415,3612029.059,5025465.935,1059.501,top 15 conc
416,3612036.341,5025462.348,1059.612,top 15 conc
417,3612043.369,5025458.783,1059.573,top 15 conc
418,3612050.566,5025454.937,1059.550,top 15 conc
419,3612057.849,5025451.546,1059.580,top 15 conc
420,3612065.221,5025447.910,1059.592,top 15 conc
421,3612072.323,5025444.533,1059.562,top 15 conc
422,3612079.595,5025441.152,1059.553,top 15 conc
423,3612086.914,5025437.857,1059.614,top 15 conc
424,3612094.325,5025434.768,1059.582,top 15 conc
425,3612101.777,5025431.642,1059.662,top 15 conc
426,3612109.336,5025428.788,1059.662,top 15 conc
427,3612116.954,5025425.961,1059.659,top 15 conc
428,3612124.363,5025423.536,1059.621,top 15 conc
429,3612132.164,5025420.902,1059.691,top 15 conc
430,3612139.835,5025418.639,1059.703,top 15 conc
431,3612147.596,5025416.402,1059.688,top 15 conc
432,3612155.312,5025414.332,1059.718,top 15 conc
433,3612163.137,5025412.357,1059.687,top 15 conc
434,3612171.118,5025410.611,1059.726,top 15 conc
435,3612178.819,5025409.062,1059.726,top 15 conc
436,3612186.769,5025407.645,1059.711,top 15 conc
437,3612193.672,5025406.658,1059.761,top 15 conc
438,3612202.792,5025405.355,1059.708,top 15 conc
439,3612210.640,5025404.358,1059.721,top 15 conc
440,3612218.518,5025403.392,1059.730,top 15 conc
441,3612226.522,5025402.558,1059.740,top 15 conc

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442,3612234.532,5025401.897,1059.746, top 15 conc
443,3612250.573,5025400.525,1059.760, top 15 conc
444,3612258.647,5025399.987,1059.765, top 15 conc
445,3612266.603,5025399.561,1059.773, top 15 conc
446,3612274.652,5025399.079,1059.753, top 15 conc
447,3612282.712,5025398.896,1059.764, top 15 conc
448,3612290.663,5025398.732,1059.808, top 15 conc
449,3612298.677,5025398.444,1059.744, top 15 conc
450,3612306.760,5025398.241,1059.790, top 15 conc
451,3612314.777,5025397.975,1059.837, top 15 conc
452,3612322.836,5025397.815,1059.814, top 15 conc
453,3612330.843,5025397.770,1059.873, top 15 conc
454,3612338.881,5025397.841,1059.845, top 15 conc
455,3612346.830,5025397.716,1059.855, top 15 conc
456,3612354.866,5025397.589,1059.880, top 15 conc
457,3612362.896,5025397.441,1059.915, top 15 conc
458,3612370.927,5025397.495,1059.936, top 15 conc
459,3612378.983,5025397.465,1059.916, top 15 conc
460,3612387.014,5025397.475,1059.946, top 15 conc
461,3612395.020,5025397.540,1059.909, top 15 conc
462,3612403.113,5025397.720,1059.928, top 15 conc
463,3612411.134,5025397.876,1059.923, top 15 conc
464,3612419.184,5025398.044,1059.925, top 15 conc
465,3612427.259,5025398.284,1059.929, top 15 conc
466,3612435.305,5025398.480,1059.964, top 15 conc
467,3612443.343,5025398.636,1059.933, top 15 conc
468,3612451.344,5025398.706,1059.985, top 15 conc
469,3612459.438,5025398.798,1059.931, top 15 conc
470,3612467.403,5025398.916,1059.997, top 15 conc
471,3612475.484,5025399.010,1059.928, top 15 conc
472,3612483.635,5025398.923,1060.023, top 15 conc
473,3612491.634,5025398.874,1060.011, top 15 conc
474,3612499.720,5025398.820,1059.991, top 15 conc
475,3612507.665,5025398.846,1060.049, top 15 conc
476,3612515.716,5025398.901,1059.953, top 15 conc
477,3612523.793,5025398.981,1060.053, top 15 conc
478,3612531.850,5025399.125,1060.057, top 15 conc
479,3612538.811,5025399.199,1060.073, top 15 conc
480,3612539.895,5025399.239,1060.020, top 15 conc
481,3612547.967,5025399.190,1060.028, top 15 conc
482,3612556.014,5025399.253,1060.032, top 15 conc
483,3612563.971,5025399.341,1060.012, top 15 conc
484,3612572.040,5025399.424,1060.011, top 15 conc
485,3612580.093,5025399.311,1060.035, top 15 conc
486,3612588.149,5025399.265,1060.075, top 15 conc
487,3612596.091,5025399.219,1060.064, top 15 conc
488,3612604.303,5025399.180,1060.066, top 15 conc
489,3612612.248,5025399.265,1060.090, top 15 conc
490,3612620.252,5025399.300,1060.091, top 15 conc

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491,3612628.309,5025399.341,1060.075,top 15 conc
492,3612636.362,5025399.419,1060.099,top 15 conc
493,3612644.417,5025399.292,1060.135,top 15 conc
494,3612660.505,5025399.080,1060.168,top 15 conc
495,3612668.505,5025399.411,1060.157,top 15 conc
496,3612676.481,5025399.388,1060.185,top 15 conc
497,3612684.613,5025399.494,1060.146,top 15 conc
498,3612692.648,5025399.507,1060.244,top 15 conc
499,3612700.662,5025399.544,1060.203,top 15 conc
500,3612708.636,5025399.656,1060.235,top 15 conc
501,3612716.743,5025399.695,1060.214,top 15 conc
502,3612724.796,5025399.988,1060.208,top 15 conc
503,3612732.787,5025399.927,1060.248,top 15 conc
504,3612739.903,5025400.057,1060.319,top 15 conc
505,3611871.995,5025758.423,1059.314,top 18 hdpe
506,3611878.404,5025738.189,1059.387,top 18 vcp
507,3611870.903,5025761.304,1062.660,gs
508,3611882.126,5025728.765,1062.624,gs
509,3612740.786,5025400.155,1060.295,top 15 conc
510,3612748.817,5025399.915,1060.307,top 15 conc
511,3612756.854,5025400.182,1060.331,top 15 conc
512,3612764.806,5025400.236,1060.321,top 15 conc
513,3612772.855,5025400.219,1060.363,top 15 conc
514,3612780.995,5025400.323,1060.357,top 15 conc
515,3612788.897,5025400.434,1060.404,top 15 conc
516,3612796.928,5025400.574,1060.404,top 15 conc
517,3612804.844,5025400.742,1060.415,top 15 conc
518,3612812.923,5025400.944,1060.437,top 15 conc
519,3612820.975,5025401.323,1060.466,top 15 conc
520,3612829.118,5025401.525,1060.476,top 15 conc
521,3612837.169,5025401.760,1060.524,top 15 conc
522,3612845.156,5025401.972,1060.514,top 15 conc
523,3612852.152,5025402.319,1060.539,top 15 conc
524,3612860.231,5025405.358,1059.747,top 6 hdpe
525,3612853.036,5025402.478,1060.536,top 15 conc
526,3612861.030,5025402.575,1060.563,top 15 conc
527,3612859.334,5025403.812,1059.835,top 6 hdpe
528,3612869.190,5025402.870,1060.553,top 15 conc
529,3612877.250,5025403.125,1060.587,top 15 conc
530,3612885.169,5025403.376,1060.602,top 15 conc
531,3612893.211,5025403.493,1060.634,top 15 conc
532,3612901.092,5025403.534,1060.664,top 15 conc
533,3612909.170,5025403.852,1060.675,top 15 conc
534,3612917.359,5025403.715,1060.689,top 15 conc
535,3612925.243,5025403.712,1060.724,top 15 conc
536,3612933.272,5025403.731,1060.696,top 15 conc
537,3612934.684,5025403.699,1060.822,top 15 conc reducer
538,3612935.798,5025403.761,1060.615,top 12 conc reducer
539,3612937.299,5025403.715,1060.579,top 12 conc

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540,3612945.282,5025403.825,1060.600,top 12 conc
541,3612953.196,5025403.799,1060.626,top 12 conc
542,3612961.217,5025403.667,1060.646,top 12 conc
543,3612969.251,5025403.683,1060.655,top 12 conc
544,3612977.276,5025403.766,1060.673,top 12 conc
545,3612985.270,5025403.695,1060.709,top 12 conc
546,3612993.330,5025403.862,1060.749,top 12 conc
547,3613001.339,5025403.766,1060.778,top 12 conc
548,3613009.349,5025403.954,1060.753,top 12 conc
549,3613016.333,5025404.057,1060.817,top 12 conc
550,3613065.272,5025404.788,1060.884,top 12 conc
551,3613073.077,5025404.798,1060.942,top 12 conc
552,3613129.429,5025405.633,1061.088,top 12 conc
553,3613137.160,5025405.711,1061.150,top 12 conc
554,3613225.165,5025403.891,1061.294,top 12 conc
555,3613233.135,5025403.496,1061.340,top 12 conc
556,3613338.769,5025403.516,1062.226,fo line
557,3613347.816,5025401.575,1061.250,tell line
558,3613305.138,5025401.137,1061.512,top 12 conc
559,3613313.136,5025401.230,1061.528,top 12 conc
560,3613321.058,5025401.051,1061.534,top 12 conc
561,3613328.971,5025401.046,1061.573,top 12 conc
562,3613352.040,5025400.110,1061.579,top 12 vcp
563,3613349.845,5025398.626,1061.331,top 5 vcp
564,3613336.828,5025400.513,1061.677,top 12 vcp
565,3613342.424,5025400.439,1061.680,top 12 conc
566,3613342.638,5025400.513,1061.680,top 12 hdpe
567,3613344.031,5025400.574,1060.329,top 12 fl intake
568,3613345.646,5025400.480,1061.729,top 12 hdpe
569,3613351.406,5025400.250,1061.640,top 12 hdpe
570,3613349.808,5025399.641,1061.244,top 6 hdpe
571,3611880.861,5025738.053,1059.412,top 18 vcp lat
572,3611648.419,5024167.854,1067.151,top 12 vcp start repair
573,3611558.908,5024167.282,1067.441,top 12 hdpe
574,3612012.778,5029191.845,1079.246,700 -12'8"
575,3611947.823,5025487.810,1059.313,top 5" clay tile
576,3612286.050,5025390.141,1059.134,top 6" ads tile
577,3612372.900,5025389.073,1059.648,fl 5" clay tile
578,3612397.370,5025389.460,1059.588,top 5" plastic
579,3611683.328,5024168.057,1066.854,begin repair
580,3611695.912,5024168.878,1066.738,top 12" hdpe
581,3611715.696,5024171.484,1066.596,top 12" hdpe
582,3611735.254,5024175.078,1066.357,top 12" hdpe
583,3611749.688,5024178.911,1066.183,end repair
584,3611738.700,5024175.367,1066.004,connection for intake
585,3611738.566,5024173.127,1066.304,connection for intake
586,3611856.145,5024260.554,1065.658,begin repair
587,3611862.242,5024269.031,1065.506,end repair
588,3611950.786,5024397.856,1064.713,begin repair

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589,3611955.457,5024404.765,1064.666,end repair
590,3611974.400,5024434.106,1064.451,begin repair
591,3611983.567,5024448.078,1064.108,end repair
592,3612053.306,5024630.655,1063.090,begin repair
593,3612053.680,5024639.123,1062.955,end repair
594,3612055.439,5024741.877,1062.412,begin repair
595,3612055.793,5024760.650,1062.311,end repair
596,3611538.718,5024167.382,1067.492,top 12 hdpe
597,3611519.145,5024166.988,1067.549,top 12 hdpe
598,3611499.166,5024166.559,1067.592,top 12 hdpe
599,3611479.463,5024165.998,1067.667,top 12 hdpe
600,3611459.318,5024165.989,1067.760,top 12 hdpe
601,3611431.599,5024165.636,1067.985,top 12 vcp end repair
602,3611856.151,5024260.502,1065.629,top 15 vcp repair
603,3611862.296,5024268.974,1065.521,top 15 vcp repair
604,3611923.563,5024356.552,1065.209,top 15 vcp repair
605,3611893.856,5024312.412,1065.420,top 15 vcp repair
606,3610875.022,5024172.919,1073.703,begin repair
607,3610864.362,5024173.011,1073.958,end repair
608,3610729.983,5024191.405,1074.318,end repair
609,3610759.609,5024180.856,1073.999,begin repair
610,3610656.138,5024218.580,1074.589,begin repair
611,3610646.237,5024222.023,1074.739,end repair
612,3610649.434,5024224.039,1075.262,5" clay plugged
613,3610495.640,5024231.013,1076.083,begin repair
614,3610484.989,5024230.100,1076.186,end repair
615,3610486.327,5024226.305,1076.319,4" plastic tile active
616,3611969.732,5029194.712,1079.408,700 -7'4"
617,3613035.358,5029183.687,1092.763,700 -6'4"
618,3613060.511,5029187.838,1093.163,700 -11'6"
619,3613078.571,5029188.109,1093.415,700 -15'4"
620,3613100.820,5029186.882,1093.559,700 -15'6"
1000,3612064.579,5025432.617,1058.159,FL CLAY TILE
1001,3612060.546,5025434.400,1061.319,GS
1002,3612070.722,5025430.155,1061.495,GS
1003,3612052.338,5025439.666,1061.360,GS TILELOCATE
1004,3612038.371,5025447.158,1061.407,GS PROBED TILE
1005,3612024.560,5025455.319,1061.392,GS PROBED TILE
1006,3612012.477,5025462.545,1061.438,GS PROBED TILE
1007,3611998.726,5025470.327,1061.418,GS PROBED TILE
1008,3611985.411,5025478.195,1061.530,GS PROBED TILE
1009,3611973.507,5025485.530,1061.588,GS PROBED TILE
1010,3611964.542,5025490.591,1061.540,GS PROBED TILE
1011,3611956.291,5025496.681,1061.617,GS PROBED TILE
1012,3611963.292,5025491.019,1058.109,FL 15"CLAY
1013,3611960.720,5025492.848,1061.648,GS
1014,3611952.035,5025498.680,1061.680,GS DD8 Y NORTH LOCATE
1015,3611948.316,5025506.481,1058.097,FL 18"CLAY DD8
1016,3611947.341,5025510.097,1061.699,GS

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1017,3611943.366,5025524.853,1061.656,GS TILE LOCATE
 1018,3611930.464,5025567.825,1061.931,GS TILE LOCATE
 1019,3611912.066,5025625.752,1062.119,GS TILE LOCATE
 1020,3611895.995,5025680.320,1062.329,GS TILE LOCATE
 1021,3611894.063,5025686.801,1062.406,GS TILE LOCATE
 1022,3611871.027,5025759.937,1062.734,GS TILE LOCATE
 1023,3611870.383,5025763.438,1062.562,GS TILE INTAKE
 1024,3611856.548,5025809.799,1063.001,GS TILE LOCATE
 1025,3611952.921,5025489.930,1061.571,GS TILE LOCATE DD122
 1026,3611967.528,5025488.381,1058.061,FL EXPOSED 15"CLAY
 1027,3611972.712,5025485.459,1058.090,FL EXPOSED 15"CLAY
 1028,3611978.265,5025482.317,1058.119,FL EXPOSED 15"CLAY
 1029,3611985.567,5025477.985,1058.117,FL EXPOSED 15"CLAY
 1030,3611992.658,5025473.581,1058.237,FL EXPOSED 15"CLAY
 1031,3612001.960,5025467.917,1058.205,FL EXPOSED 15"CLAY
 1032,3612009.183,5025463.816,1058.115,FL EXPOSED 15"CLAY
 1033,3612015.002,5025460.606,1058.110,FL EXPOSED 15"CLAY
 1034,3612022.106,5025456.568,1058.092,FL EXPOSED 15"CLAY
 1035,3612029.007,5025452.334,1058.031,FL EXPOSED 15"CLAY
 1036,3612034.878,5025449.127,1057.998,FL EXPOSED 15"CLAY
 1037,3612042.189,5025445.240,1057.991,FL EXPOSED 15"CLAY
 1038,3612051.151,5025439.906,1058.023,FL EXPOSED 15"CLAY
 1039,3612064.745,5025432.360,1058.204,FL EXPOSED 15"CLAY
 1040,3612068.031,5025431.080,1058.116,FL EXPOSED 15"CLAY
 1041,3612074.153,5025429.062,1058.116,FL EXPOSED 15"CLAY
 1042,3612083.062,5025425.722,1058.234,FL EXPOSED 15"CLAY@OLD INTK
 1043,3612083.308,5025431.227,1061.468,gs
 1044,3612090.403,5025428.236,1061.571,gs
 1045,3612118.674,5025413.184,1061.450,gs
 1046,3612126.811,5025413.376,1061.401,gs
 1047,3612090.985,5025422.874,1058.167,FL EXPOSED 15"CLAY
 1048,3612098.638,5025419.962,1058.240,FL EXPOSED 15"CLAY
 1049,3612110.187,5025416.695,1061.539,GS
 1050,3612106.274,5025417.354,1058.225,FL EXPOSED 15"CLAY
 1051,3612113.829,5025414.576,1058.183,FL EXPOSED 15"CLAY
 1052,3612119.441,5025412.560,1058.257,FL EXPOSED 15"CLAY @COLLAPSETOPPIPE
 1053,3612124.218,5025410.869,1058.313,FL EXPOSED 15"CLAY @ S SIDE PLASTIC REPAIR
 1054,3612137.750,5025406.028,1058.284,FL EXPOSED 15"CLAY@2.0'NOFPLASTICREPAIR
 1055,3612145.550,5025403.959,1058.317,FL EXPOSED 15"CLAY
 1056,3612152.431,5025402.358,1061.611,GS
 1057,3612157.338,5025400.810,1061.538,GS
 1058,3612164.515,5025399.598,1061.659,GS
 1059,3612175.368,5025399.780,1061.636,GS
 1060,3612186.347,5025398.115,1061.646,GS
 1061,3612154.521,5025401.681,1058.253,FL EXPOSED 15"CLAY
 1062,3612165.392,5025399.929,1058.139,FL EXPOSED 15"CLAY@NSIDE TOPCOLLAPSE
 1063,3612194.676,5025398.172,1061.653,GS
 1064,3612203.789,5025397.432,1061.777,GS
 1065,3612216.176,5025396.219,1061.757,GS

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1066,3612227.192,5025395.815,1061.718,GS
1067,3612167.185,5025399.639,1058.218,FL EXPOSED 15"CLAY
1068,3612273.844,5025393.047,1061.677,GS ABOVE TILE
1069,3612316.448,5025391.083,1061.774,GS ABOVE TILE
1070,3612359.390,5025390.460,1061.998,GS ABOVE TILE
1071,3612393.052,5025390.973,1062.234,GS ABOVE TILE
1072,3612395.474,5025390.623,1062.167,GS ABOVE LATERAL LEFT
1073,3612371.868,5025390.691,1062.119,GS ABOVE LATERAL LEFT CAPPED
1074,3612285.712,5025392.472,1061.740,GS ABOVE LATERAL LEFT
1075,3612441.577,5025391.631,1062.324,GS ABOVE TILE
1076,3612491.714,5025392.546,1062.564,GS ABOVE TILE
1077,3612541.411,5025392.909,1062.375,GS ABOVE TILE
1078,3612590.861,5025393.775,1062.278,GS ABOVE TILE
1079,3612640.781,5025394.199,1062.310,GS ABOVE TILE
1080,3612670.356,5025394.655,1062.349,GS ABOVE TILE
1081,3612576.890,5025393.469,1062.171,GS CAPPED WYE
1082,3612477.263,5025392.350,1062.463,GS CAPPED WYE
1083,3613379.638,5025405.613,1071.053,CL ACC E-W
1084,3613344.424,5025401.653,1067.983, TOP 6" CMP STANDPIPE 7.21'TOPTO FL
1085,3613343.303,5025400.927,1064.797,GS
1086,3613343.383,5025400.353,1064.939,GS ABOVE TILE
1087,3613341.051,5025400.169,1064.990,GS ABOVE TILE
1088,3613338.033,5025400.583,1065.506,GS ABOVE TILE
1089,3613330.727,5025401.103,1064.341,GS ABOVE TILE
1090,3613327.955,5025401.167,1064.256,GS ABOVE TILE
1091,3613325.659,5025401.172,1064.289,GS ABOVE TILE
1092,3613334.357,5025400.763,1065.122,GS ROW FENCE E-W
1093,3611962.185,5025491.913,1058.122,fl 15" clay tile
1500,3610564.086,5024232.031,1079.027,GS
1501,3610631.718,5024225.286,1078.564,GS
1502,3610694.079,5024206.244,1077.834,GS
1503,3610715.065,5024197.424,1077.859,field edge
1504,3610732.422,5024189.255,1077.871,tob
1505,3610746.559,5024185.444,1076.260,fl
1506,3610771.998,5024178.931,1080.554,tob
1507,3610781.006,5024176.624,1081.210,EOG
1508,3610833.905,5024174.792,1079.687,EOG
1509,3610838.936,5024174.603,1079.251,tob
1510,3610847.303,5024174.222,1078.106,toe
1511,3610876.272,5024173.378,1076.950,fl
1512,3610925.729,5024171.530,1076.523,fl
1513,3611693.571,5024156.155,1071.550,EOG
1514,3611595.995,5024156.568,1072.037,EOG
1515,3611496.871,5024156.859,1072.558,EOG
1516,3611395.692,5024157.029,1073.582,EOG
1517,3611296.584,5024156.546,1075.202,EOG
1518,3611197.514,5024157.013,1077.328,EOG
1519,3611124.028,5024158.424,1078.786,EOG
1520,3611025.631,5024157.529,1079.872,EOG

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1521,3610925.978,5024158.264,1080.173,EOG
1522,3610882.101,5024161.208,1080.037,EOG
1523,3610859.968,5024164.526,1079.947,EOG
1524,3610834.610,5024174.252,1079.650,EOG
1525,3610812.136,5024187.437,1079.596,EOG
1526,3610791.872,5024204.729,1079.806,EOG
1527,3610775.482,5024228.418,1080.230,EOG
1528,3610765.868,5024252.847,1080.470,EOG
1529,3610741.841,5024245.416,1081.039,EOG
1530,3610750.744,5024220.839,1081.052,EOG
1531,3610763.400,5024197.963,1081.163,EOG
1532,3610781.159,5024176.702,1081.189,EOG
1533,3610802.251,5024160.635,1081.101,EOG
1534,3610829.886,5024147.133,1080.819,EOG
1535,3610857.633,5024138.947,1080.516,EOG
1536,3610884.721,5024135.268,1080.551,EOG
1537,3610912.166,5024134.264,1080.511,EOG
1538,3611672.956,5024168.103,1068.399,fl
1539,3611714.926,5024170.476,1068.162,toe
1540,3611738.758,5024174.585,1069.209,tob
1541,3611749.665,5024179.735,1069.160,field edge
1542,3611806.020,5024174.573,1069.995,fnc ln
1543,3611651.515,5024175.740,1071.703,fnc ln
1544,3613377.948,5024131.485,1076.863,1.5" od ipipe yc#19957
1545,3613368.552,5025399.230,1070.656,ea
1546,3613368.667,5025374.335,1070.619,ea
1547,3613368.415,5025424.458,1070.730,ea
1548,3613365.721,5025424.675,1070.543,tb
1549,3613365.305,5025399.229,1070.433,tb
1550,3613365.256,5025374.296,1070.258,tb
1551,3613353.786,5025374.659,1065.399,toe
1552,3613353.532,5025399.934,1065.414,toe
1553,3613354.435,5025425.387,1065.327,toe
1554,3613347.207,5025425.343,1064.710,fl ditch
1555,3613346.384,5025400.190,1064.767,fl ditch
1556,3613344.918,5025375.149,1065.094,fl ditch
1557,3613334.632,5025375.343,1065.225,fnc ln
1558,3613334.345,5025401.013,1065.230,fnc ln
1559,3613334.764,5025426.077,1065.330,fnc ln
1560,3613332.021,5025426.174,1064.569,crop ln
1561,3613331.670,5025401.062,1064.328,crop ln
1562,3613330.837,5025375.461,1064.156,crop ln
1563,3613278.858,5025375.660,1064.481,GS
1564,3613278.216,5025400.719,1064.240,GS
1565,3613277.308,5025426.021,1063.963,GS
1566,3613227.118,5025425.088,1063.710,GS
1567,3613227.260,5025400.448,1063.988,GS
1568,3613228.755,5025374.988,1064.026,GS
1569,3613178.577,5025374.284,1063.744,GS

1570,3613178.760,5025399.982,1063.808,GS
1571,3613178.393,5025424.573,1063.468,GS
1572,3613127.878,5025424.345,1063.531,GS
1573,3613128.219,5025399.152,1063.385,GS
1574,3613128.758,5025374.152,1063.436,GS
1575,3613078.963,5025373.787,1063.138,GS
1576,3613078.670,5025398.649,1063.317,GS
1577,3613078.186,5025423.791,1063.223,GS
1578,3613027.978,5025423.363,1063.171,GS
1579,3613028.267,5025398.135,1063.383,GS
1580,3613028.536,5025373.039,1063.181,GS
1581,3612978.653,5025372.459,1063.083,GS
1582,3612978.444,5025397.704,1063.078,GS
1583,3612978.280,5025422.811,1062.824,GS
1584,3612928.064,5025422.649,1062.778,GS
1585,3612928.466,5025397.198,1062.813,gs
1586,3612928.582,5025372.005,1062.897,GS
1587,3612878.485,5025371.445,1062.592,GS
1588,3612878.442,5025396.959,1062.702,GS
1589,3612878.056,5025421.938,1062.769,GS
1590,3612828.063,5025421.403,1062.720,GS
1591,3612828.371,5025396.133,1062.620,GS
1592,3612828.582,5025371.074,1062.674,GS
1593,3612778.702,5025370.759,1062.619,GS
1594,3612778.469,5025395.806,1062.640,GS
1595,3612778.069,5025420.764,1062.724,GS
1596,3612727.973,5025420.295,1062.656,GS
1597,3612728.414,5025395.143,1062.670,GS
1598,3612728.727,5025370.135,1062.574,GS
1599,3612678.662,5025369.677,1062.387,GS
1600,3612678.382,5025394.701,1062.405,GS
1601,3612677.973,5025419.830,1062.545,GS
1602,3612628.005,5025419.204,1062.289,GS
1603,3612628.264,5025394.138,1062.291,GS
1604,3612628.737,5025369.194,1062.335,GS
1605,3612578.586,5025368.385,1062.080,GS
1606,3612578.568,5025393.463,1062.317,GS
1607,3612577.993,5025418.653,1062.037,GS
1608,3612528.081,5025418.058,1062.392,GS
1609,3612528.321,5025393.028,1062.475,GS
1610,3612528.555,5025367.827,1062.284,GS
1611,3612478.716,5025367.263,1062.051,GS
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1627,3612228.561,5025395.730,1061.704,GS
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1629,3612177.000,5025373.843,1061.664,GS
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1675,3610732.781,5024169.037,1077.697,edge dstrbd
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1677,3610756.068,5024164.936,1076.447,edge dstrbd
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8070,3618716.220,5034450.740,1112.480,GPS MON
8070_GNSS,3618716.220,5034450.740,1112.480,Autonomous Setup



Drainage Utility Permit Application

Hardin County

Applicant: Heart of Iowa Communication Coop - Jay Duncan

Contact Email: jduncan@heartofiowa.coop

Contact Phone: (641) 486-2211

Utility Type: N/A - Utility Permits Only

Drainage District: DDs\DD 44 (51069)

Description of Work: DDs 44, 62, 1, 128, 78, 63, 8, 93 & 94 - Heart of Iowa - Install fiber optic cable in rural areas of Eldora & Steamboat Rock. Will work with CGA on facility crossings.

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 Districts. 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
Phone (641) 939-8111
Fax (641) 939-8245
drainage@hardincountyia.gov

For Office Use Only

Application Approval:

By:  Date: 6-7-2020
Board of Supervisor Chairman, Acting as Drainage District Trustee

APPROVED PERMIT # 2020-12

Application in TCM
 GIS Annotation
 Approval Emailed



HARDIN COUNTY

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

HARDIN COUNTY DRAINAGE DISTRICT UTILITY PERMIT APPLICATION

Applicant: Heart of Iowa Communications Cooperative
 Company Name
PO Box 130
 Address
 Union IA 50258-0130
 City Union State IA Zip 50258-0130
 Applicant Contact: Jay Duncan (641) 486 - 2211
 Name Phone
jduncan@heartofiowa.coop
 Email

Utility Type: Fiber Optic
 Drainage District(s) Crossed: 44, 62, 1, 128, 78, 63, 8, 93 & 94
 Facilities Crossed (specific tile, open ditch): tile and open ditch
 Description of Work: Install fiber optic cable in rural areas of Eldora and Steamboat Rock. Will work with CGA on
facility crossings.
 (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.

[Signature]
Applicant Signature

6/10/2020
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

For Office Use Only

Application Approval:
 By: [Signature] Date: 6-7-2020
Board of Supervisor Chairman, Acting as Drainage District Trustee
 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.



HARDIN COUNTY

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

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 a 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.

DD 63
DD 8
+1/e

19C

A20-6 HWY
X-ING
1

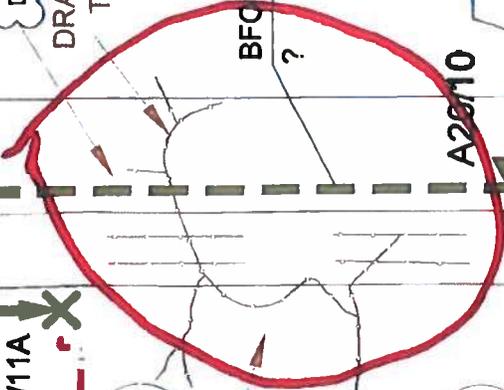
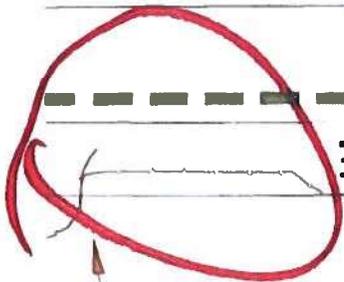
A20
6

20

STEAMBOAT ROCK EXCHANGE

(NO LIVE DATA
VERIFY EXISTENCE)
BFO24

A20C
4



DRAINAGE
TILES

DD# 1

BFO 4
?

19

ELDORA EXCHANGE

@A20/11A

19647

DD# 8

19979

NS

19476
A20/11

DD# 8
DRAINAGE
TILES

BFO 72
?

A20/10

HH

A20/9
(4/17)

30728

NS

30602

NS

A20C/1

BFO 24

NS

D35

DD# 8

4 HOC



Utility Permit #:2020-12

Utility Observation Report

General Information	
Project Name and Number:	Utility Crossing #6666.4
Drainage District Number:	#8 Sub 2
Drainage District Facility ID:	Main and Lateral 4
Project Location: (1/4, Sec, Twp, Rng and road)	SW 20-88-19 U Ave, N of Co Hwy D35
Date of Observation:	10/23/2020, 10/24/2020
Observer Name/Title:	Chris Sweeney

Field Observations	
District facility type:	<input checked="" type="checkbox"/> Tile <input type="checkbox"/> Open Ditch Other:
Utility Orientation:	<input type="checkbox"/> Parallel <input checked="" type="checkbox"/> Crossing <input type="checkbox"/> Overhead <input type="checkbox"/> Over <input checked="" type="checkbox"/> Under <input type="checkbox"/> Same Elevation Other:
Source of utility elevation and/or location:	<input type="checkbox"/> Probed <input type="checkbox"/> Exposed <input checked="" type="checkbox"/> Utility Reported Other:
Utility Elevation:	GPS #380 = 1087.6' GPS #382 = 1082.9'
Source of district facility elevation and/or location:	<input type="checkbox"/> Probed <input checked="" type="checkbox"/> Exposed <input type="checkbox"/> Utility Reported Other:
District facility elevation: (include where measured)	GPS #380 = 1093.6' (flowline) GPS #382 = 1088.4' (flowline)
Vertical clearance from district facility: (must be greater than 1-foot for tile, and 5-feet for designed open ditch bottom)	GPS #380 = 5.9' GPS #382 = 5.5'



Utility Permit #:2020-12

Horizontal clearance from District Tile or Open Ditch centerline:	NA
Tile outlets within 25-feet relocated? (If applicable)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Original tile material:	<input type="checkbox"/> RCP <input checked="" type="checkbox"/> CMP (GPS #380, 6") <input type="checkbox"/> SW HDPE <input type="checkbox"/> DW HDPE <input checked="" type="checkbox"/> VCP (GPS #382, 8") Other:
Tile replaced by utility?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Tile replacement material:	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input checked="" type="checkbox"/> N/A Other:
Condition of District tile:	Not observed, used inlet to measure.
Signage present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A

Notes	
Signage was not installed at time of observation and will need to be confirmed with Utility if desired by District Trustees.	

CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

10-24-2020
10-23-2020

DAYS OF WEEK:

S M T W T **F** S

SHEET NO.

L OF 1

PROJECT NUMBER:

6666.7

COUNTY, ROUTE, ROAD:

DD 8

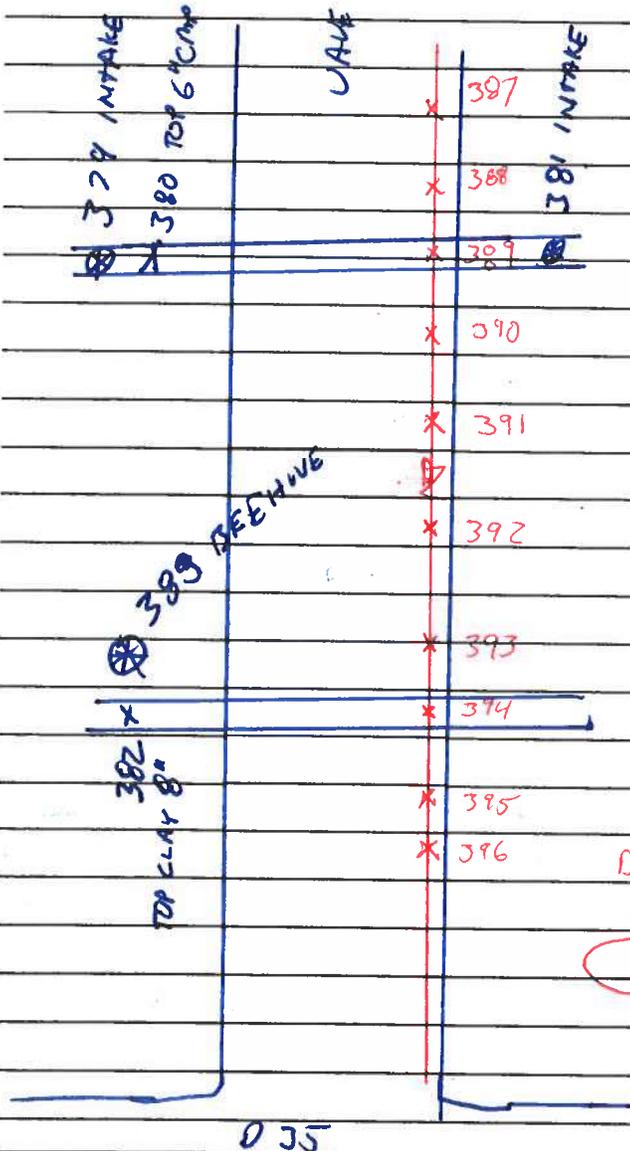
LOCATION:

V AVE

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

T 1 ✓ 180

SHOT TILE + IMPALES @ 2 CROSSINGS



TILE
FL @ 380 = 1093.55'
DEPTH OF BORE = 1087.62'

CLEARANCE = 5.93'

TILE
FL @ 382 = 1088.41'
DEPTH OF BORE = 1082.92'

CLEARANCE = 5.49'

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

Observer's Signature:

Chris Murray

Date Prepared:

10-23-20

Reviewed by:

Engineer

Date Reviewed

BORE @ 380 LOOKINGS



2020/10/29



2020/10/29

BORE DEPTH @ 381

INTAKE @ 380



BORF @ 382 LOOKING S.

DEATH @ 392



INTAKE @ 383

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- 1, 3610944.202, 5029244.721, 1098.632, CP 3/4
- 2, 3609899.457, 5029141.385, 1048.076, TOP CMP
- 3, 3609923.128, 5029093.654, 1060.470, TILE LOCATE
- 4, 3609933.547, 5029079.378, 1050.715, TILE LOCATE
- 5, 3609968.090, 5029024.826, 1051.921, TILE LOCATE
- 6, 3609979.808, 5028947.099, 1051.208, TILE LOCATE
- 7, 3609993.458, 5028857.845, 1052.244, TILE LOCATE
- 8, 3610008.070, 5028768.799, 1052.537, TILE LOCATE
- 9, 3610023.929, 5028679.861, 1053.151, TILE LOCATE
- 10, 3610041.470, 5028575.129, 1047.790, FL 20"CLAY
- 11, 3610055.590, 5028484.250, 1053.982, TILE LOCATE
- 12, 3610069.804, 5028399.798, 1054.265, TILE LOCATE
- 13, 3610085.984, 5028302.372, 1054.179, TILE LOCATE
- 14, 3610104.918, 5028219.427, 1054.389, TILE LOCATE
- 15, 3610152.002, 5028145.704, 1054.483, TILE LOCATE
- 16, 3610222.078, 5028090.133, 1055.023, TILE LOCATE
- 17, 3610304.736, 5028041.447, 1054.881, TILE LOCATE
- 18, 3610392.401, 5027990.318, 1055.247, TILE LOCATE
- 19, 3610477.433, 5027940.067, 1054.680, TILE LOCATE
- 20, 3610524.772, 5027911.782, 1055.123, TILE LOCATE
- 21, 3610548.832, 5027898.055, 1049.536, FL 20"CLAYTILE
- 22, 3610624.223, 5027853.747, 1055.364, TILE LOCATE
- 23, 3610694.533, 5027812.869, 1055.995, TILE LOCATE
- 24, 3610762.814, 5027773.081, 1056.611, TILE LOCATE
- 25, 3610837.095, 5027730.708, 1057.252, TILE LOCATE
- 26, 3610905.963, 5027690.506, 1057.624, TILE LOCATE
- 27, 3610980.454, 5027646.514, 1058.040, TILE LOCATE
- 28, 3611045.382, 5027608.473, 1058.574, TILE LOCATE
- 29, 3611078.831, 5027589.319, 1059.000, TILE LOCATE
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- 31, 3611169.937, 5027535.943, 1059.395, TILE LOCATE
- 32, 3611243.334, 5027491.851, 1059.808, TILE LOCATE
- 33, 3611306.313, 5027447.529, 1060.597, TILE LOCATE
- 34, 3611362.455, 5027398.024, 1061.254, TILE LOCATE
- 35, 3611374.960, 5027383.836, 1061.462, TILE LOCATE
- 36, 3610745.703, 5027763.710, 1057.231, FENCE E-W
- 37, 3610747.318, 5027894.440, 1057.470, FENCE E-W &S
- 38, 3610746.650, 5028036.230, 1058.006, FENCE E-W
- 39, 3610450.240, 5027900.055, 1055.767, FENCE N-S
- 40, 3610024.795, 5028672.703, 1049.541, TOP 20" VCP TILE
- 41, 3610030.498, 5028637.209, 1049.560, TOP 20" VCP 1.82' TOFL
- 42, 3610041.859, 5028571.434, 1049.561, TOP 20" VCP 1.82' TOFL
- 43, 3610003.137, 5028586.269, 1054.425, FENCE E-W
- 44, 3610033.228, 5028630.785, 1049.563, FL 8" VCP
- 45, 3610049.049, 5028585.809, 1054.106, FENCE S&E
- 46, 3610050.013, 5028642.162, 1054.410, FENCE E-W
- 47, 3609920.715, 5029098.323, 1064.824, W GRAVEL road EDGE
- 48, 3609909.902, 5029120.516, 1064.378, E GRAVEL road EDGE
- 49, 3610688.197, 5029186.545, 1088.040, MAG TOP CMP

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51,3610032.772,5028631.012,1049.802, TOP 8" HDPE STUB ON TEE 0.72'TOFL
52,3610042.103,5028634.598,1050.151, TOP 8" VCP TILE .64'TOFL
53,3610553.795,5027894.872,1051.134, TOP 20" VCP 1.82'TOFL
54,3610548.741,5027898.106,1051.320, TOP 20" VCP TILE 1.82'TOFL
55,3610071.476,5028389.732,1048.076,7+79.000 C
56,3610082.780,5028321.664,1048.076,8+48.000 C
57,3610093.204,5028270.742,1048.076,9+00.000 C
58,3610181.690,5028122.161,1048.076,10+78.000 C
59,3611063.689,5027597.990,1048.076,21+04.500 C
60,3610185.054,5028113.628,1048.301, fl
61,3610185.628,5028113.542,1050.062, top main 24od/21id end repair
62,3610177.949,5028119.507,1048.236, fl
63,3610177.691,5028119.967,1050.043, top main 24od/21id start repair
64,3610183.785,5028110.426,1049.851, tile 5" cpp from w
65,3611055.573,5027602.544,1051.368, fl
66,3611055.129,5027602.766,1053.010, top main 24od/21id start repair
67,3611050.376,5027596.051,1058.677, ground elev
68,3611073.898,5027592.018,1051.418, fl
69,3611074.617,5027591.733,1053.022, top main 24od/21id end repair
70,3610746.239,5028095.162,1057.547, fnb e-w
71,3610749.591,5028091.799,1057.432, damage
72,3610762.483,5028075.694,1057.577, damage
73,3610760.280,5027891.617,1056.823, damage
74,3610746.994,5027893.934,1057.373, fcw ews
75,3610746.371,5027582.718,1057.332, fnb e-w
76,3610761.445,5027632.796,1056.917, damage
77,3610769.278,5027616.536,1057.034, damage
78,3610788.348,5027606.618,1057.264, damage
79,3610751.648,5027581.554,1056.882, damage
80,3610788.969,5027593.573,1057.345, damage
81,3610892.122,5027593.381,1057.749, damage
82,3610904.298,5027605.075,1057.722, damage
83,3610919.836,5027616.652,1057.708, damage
84,3610974.476,5027577.276,1058.076, damage
85,3611017.636,5027574.367,1058.393, damage
86,3611043.366,5027560.434,1058.385, damage
87,3611066.210,5027552.012,1058.799, damage
88,3611095.985,5027560.617,1058.830, damage
89,3611112.771,5027591.145,1058.612, damage
90,3611118.863,5027593.896,1058.548, damage
91,3611122.446,5027604.122,1058.555, damage
92,3611111.519,5027621.830,1058.409, damage
93,3611097.173,5027633.407,1058.219, damage
94,3611071.079,5027641.704,1058.110, damage
95,3611047.342,5027641.452,1058.113, damage
96,3611031.209,5027631.646,1058.278, damage
97,3611017.565,5027617.280,1058.273, damage
98,3610742.799,5028081.443,1056.739, damage

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99,3610723.111,5028102.093,1056.537,damage
100,3610707.764,5028106.637,1056.397,damage
101,3610070.623,5028394.912,1049.882,top main 24od/21id start repair
102,3610070.490,5028394.726,1048.062,fl
103,3610067.157,5028390.453,1049.891,tile fl 5id 7od from sw
104,3610070.121,5028402.175,1053.921,ground elev
105,3610073.096,5028376.806,1049.779,top main 24od/21id end repair
106,3610072.988,5028377.096,1047.995,fl
107,3610082.782,5028320.424,1048.041,fl
108,3610082.751,5028320.803,1049.825,top main 24od/21id start repair
109,3610083.536,5028314.768,1047.860,fl
110,3610083.624,5028314.163,1049.658,top main 24od/21id end repair
111,3610088.591,5028271.591,1049.339,tile 5" cpp from ssw
112,3610092.341,5028265.700,1048.053,fl
113,3610092.229,5028266.245,1049.845,top main 21od start repair
114,3610093.723,5028256.238,1047.988,fl
115,3610093.787,5028256.088,1049.791,top main 21od end repair
116,3610691.788,5028104.993,1056.228,damage
117,3610661.888,5028106.906,1056.094,damage
118,3610479.721,5028109.413,1055.197,damage
119,3610285.128,5028112.598,1054.482,damage
120,3610261.317,5028111.603,1054.310,damage
121,3610232.280,5028099.842,1054.451,damage
122,3610215.692,5028089.779,1054.452,damage
123,3610206.642,5028081.834,1054.493,damage
124,3610206.485,5028060.364,1054.464,damage
125,3610184.974,5028061.688,1054.473,damage
126,3610180.239,5028075.430,1054.483,damage
127,3610152.091,5028083.287,1054.532,damage
128,3610131.801,5028108.630,1054.551,damage
129,3610126.703,5028109.666,1054.590,damage
130,3610124.988,5028116.778,1054.433,damage
131,3610132.938,5028120.336,1054.366,damage
132,3610136.381,5028125.200,1054.235,damage
133,3610135.480,5028159.148,1054.278,damage
134,3610127.650,5028180.856,1054.092,damage
135,3610142.750,5028187.003,1054.202,damage
136,3610152.233,5028172.692,1054.064,damage
137,3610179.750,5028161.921,1054.164,damage
138,3610197.840,5028160.565,1054.259,damage
139,3610217.653,5028133.025,1054.349,damage
140,3610230.876,5028125.782,1054.304,damage
141,3610262.517,5028124.453,1054.401,damage
142,3610264.660,5028122.876,1054.422,damage
143,3610119.159,5028229.306,1054.115,damage
144,3610129.254,5028235.216,1054.233,damage
145,3610134.264,5028269.851,1054.173,damage
146,3610116.189,5028343.800,1053.936,damage
147,3610119.027,5028190.421,1054.020,damage

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148,3610082.293,5028218.036,1054.366,damage
149,3610051.962,5028260.729,1054.516,damage
150,3610039.221,5028325.716,1054.612,damage
151,3610041.477,5028350.833,1054.598,damage
152,3610111.815,5028361.905,1053.944,damage
153,3610112.295,5028391.905,1053.936,damage
154,3610083.492,5028422.404,1053.850,damage
155,3610060.739,5028425.244,1054.096,damage
156,3610043.636,5028408.123,1054.189,damage
157,3610043.279,5028390.570,1054.283,damage
158,3610034.491,5028387.287,1054.362,damage
159,3610047.973,5028361.933,1054.308,damage
160,3610452.031,5028120.157,1055.120,damage
161,3610693.947,5028116.694,1056.359,damage
162,3610712.980,5028122.519,1056.410,damage
163,3610726.246,5028138.639,1056.577,damage
164,3610729.190,5028154.655,1056.686,damage
165,3610730.477,5028488.654,1057.965,damage
166,3610746.616,5028486.416,1059.484,fnb e-w
167,3610730.218,5028817.725,1065.621,damage
168,3610746.006,5028821.790,1066.707,fnb e-w
169,3610727.520,5028998.574,1074.006,damage
170,3610746.023,5029000.223,1075.135,fnb e-w
171,3610719.384,5029051.753,1078.046,damage
172,3610696.638,5029089.681,1081.090,damage
173,3610685.583,5029113.391,1083.058,damage
174,3610690.262,5029175.821,1088.973,damage
175,3610720.166,5029172.845,1089.420,damage
176,3610744.147,5029143.985,1088.550,damage
177,3610742.055,5029075.904,1081.822,damage
178,3610745.245,5029177.777,1090.616,bc cp +1.0
179,3610726.302,5029180.428,1089.950,bc pp +1.0
180,3613382.019,5029192.232,1101.968,mag
181,3610743.885,5029211.641,1092.114,stn 0.9d
182,3610690.928,5029177.100,1088.866,gp gpw +1.0
183,3610743.906,5029224.697,1092.412,tie sir 12x2
184,3608124.836,5026605.803,1075.469,ir 58 flsh
185,3608105.752,5029231.049,1092.114,Cogo
186,3608120.069,5025290.278,1075.370,reading
187,3608134.370,5029236.852,1075.469,Cogo
188,3613337.576,5025364.869,1064.826,FOL
189,3613338.175,5025378.933,1065.132,FOL
190,3613337.903,5025386.558,1065.045,FOL
191,3613337.793,5025399.127,1065.330,FOL
192,3613338.405,5025409.939,1065.049,FOL
193,3613338.298,5025419.426,1065.182,FOL
194,3613338.415,5025432.356,1065.103,FOL
195,3613347.017,5025435.835,1064.670,FOL
196,3613347.338,5025425.503,1064.561,FOL

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197,3613347.006,5025413.883,1064.817,FOL
198,3613347.914,5025401.079,1064.988,FOL
199,3613346.634,5025385.924,1065.625,FOL
200,3613342.678,5025378.688,1065.270,FOL
201,3613343.251,5025365.417,1064.561,FOL
202,3613327.901,5025400.916,1061.582, TOP CLAYTILE
203,3613328.384,5025401.010,1060.415, FL 12"CLAY
204,3613305.552,5025401.316,1064.038,GS TILE LOCATE
205,3613262.989,5025401.224,1064.147,GS TILE LOCATE
206,3613217.936,5025401.353,1063.837,GS TILE LOCATE
207,3613154.862,5025401.531,1063.604,GS TILE LOCATE
208,3613093.866,5025400.926,1063.279,GS TILE LOCATE
209,3613027.406,5025399.928,1063.128,GS TILE LOCATE
210,3612961.901,5025399.295,1062.911,GS TILE LOCATE
211,3612900.078,5025398.083,1062.610,GS TILE LOCATE
212,3612870.371,5025397.503,1062.599,GS TILE LOCATE
213,3610781.318,5024180.965,1081.118, GRAV
214,3610867.242,5024181.732,1078.152,WCP
215,3611760.855,5024116.032,1066.473, FL 4"HICK INTK
216,3611761.044,5024116.985,1068.108,GS
217,3611759.787,5024128.204,1072.088,EOG
218,3611760.521,5024156.800,1071.886,EOG
219,3611737.819,5024169.926,1067.631,EOC BEEHIVE INTK
220,3611736.072,5024169.961,1067.641,EOC BEEHIVE INTK
221,3611736.026,5024168.300,1067.633,EOC BEEHIVE INTK
222,3611737.404,5024168.040,1067.649,EOC BEEHIVE INTK
223,3611285.815,5024180.372,1073.099,WCP
224,3611737.197,5024169.595,1066.303, FL 6"CLAY INTK
225,3611738.767,5024174.556,1067.644,GS TILELOCATE
226,3611776.129,5024190.360,1069.182,GS TILELOCATE
227,3611763.343,5024185.557,1069.017,GS TILELOCATE
228,3611754.799,5024182.128,1069.095,GS TILELOCATE
229,3611775.695,5024162.123,1067.895,FL CMP18
230,3611778.779,5024122.148,1068.057,FL CMP18
231,3611662.166,5024167.922,1066.003, FL 12"CLAY
232,3611682.273,5024167.971,1068.371,GS TILELOCATE
233,3611713.405,5024170.383,1068.094,GS TILELOCATE
234,3611730.412,5024172.252,1068.494,GS TILELOCATE
235,3611739.447,5024174.955,1066.395, TOP 12"CLAY @6"CONC TO INTK
236,3611786.028,5024195.851,1069.281,gs tile locate debris
237,3611810.943,5024214.361,1069.325,gs tile locate
238,3611836.701,5024238.881,1069.251,gs tile locate
239,3611868.701,5024276.661,1068.899,gs tile locate
240,3611896.372,5024316.684,1068.930,gs tile locate
241,3611927.043,5024361.240,1068.579,gs tile locate
242,3611957.024,5024406.514,1068.230,gs tile locate
243,3611985.586,5024451.003,1067.911,gs tile locate
244,3612022.842,5024508.258,1067.265,gs tile locate
245,3612045.514,5024569.183,1066.370,gs tile locate

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246,3612053.548,5024631.541,1066.092,gs tile locate
247,3612055.545,5024691.771,1065.594,gs tile locate
248,3612055.999,5024762.258,1065.431,gs tile locate
249,3612055.275,5024824.249,1066.101,gs tile locate
250,3612053.419,5024842.015,1066.351,gs tile locate
251,3611663.694,5024167.785,1067.378,gs bgn televisio
252,3613325.442,5025139.286,1067.015,GS CORN DAMAGE 1
253,3613328.839,5025195.589,1066.349,GS CORN DAMAGE 1
254,3613329.990,5025252.853,1065.759,GS CORN DAMAGE 1
255,3613330.252,5025310.421,1065.848,GS CORN DAMAGE 1
256,3613330.537,5025361.091,1064.945,GS CORN DAMAGE 1
257,3613330.133,5025407.852,1064.492,GS CORN DAMAGE 1
258,3613312.183,5025401.548,1064.148,GS CORN DAMAGE 1
259,3613307.073,5025394.266,1064.255,GS CORN DAMAGE 1
260,3613306.969,5025377.661,1064.756,GS CORN DAMAGE 1
261,3613324.268,5025345.702,1065.499,GS CORN DAMAGE 1
262,3613324.073,5025293.404,1065.784,GS CORN DAMAGE 1
263,3613323.570,5025239.809,1065.856,GS CORN DAMAGE 1
264,3613320.948,5025156.840,1066.809,GS CORN DAMAGE 1
265,3613319.382,5026092.582,1067.820,GS BEAN DAMAGE 1
266,3613294.017,5026078.369,1067.931,GS BEAN DAMAGE 1
267,3613254.527,5026047.817,1067.854,GS BEAN DAMAGE 1
268,3613208.991,5026028.235,1067.656,GS BEAN DAMAGE 1
269,3613156.458,5026011.479,1067.334,GS BEAN DAMAGE 1
270,3613103.757,5025992.499,1066.841,GS BEAN DAMAGE 1
271,3613053.047,5025969.281,1066.105,GS BEAN DAMAGE 1
272,3613020.372,5025942.262,1065.510,GS BEAN DAMAGE 1
273,3612995.905,5025910.790,1064.741,GS BEAN DAMAGE 1
274,3612966.291,5025850.791,1065.485,GS BEAN DAMAGE 1
275,3612933.366,5025848.272,1065.876,GS BEAN DAMAGE 1
276,3612835.387,5025849.261,1066.136,GS BEAN DAMAGE 1
277,3612733.767,5025849.600,1065.724,GS BEAN DAMAGE 1
278,3612619.154,5025850.926,1066.056,GS BEAN DAMAGE 1
279,3612481.483,5025851.414,1064.621,GS BEAN DAMAGE 1
280,3612329.685,5025852.569,1063.809,GS BEAN DAMAGE 1
281,3612203.936,5025853.671,1063.823,GS BEAN DAMAGE 1
282,3612056.186,5025854.885,1064.277,GS BEAN DAMAGE 1
283,3611920.231,5025856.205,1063.448,GS BEAN DAMAGE 1
284,3611870.019,5025858.737,1063.541,GS BEAN DAMAGE 1
285,3611836.709,5025863.580,1063.833,GS BEAN DAMAGE 1
286,3611820.196,5025844.850,1063.460,GS BEAN1/CORN2 DAMAGE
287,3611818.122,5025815.272,1063.417,GS CORN DAMAGE 2
288,3611823.124,5025812.309,1063.354,GS CORN DAMAGE 2
289,3611822.952,5025730.878,1063.238,GS CORN DAMAGE 2
290,3611820.290,5025727.716,1063.297,GS CORN DAMAGE 2
291,3611820.237,5025697.753,1063.380,GS CORN DAMAGE 2
292,3611839.552,5025683.183,1063.041,GS CORN DAMAGE 2
293,3611965.799,5025681.025,1062.006,GS CORN DAMAGE 2
294,3611994.490,5025650.904,1061.879,GS CORN DAMAGE 2

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295,3612010.069,5025610.847,1061.762,GS CORN DAMAGE 2
296,3612015.603,5025570.400,1061.595,GS CORN DAMAGE 2
297,3612016.833,5025547.954,1061.590,GS CORN DAMAGE 2
298,3611997.635,5025547.324,1061.653,GS CORN DAMAGE 2
299,3611996.785,5025538.079,1061.537,GS CORN DAMAGE 2
300,3612003.186,5025843.395,1063.440,GS BEAN DAMAGE 1
301,3612163.532,5025842.907,1063.849,GS BEAN DAMAGE 1
302,3611938.802,5025525.947,1061.747,GS CORN DAMAGE 2
303,3611944.114,5025503.914,1061.798,GS CORN DAMAGE 2
304,3611955.785,5025481.290,1061.672,GS CORN DAMAGE 2
305,3611963.111,5025466.235,1061.582,GS CORN DAMAGE 2
306,3611978.062,5025457.648,1061.407,GS CORN DAMAGE 2
307,3612010.089,5025439.343,1061.475,GS CORN DAMAGE 2
308,3612043.455,5025420.557,1061.385,GS CORN DAMAGE 2
309,3612097.376,5025401.776,1061.538,GS CORN DAMAGE 2
310,3612122.462,5025394.610,1061.537,GS CORN DAMAGE 2
311,3612118.482,5025382.741,1061.493,GS CORN DAMAGE 2
312,3612126.103,5025380.410,1061.474,GS CORN DAMAGE 2
313,3612128.168,5025391.499,1061.405,GS CORN DAMAGE 2
314,3612159.467,5025382.287,1061.599,GS CORN DAMAGE 2
315,3612173.752,5025379.846,1061.609,GS CORN DAMAGE 2
316,3612176.266,5025392.261,1061.675,GS CORN DAMAGE 2
317,3612192.357,5025391.757,1061.711,GS CORN DAMAGE 2
318,3612194.010,5025408.356,1061.600,GS CORN DAMAGE 2
319,3612198.388,5025481.643,1061.382,GS CORN DAMAGE 2
320,3612195.321,5025492.208,1061.343,GS CORN DAMAGE 2
321,3612161.026,5025509.843,1061.332,GS CORN DAMAGE 2
322,3612084.139,5025510.311,1061.476,GS CORN DAMAGE 2
323,3612034.209,5025548.104,1061.515,GS CORN DAMAGE 2
324,3612025.720,5025606.259,1061.555,GS CORN DAMAGE 2
325,3612006.828,5025656.984,1061.820,GS CORN DAMAGE 2
326,3611992.775,5025677.804,1061.973,GS CORN DAMAGE 2
327,3611972.952,5025695.686,1062.109,GS CORN DAMAGE 2
328,3611867.280,5025696.645,1062.723,GS CORN DAMAGE 2
329,3611852.019,5025699.189,1062.996,GS CORN DAMAGE 2
330,3611837.401,5025712.608,1063.177,GS CORN DAMAGE 2
331,3611835.222,5025721.136,1063.194,GS CORN DAMAGE 2
332,3611835.212,5025757.610,1063.147,GS CORN DAMAGE 2
333,3611847.379,5025757.709,1062.967,GS CORN DAMAGE 2
334,3611871.843,5025753.122,1062.648,GS CORN DAMAGE 2
335,3611874.806,5025770.591,1062.859,GS CORN DAMAGE 2
336,3611834.841,5025768.434,1063.145,GS CORN DAMAGE 2
337,3611835.085,5025786.417,1063.274,GS CORN DAMAGE 2
338,3611861.868,5025787.290,1063.113,GS CORN DAMAGE 2
339,3611901.292,5025787.054,1062.876,GS CORN DAMAGE 2
340,3611924.618,5025786.588,1062.823,GS CORN DAMAGE 2
341,3611959.853,5025786.494,1062.610,GS CORN DAMAGE 2
342,3611960.550,5025793.451,1062.725,GS CORN DAMAGE 2
343,3611914.254,5025793.760,1062.909,GS CORN DAMAGE 2

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344,3611834.906,5025794.612,1063.425,GS CORN DAMAGE 2
 345,3611837.214,5025835.922,1063.493,GS CORN DAMAGE 2
 346,3611841.496,5025842.377,1063.743,GS CORN DAMAGE 2
 347,3611848.359,5025844.903,1063.448,GS BEAN1/CORN2 DAMAGE
 348,3612363.833,5025841.241,1063.703,GS BEAN DAMAGE 1
 349,3612519.906,5025839.965,1065.581,GS BEAN DAMAGE 1
 350,3612662.705,5025839.151,1066.121,GS BEAN DAMAGE 1
 351,3612822.826,5025837.681,1066.224,GS BEAN DAMAGE 1
 352,3612993.134,5025836.524,1063.772,GS BEAN DAMAGE 1
 353,3613010.920,5025897.667,1064.100,GS BEAN DAMAGE 1
 354,3613026.924,5025927.167,1064.495,GS BEAN DAMAGE 1
 355,3613063.791,5025962.206,1065.534,GS BEAN DAMAGE 1
 356,3613123.491,5025987.251,1066.739,GS BEAN DAMAGE 1
 357,3613215.260,5026017.195,1067.367,GS BEAN DAMAGE 1
 358,3613255.099,5026033.322,1067.882,GS BEAN DAMAGE 1
 359,3613291.440,5026055.604,1068.057,GS BEAN DAMAGE 1
 360,3613308.716,5026072.685,1067.796,GS BEAN DAMAGE 1
 361,3611807.128,5024179.743,1069.707,GS BEAN DAMAGE 2
 362,3611807.511,5024205.868,1069.525,GS BEAN DAMAGE 2
 363,3611773.044,5024205.956,1069.285,GS BEAN DAMAGE 2
 364,3611772.629,5024179.468,1069.244,GS BEAN DAMAGE 2
 365,3611420.994,5024166.126,1070.135,gs tile locate
 366,3610877.829,5024172.845,1072.540,fl 12 vcp
 367,3611004.766,5024168.777,1076.314,GS TILE LOCATE
 368,3610780.475,5024176.691,1081.202,GS TILE LOCATE lat 1
 369,3610745.385,5024185.485,1073.260,fl 10 clay
 370,3610731.977,5024189.648,1074.838,top 6" vcp end sse
 371,3610723.432,5024193.682,1077.814,gs tile locate lat 3
 372,3610699.198,5024204.419,1077.851,GS TILE LOCATE
 373,3610663.693,5024216.153,1078.463,GS TILE LOCATE
 374,3610631.328,5024225.297,1078.691,GS TILE LOCATE
 375,3610571.166,5024231.812,1078.927,GS TILE LOCATE
 376,3610514.654,5024232.289,1079.249,GS TILE LOCATE
 377,3610488.920,5024230.942,1079.279,GS TILE LOCATE end
 378,3610658.913,5024217.869,1078.296,GS TILE LOCATE lat
 379,3614977.645,5029155.400,1093.738,922 6" cmp fl
 380,3614977.568,5029159.219,1094.050,531 6"
 381,3615001.288,5029204.084,1096.287,922 6" hick
 382,3614178.858,5029158.883,1089.078,962 8"
 383,3614182.984,5029159.147,1088.848,952 fl
 384,3613091.049,5029220.989,1085.891,922 6" cmp fl
 385,3613092.172,5029227.725,1088.782,922 5" hdpe
 386,3612041.404,5029172.589,1071.820,963 6"
 387,3615048.527,5029193.040,1100.049,700 -40"
 388,3615019.041,5029193.061,1099.751,700 -11-3"
 389,3614997.961,5029192.823,1099.620,700 -12'
 390,3614976.254,5029193.703,1099.440,700 -8'10"
 391,3614951.315,5029193.683,1099.374,700 -3'
 392,3614242.019,5029195.844,1096.399,700 -34"

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393,3614181.655,5029195.146,1096.557,700 -13'4"
394,3614159.950,5029196.109,1096.495,700 -13'7"
395,3614137.128,5029195.851,1096.574,700 -11.5'
396,3614109.446,5029196.837,1096.493,700 -31"
397,3612089.676,5029192.323,1079.377,700 -6'4"
398,3612050.868,5029191.569,1079.246,700 -12'10"
399,3612034.216,5029192.217,1079.233,700 -13'9"
400,3611953.245,5025489.282,1057.912,vcp fl
401,3611946.368,5025513.371,1058.054,vcp fl
402,3611946.438,5025512.973,1059.737,top 18 conc
403,3611948.530,5025506.310,1059.730,top 18 conc
404,3611949.843,5025507.455,1059.512,top 15 conc
405,3611957.254,5025503.587,1059.549,top 15 conc
406,3611965.065,5025499.490,1059.470,top 15 conc
407,3611972.098,5025495.678,1059.486,top 15 conc
408,3611979.283,5025491.916,1059.444,top 15 conc
409,3611986.381,5025488.171,1059.450,top 15 conc
410,3611993.441,5025484.492,1059.453,top 15 conc
411,3612000.614,5025480.783,1059.522,top 15 conc
412,3612007.803,5025477.232,1059.490,top 15 conc
413,3612014.955,5025473.358,1059.544,top 15 conc
414,3612022.013,5025469.625,1059.524,top 15 conc
415,3612029.059,5025465.935,1059.501,top 15 conc
416,3612036.341,5025462.348,1059.612,top 15 conc
417,3612043.369,5025458.783,1059.573,top 15 conc
418,3612050.566,5025454.937,1059.550,top 15 conc
419,3612057.849,5025451.546,1059.580,top 15 conc
420,3612065.221,5025447.910,1059.592,top 15 conc
421,3612072.323,5025444.533,1059.562,top 15 conc
422,3612079.595,5025441.152,1059.553,top 15 conc
423,3612086.914,5025437.857,1059.614,top 15 conc
424,3612094.325,5025434.768,1059.582,top 15 conc
425,3612101.777,5025431.642,1059.662,top 15 conc
426,3612109.336,5025428.788,1059.662,top 15 conc
427,3612116.954,5025425.961,1059.659,top 15 conc
428,3612124.363,5025423.536,1059.621,top 15 conc
429,3612132.164,5025420.902,1059.691,top 15 conc
430,3612139.835,5025418.639,1059.703,top 15 conc
431,3612147.596,5025416.402,1059.688,top 15 conc
432,3612155.312,5025414.332,1059.718,top 15 conc
433,3612163.137,5025412.357,1059.687,top 15 conc
434,3612171.118,5025410.611,1059.726,top 15 conc
435,3612178.819,5025409.062,1059.726,top 15 conc
436,3612186.769,5025407.645,1059.711,top 15 conc
437,3612193.672,5025406.658,1059.761,top 15 conc
438,3612202.792,5025405.355,1059.708,top 15 conc
439,3612210.640,5025404.358,1059.721,top 15 conc
440,3612218.518,5025403.392,1059.730,top 15 conc
441,3612226.522,5025402.558,1059.740,top 15 conc

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442,3612234.532,5025401.897,1059.746,top 15 conc
443,3612250.573,5025400.525,1059.760,top 15 conc
444,3612258.647,5025399.987,1059.765,top 15 conc
445,3612266.603,5025399.561,1059.773,top 15 conc
446,3612274.652,5025399.079,1059.753,top 15 conc
447,3612282.712,5025398.896,1059.764,top 15 conc
448,3612290.663,5025398.732,1059.808,top 15 conc
449,3612298.677,5025398.444,1059.744,top 15 conc
450,3612306.760,5025398.241,1059.790,top 15 conc
451,3612314.777,5025397.975,1059.837,top 15 conc
452,3612322.836,5025397.815,1059.814,top 15 conc
453,3612330.843,5025397.770,1059.873,top 15 conc
454,3612338.881,5025397.841,1059.845,top 15 conc
455,3612346.830,5025397.716,1059.855,top 15 conc
456,3612354.866,5025397.589,1059.880,top 15 conc
457,3612362.896,5025397.441,1059.915,top 15 conc
458,3612370.927,5025397.495,1059.936,top 15 conc
459,3612378.983,5025397.465,1059.916,top 15 conc
460,3612387.014,5025397.475,1059.946,top 15 conc
461,3612395.020,5025397.540,1059.909,top 15 conc
462,3612403.113,5025397.720,1059.928,top 15 conc
463,3612411.134,5025397.876,1059.923,top 15 conc
464,3612419.184,5025398.044,1059.925,top 15 conc
465,3612427.259,5025398.284,1059.929,top 15 conc
466,3612435.305,5025398.480,1059.964,top 15 conc
467,3612443.343,5025398.636,1059.933,top 15 conc
468,3612451.344,5025398.706,1059.985,top 15 conc
469,3612459.438,5025398.798,1059.931,top 15 conc
470,3612467.403,5025398.916,1059.997,top 15 conc
471,3612475.484,5025399.010,1059.928,top 15 conc
472,3612483.635,5025398.923,1060.023,top 15 conc
473,3612491.634,5025398.874,1060.011,top 15 conc
474,3612499.720,5025398.820,1059.991,top 15 conc
475,3612507.665,5025398.846,1060.049,top 15 conc
476,3612515.716,5025398.901,1059.953,top 15 conc
477,3612523.793,5025398.981,1060.053,top 15 conc
478,3612531.850,5025399.125,1060.057,top 15 conc
479,3612538.811,5025399.199,1060.073,top 15 conc
480,3612539.895,5025399.239,1060.020,top 15 conc
481,3612547.967,5025399.190,1060.028,top 15 conc
482,3612556.014,5025399.253,1060.032,top 15 conc
483,3612563.971,5025399.341,1060.012,top 15 conc
484,3612572.040,5025399.424,1060.011,top 15 conc
485,3612580.093,5025399.311,1060.035,top 15 conc
486,3612588.149,5025399.265,1060.075,top 15 conc
487,3612596.091,5025399.219,1060.064,top 15 conc
488,3612604.303,5025399.180,1060.066,top 15 conc
489,3612612.248,5025399.265,1060.090,top 15 conc
490,3612620.252,5025399.300,1060.091,top 15 conc

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491,3612628.309,5025399.341,1060.075,top 15 conc
 492,3612636.362,5025399.419,1060.099,top 15 conc
 493,3612644.417,5025399.292,1060.135,top 15 conc
 494,3612660.505,5025399.080,1060.168,top 15 conc
 495,3612668.505,5025399.411,1060.157,top 15 conc
 496,3612676.481,5025399.388,1060.185,top 15 conc
 497,3612684.613,5025399.494,1060.146,top 15 conc
 498,3612692.648,5025399.507,1060.244,top 15 conc
 499,3612700.662,5025399.544,1060.203,top 15 conc
 500,3612708.636,5025399.656,1060.235,top 15 conc
 501,3612716.743,5025399.695,1060.214,top 15 conc
 502,3612724.796,5025399.988,1060.208,top 15 conc
 503,3612732.787,5025399.927,1060.248,top 15 conc
 504,3612739.903,5025400.057,1060.319,top 15 conc
 505,3611871.995,5025758.423,1059.314,top 18 hdpe
 506,3611878.404,5025738.189,1059.387,top 18 vcp
 507,3611870.903,5025761.304,1062.660,gs
 508,3611882.126,5025728.765,1062.624,gs
 509,3612740.786,5025400.155,1060.295,top 15 conc
 510,3612748.817,5025399.915,1060.307,top 15 conc
 511,3612756.854,5025400.182,1060.331,top 15 conc
 512,3612764.806,5025400.236,1060.321,top 15 conc
 513,3612772.855,5025400.219,1060.363,top 15 conc
 514,3612780.995,5025400.323,1060.357,top 15 conc
 515,3612788.897,5025400.434,1060.404,top 15 conc
 516,3612796.928,5025400.574,1060.404,top 15 conc
 517,3612804.844,5025400.742,1060.415,top 15 conc
 518,3612812.923,5025400.944,1060.437,top 15 conc
 519,3612820.975,5025401.323,1060.466,top 15 conc
 520,3612829.118,5025401.525,1060.476,top 15 conc
 521,3612837.169,5025401.760,1060.524,top 15 conc
 522,3612845.156,5025401.972,1060.514,top 15 conc
 523,3612852.152,5025402.319,1060.539,top 15 conc
 524,3612860.231,5025405.358,1059.747,top 6 hdpe
 525,3612853.036,5025402.478,1060.536,top 15 conc
 526,3612861.030,5025402.575,1060.563,top 15 conc
 527,3612859.334,5025403.812,1059.835,top 6 hdpe
 528,3612869.190,5025402.870,1060.553,top 15 conc
 529,3612877.250,5025403.125,1060.587,top 15 conc
 530,3612885.169,5025403.376,1060.602,top 15 conc
 531,3612893.211,5025403.493,1060.634,top 15 conc
 532,3612901.092,5025403.534,1060.664,top 15 conc
 533,3612909.170,5025403.852,1060.675,top 15 conc
 534,3612917.359,5025403.715,1060.689,top 15 conc
 535,3612925.243,5025403.712,1060.724,top 15 conc
 536,3612933.272,5025403.731,1060.696,top 15 conc
 537,3612934.684,5025403.699,1060.822,top 15 conc reducer
 538,3612935.798,5025403.761,1060.615,top 12 conc reducer
 539,3612937.299,5025403.715,1060.579,top 12 conc

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540,3612945.282,5025403.825,1060.600,top 12 conc
541,3612953.196,5025403.799,1060.626,top 12 conc
542,3612961.217,5025403.667,1060.646,top 12 conc
543,3612969.251,5025403.683,1060.655,top 12 conc
544,3612977.276,5025403.766,1060.673,top 12 conc
545,3612985.270,5025403.695,1060.709,top 12 conc
546,3612993.330,5025403.862,1060.749,top 12 conc
547,3613001.339,5025403.766,1060.778,top 12 conc
548,3613009.349,5025403.954,1060.753,top 12 conc
549,3613016.333,5025404.057,1060.817,top 12 conc
550,3613065.272,5025404.788,1060.884,top 12 conc
551,3613073.077,5025404.798,1060.942,top 12 conc
552,3613129.429,5025405.633,1061.088,top 12 conc
553,3613137.160,5025405.711,1061.150,top 12 conc
554,3613225.165,5025403.891,1061.294,top 12 conc
555,3613233.135,5025403.496,1061.340,top 12 conc
556,3613338.769,5025403.516,1062.226,fo line
557,3613347.816,5025401.575,1061.250,tell line
558,3613305.138,5025401.137,1061.512,top 12 conc
559,3613313.136,5025401.230,1061.528,top 12 conc
560,3613321.058,5025401.051,1061.534,top 12 conc
561,3613328.971,5025401.046,1061.573,top 12 conc
562,3613352.040,5025400.110,1061.579,top 12 vcp
563,3613349.845,5025398.626,1061.331,top 5 vcp
564,3613336.828,5025400.513,1061.677,top 12 vcp
565,3613342.424,5025400.439,1061.680,top 12 conc
566,3613342.638,5025400.513,1061.680,top 12 hdpe
567,3613344.031,5025400.574,1060.329,top 12 fl intake
568,3613345.646,5025400.480,1061.729,top 12 hdpe
569,3613351.406,5025400.250,1061.640,top 12 hdpe
570,3613349.808,5025399.641,1061.244,top 6 hdpe
571,3611880.861,5025738.053,1059.412,top 18 vcp lat
572,3611648.419,5024167.854,1067.151,top 12 vcp start repair
573,3611558.908,5024167.282,1067.441,top 12 hdpe
574,3612012.778,5029191.845,1079.246,700 -12'8"
575,3611947.823,5025487.810,1059.313,top 5" clay tile
576,3612286.050,5025390.141,1059.134,top 6" ads tile
577,3612372.900,5025389.073,1059.648,fl 5" clay tile
578,3612397.370,5025389.460,1059.588,top 5" plastic
579,3611683.328,5024168.057,1066.854,begin repair
580,3611695.912,5024168.878,1066.738,top 12" hdpe
581,3611715.696,5024171.484,1066.596,top 12" hdpe
582,3611735.254,5024175.078,1066.357,top 12" hdpe
583,3611749.688,5024178.911,1066.183,end repair
584,3611738.700,5024175.367,1066.004,connection for intake
585,3611738.566,5024173.127,1066.304,connection for intake
586,3611856.145,5024260.554,1065.658,begin repair
587,3611862.242,5024269.031,1065.506,end repair
588,3611950.786,5024397.856,1064.713,begin repair

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589,3611955.457,5024404.765,1064.666,end repair
590,3611974.400,5024434.106,1064.451,begin repair
591,3611983.567,5024448.078,1064.108,end repair
592,3612053.306,5024630.655,1063.090,begin repair
593,3612053.680,5024639.123,1062.955,end repair
594,3612055.439,5024741.877,1062.412,begin repair
595,3612055.793,5024760.650,1062.311,end repair
596,3611538.718,5024167.382,1067.492,top 12 hdpe
597,3611519.145,5024166.988,1067.549,top 12 hdpe
598,3611499.166,5024166.559,1067.592,top 12 hdpe
599,3611479.463,5024165.998,1067.667,top 12 hdpe
600,3611459.318,5024165.989,1067.760,top 12 hdpe
601,3611431.599,5024165.636,1067.985,top 12 vcp end repair
602,3611856.151,5024260.502,1065.629,top 15 vcp repair
603,3611862.296,5024268.974,1065.521,top 15 vcp repair
604,3611923.563,5024356.552,1065.209,top 15 vcp repair
605,3611893.856,5024312.412,1065.420,top 15 vcp repair
606,3610875.022,5024172.919,1073.703,begin repair
607,3610864.362,5024173.011,1073.958,end repair
608,3610729.983,5024191.405,1074.318,end repair
609,3610759.609,5024180.856,1073.999,begin repair
610,3610656.138,5024218.580,1074.589,begin repair
611,3610646.237,5024222.023,1074.739,end repair
612,3610649.434,5024224.039,1075.262,5" clay plugged
613,3610495.640,5024231.013,1076.083,begin repair
614,3610484.989,5024230.100,1076.186,end repair
615,3610486.327,5024226.305,1076.319,4" plastic tile active
616,3611969.732,5029194.712,1079.408,700 -7'4"
617,3613035.358,5029183.687,1092.763,700 -6'4"
618,3613060.511,5029187.838,1093.163,700 -11'6"
619,3613078.571,5029188.109,1093.415,700 -15'4"
620,3613100.820,5029186.882,1093.559,700 -15'6"
1000,3612064.579,5025432.617,1058.159,FL CLAY TILE
1001,3612060.546,5025434.400,1061.319,GS
1002,3612070.722,5025430.155,1061.495,GS
1003,3612052.338,5025439.666,1061.360,GS TILELOCATE
1004,3612038.371,5025447.158,1061.407,GS PROBED TILE
1005,3612024.560,5025455.319,1061.392,GS PROBED TILE
1006,3612012.477,5025462.545,1061.438,GS PROBED TILE
1007,3611998.726,5025470.327,1061.418,GS PROBED TILE
1008,3611985.411,5025478.195,1061.530,GS PROBED TILE
1009,3611973.507,5025485.530,1061.588,GS PROBED TILE
1010,3611964.542,5025490.591,1061.540,GS PROBED TILE
1011,3611956.291,5025496.681,1061.617,GS PROBED TILE
1012,3611963.292,5025491.019,1058.109,FL 15"CLAY
1013,3611960.720,5025492.848,1061.648,GS
1014,3611952.035,5025498.680,1061.680,GS DD8 Y NORTH LOCATE
1015,3611948.316,5025506.481,1058.097,FL 18"CLAY DD8
1016,3611947.341,5025510.097,1061.699,GS

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1017,3611943.366,5025524.853,1061.656,GS TILE LOCATE
 1018,3611930.464,5025567.825,1061.931,GS TILE LOCATE
 1019,3611912.066,5025625.752,1062.119,GS TILE LOCATE
 1020,3611895.995,5025680.320,1062.329,GS TILE LOCATE
 1021,3611894.063,5025686.801,1062.406,GS TILE LOCATE
 1022,3611871.027,5025759.937,1062.734,GS TILE LOCATE
 1023,3611870.383,5025763.438,1062.562,GS TILE INTAKE
 1024,3611856.548,5025809.799,1063.001,GS TILE LOCATE
 1025,3611952.921,5025489.930,1061.571,GS TILE LOCATE DD122
 1026,3611967.528,5025488.381,1058.061,FL EXPOSED 15"CLAY
 1027,3611972.712,5025485.459,1058.090,FL EXPOSED 15"CLAY
 1028,3611978.265,5025482.317,1058.119,FL EXPOSED 15"CLAY
 1029,3611985.567,5025477.985,1058.117,FL EXPOSED 15"CLAY
 1030,3611992.658,5025473.581,1058.237,FL EXPOSED 15"CLAY
 1031,3612001.960,5025467.917,1058.205,FL EXPOSED 15"CLAY
 1032,3612009.183,5025463.816,1058.115,FL EXPOSED 15"CLAY
 1033,3612015.002,5025460.606,1058.110,FL EXPOSED 15"CLAY
 1034,3612022.106,5025456.568,1058.092,FL EXPOSED 15"CLAY
 1035,3612029.007,5025452.334,1058.031,FL EXPOSED 15"CLAY
 1036,3612034.878,5025449.127,1057.998,FL EXPOSED 15"CLAY
 1037,3612042.189,5025445.240,1057.991,FL EXPOSED 15"CLAY
 1038,3612051.151,5025439.906,1058.023,FL EXPOSED 15"CLAY
 1039,3612064.745,5025432.360,1058.204,FL EXPOSED 15"CLAY
 1040,3612068.031,5025431.080,1058.116,FL EXPOSED 15"CLAY
 1041,3612074.153,5025429.062,1058.116,FL EXPOSED 15"CLAY
 1042,3612083.062,5025425.722,1058.234,FL EXPOSED 15"CLAY@OLD INTK
 1043,3612083.308,5025431.227,1061.468,gs
 1044,3612090.403,5025428.236,1061.571,gs
 1045,3612118.674,5025413.184,1061.450,gs
 1046,3612126.811,5025413.376,1061.401,gs
 1047,3612090.985,5025422.874,1058.167,FL EXPOSED 15"CLAY
 1048,3612098.638,5025419.962,1058.240,FL EXPOSED 15"CLAY
 1049,3612110.187,5025416.695,1061.539,GS
 1050,3612106.274,5025417.354,1058.225,FL EXPOSED 15"CLAY
 1051,3612113.829,5025414.576,1058.183,FL EXPOSED 15"CLAY
 1052,3612119.441,5025412.560,1058.257,FL EXPOSED 15"CLAY @COLLAPSETOPPIPE
 1053,3612124.218,5025410.869,1058.313,FL EXPOSED 15"CLAY @ S SIDE PLASTIC REPAIR
 1054,3612137.750,5025406.028,1058.284,FL EXPOSED 15"CLAY@2.0'NOFPLASTICREPAIR
 1055,3612145.550,5025403.959,1058.317,FL EXPOSED 15"CLAY
 1056,3612152.431,5025402.358,1061.611,GS
 1057,3612157.338,5025400.810,1061.538,GS
 1058,3612164.515,5025399.598,1061.659,GS
 1059,3612175.368,5025399.780,1061.636,GS
 1060,3612186.347,5025398.115,1061.646,GS
 1061,3612154.521,5025401.681,1058.253,FL EXPOSED 15"CLAY
 1062,3612165.392,5025399.929,1058.139,FL EXPOSED 15"CLAY@NSIDE TOPCOLLAPSE
 1063,3612194.676,5025398.172,1061.653,GS
 1064,3612203.789,5025397.432,1061.777,GS
 1065,3612216.176,5025396.219,1061.757,GS

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1066,3612227.192,5025395.815,1061.718,GS
1067,3612167.185,5025399.639,1058.218,FL EXPOSED 15"CLAY
1068,3612273.844,5025393.047,1061.677,GS ABOVE TILE
1069,3612316.448,5025391.083,1061.774,GS ABOVE TILE
1070,3612359.390,5025390.460,1061.998,GS ABOVE TILE
1071,3612393.052,5025390.973,1062.234,GS ABOVE TILE
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8070_GNSS,3618716.220,5034450.740,1112.480,Autonomous Setup



Drainage Utility Permit Application

Hardin County

Applicant: Heart of Iowa Communication Coop - Jay Duncan

Contact Email: jduncan@heartofiowa.coop

Contact Phone: (641) 486-2211

Utility Type: N/A - Utility Permits Only

Drainage District: DDs\DD 44 (51069)

Description of Work: DDs 44, 62, 1, 128, 78, 63, 8, 93 & 94 - Heart of Iowa - Install fiber optic cable in rural areas of Eldora & Steamboat Rock. Will work with CGA on facility crossings.

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 Districts. 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
 Phone (641) 939-8111
 Fax (641) 939-8245
 drainage@hardincountyia.gov

For Office Use Only

Application Approval:

By:  Date: 6-7-2020
 Board of Supervisor Chairman, Acting as Drainage District Trustee

APPROVED PERMIT # 2020-12

- Application in TCM
- GIS Annotation
- Approval Emailed



HARDIN COUNTY

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

HARDIN COUNTY DRAINAGE DISTRICT UTILITY PERMIT APPLICATION

Applicant: Heart of Iowa Communications Cooperative
 Company Name
PO Box 130
 Address
 Union IA 50258-0130
 City State Zip
 Applicant Contact: Jay Duncan (641) 486 - 2211
 Name Phone
jduncan@heartofiowa.coop
 Email
 Utility Type: Fiber Optic
 Drainage District(s) Crossed: 44, 62, 1, 128, 78, 63, 8, 93 & 94
 Facilities Crossed (specific tile, open ditch): tile and open ditch
 Description of Work: Install fiber optic cable in rural areas of Eldora and Steamboat Rock. Will work with CGA on
 (Location plan of facility crossings.
 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.

[Signature]
Applicant Signature

6/10/2020
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

For Office Use Only

Application Approval:

By: [Signature]
Board of Supervisor Chairman, Acting as Drainage District Trustee

Date: 6-7-2020

APPROVED PERMIT #: _____



HARDIN COUNTY

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

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.



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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.

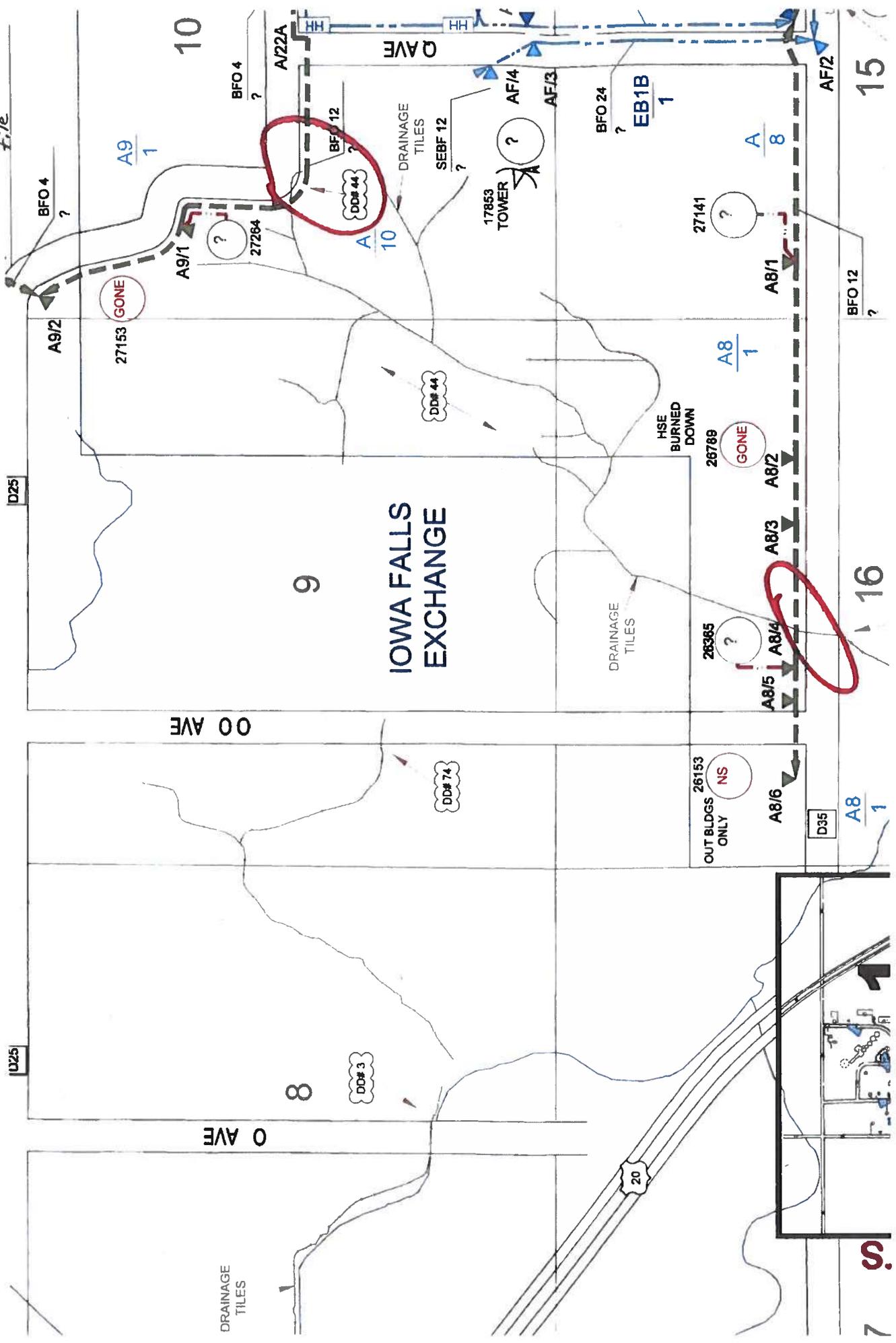


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(641) 939-8108

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.

DD 44
tile



10

15

9

16

8

00 AVE

0 AVE

IOWA FALLS EXCHANGE

1 mile

A9/2

27153 GONE

27264

A9/1

DD# 44

BFO 4 ?

A9/1

27264

A9/1

A9/2

27153 GONE

27264

A9/1

DD# 44

BFO 4 ?

A9/1

27264

A9/1

BFO 4 ?

A9/1

27264

A9/1

BFO 4 ?

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BFO 4 ?

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BFO 4 ?

A9/1

27264

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BFO 4 ?

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27264

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A9/1

A9/1



Utility Permit #2020-12

Utility Observation Report

General Information	
Project Name and Number:	Utility Permit 6772.1
Drainage District Number:	#44
Drainage District Facility ID:	Main
Project Location: (1/4, Sec, Twp, Rng and road)	NW-16-88-20
Date of Observation:	10/20/2020
Observer Name/Title:	Chris Sweeney

Field Observations	
District facility type:	<input checked="" type="checkbox"/> Tile <input type="checkbox"/> Open Ditch Other:
Utility Orientation:	<input type="checkbox"/> Parallel <input checked="" type="checkbox"/> Crossing <input type="checkbox"/> Overhead <input type="checkbox"/> Over <input checked="" type="checkbox"/> Under <input type="checkbox"/> Same Elevation Other:
Source of utility elevation and/or location:	<input type="checkbox"/> Probed <input type="checkbox"/> Exposed <input checked="" type="checkbox"/> Utility Reported Other:
Utility Elevation:	1066.6'
Source of district facility elevation and/or location:	<input type="checkbox"/> Probed <input checked="" type="checkbox"/> Exposed <input type="checkbox"/> Utility Reported Other:
District Facility Elevation: (include where measured)	1073.1' (bottom of tile)
Vertical clearance from district facility: (must be greater than 1-foot for tile, and 5-feet for designed open ditch bottom)	6.5'



Utility Permit #2020-12

Horizontal clearance from District Tile or Open Ditch centerline:	NA
Tile outlets within 25-feet relocated? (If applicable)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Original tile size & material:	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> SW HDPE <input type="checkbox"/> DW HDPE <input type="checkbox"/> VCP Other: 6-inch unreinforced concrete
Tile replaced by utility?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Tile replacement material:	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input checked="" type="checkbox"/> N/A Other:
Condition of District tile:	Intact
Signage present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A

Notes

Signage was not installed at time of observation and will need to be confirmed with Utility if desired by District Trustees.

CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

10-20-20

PROJECT NUMBER:

G772.1

COUNTY, ROUTE, ROAD:

DD 44 MAIN

LOCATION:

CORD D-35

DAYS OF WEEK:

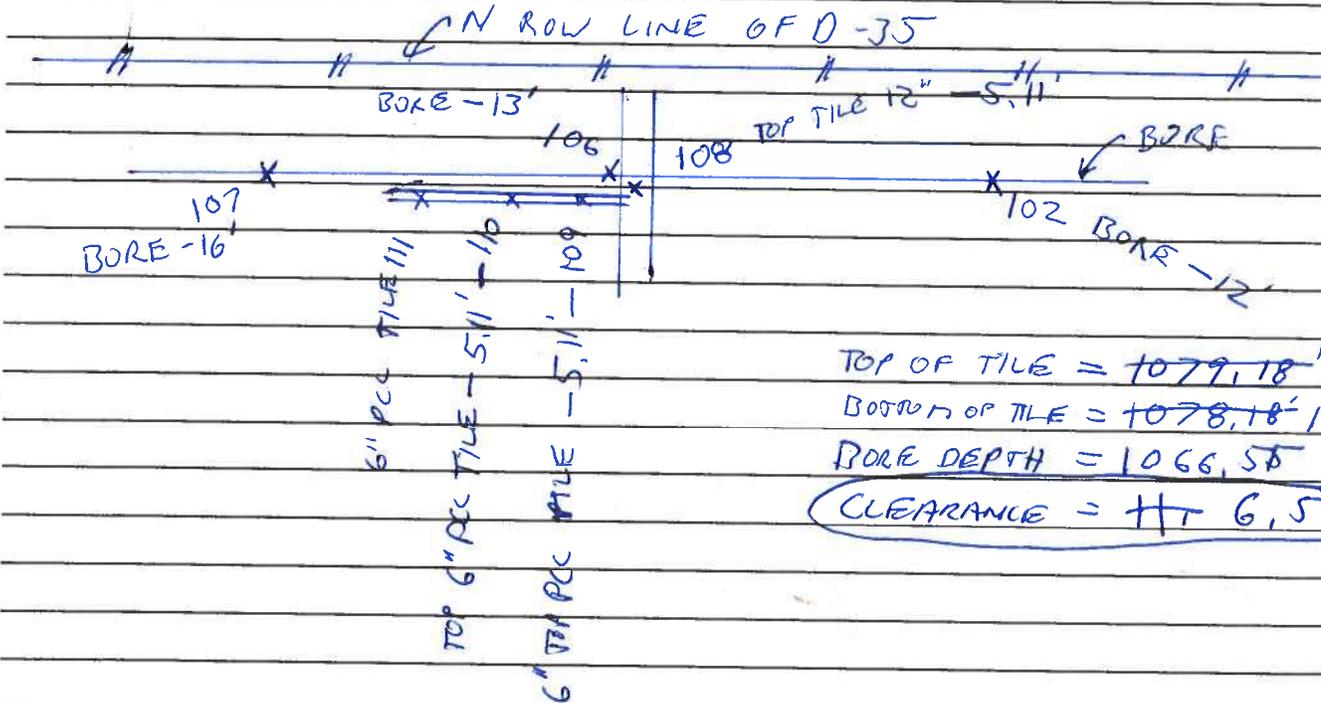
S M T W T F S

SHEET NO.

1 OF 1

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

STARTED W/ Job # 6867 SAVED AS G772 DD44
 T1 ✓ 3 SET #34 1/2" Ø x 20' DR 5' ± NW OF CP
 T34 ✓ 3



TOP OF TILE = 1079.18' 1074.01'
 BOTTOM OF TILE = 1078.18' 1073.07'
 BORE DEPTH = 1066.50'
CLEARANCE = 11' 6.52'

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

Observer's Signature:

[Handwritten Signature]

Date Prepared:

10-20-20

Reviewed by:

Engineer

Date Reviewed





6772 DD44 2020-10-20 cs

1,10000.000,10000.000,1000.000,cpt
2,10000.000,10000.000,1122.405,Autonomous Setup
3,9954.168,9344.162,1124.477,surv mark
4,9626.948,9924.345,1117.327,gs locate
5,9651.983,9922.988,1110.692,cpp8 top
6,9648.190,9924.069,1110.729,cpp8 top
7,9672.042,9924.086,1117.812,gs locate
8,9713.241,9921.523,1118.569,gs locate
9,9753.487,9919.909,1118.850,gs locate
10,9798.350,9918.717,1119.227,gs locate
11,9831.169,9912.377,1119.065,gs locate
12,9859.709,9882.751,1118.173,gs locate
13,9873.698,9843.643,1117.398,gs locate
14,9882.456,9812.439,1116.703,gs locate
15,9886.663,9783.824,1116.773,gs locate
16,9893.867,9749.343,1116.484,gs locate
17,9899.392,9702.860,1116.451,gs locate
18,9899.679,9674.934,1116.117,riser15 e side
19,9905.271,9669.438,1115.893,gs locate
20,9915.869,9653.111,1111.768,bint fl
21,9595.439,9414.971,1114.534,tint fl
22,9574.001,9898.485,1117.207,riser15 e side
23,9582.440,9927.184,1110.520,tee8 top e-w-n
24,9582.706,9925.966,1110.687, TOP 7" VCP (0.62' TOP TO FL)
25,9582.367,9928.053,1110.570, TOP 7" VCP (0.62' TOP TO FL)
26,9909.783,9652.971,1112.411, TOP 6" VCP (0.57' TOP TO FL)
27,9582.536,9927.010,1110.005, FL NEW
28,9909.784,9652.971,1111.841, FL NEW
29,9909.365,9404.343,1119.542, IR 34 YC 19957
30,9567.129,9405.420,1118.406, IR 34
31,9568.745,9941.371,1116.633, IR 34
32,9911.042,9940.349,1121.000, IR 34 YC 19957
33,23560.910,4046.087,1039.521, HC GPS MON 8055
34,9996.325,6702.996,1126.355, ir 12 0.5d
35,9584.142,9918.760,1110.734, TOP 7" VCP TILE (0.65' TOP TO FL)
36,9584.142,9918.760,1110.084, FL NEW
37,9584.924,9919.164,1110.933, TOP 8" HDPE TILE (0.73' TO FL)
38,9603.711,9913.281,1110.978, TOP 8" HDPE TILE (0.73' TO FL)
39,9623.519,9910.649,1111.036, TOP 8" HDPE TILE (0.73' TO FL)
40,9643.540,9910.187,1111.113, TOP 8" HDPE TILE (0.73' TO FL)
41,9683.529,9908.099,1111.237, TOP 8" HDPE TILE (0.73' TO FL)
42,9663.505,9909.167,1111.187, TOP 8" HDPE TILE (0.73' TO FL)
43,9667.988,9914.694,1115.010, TOP 4" CPP TILE
44,9690.184,9903.183,1116.534, TOP 4" CPP TILE
45,9703.553,9907.271,1111.298, TOP 8" HDPE TILE (0.73' TOP TO FL)
46,9723.505,9907.091,1111.366, TOP 8" HDPE TILE (0.73' TOP TO FL)
47,9743.526,9906.118,1111.419, TOP 8" HDPE TILE (0.73' TOP TO FL)
48,9763.473,9904.757,1111.494, TOP 8" HDPE TILE (0.73' TOP TO FL)
49,9783.722,9903.679,1111.546, TOP 8" HDPE TILE (0.73' TOP TO FL)

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50,9628.403,9881.296,1120.549,BLD SE COR
51,9679.566,9881.115,1120.671,BLD NE COR
52,9760.203,9880.854,1121.486,BLD SE COR
53,9811.426,9880.567,1121.477,BLD NE COR
54,9808.970,9504.605,1121.205,BLD NW COR
55,9803.759,9903.317,1111.623, TOP 8" HDPE TILE (0.73' TO FL)
56,9584.768,9915.666,1110.709, TOP 7" VCP TILE (0.62' TOP TO FL)
57,9583.908,9919.862,1110.821, TOP 8"*8"*8" HDPE WYE TILE TO NW
58,9583.413,9921.929,1110.736, TOP EXISTING 8"*8"*8" HDPE WYE TO SW
59,9587.015,9918.378,1110.939, TOP 8" HDPE BAND TILE (
60,9823.726,9902.681,1111.670, TOP 8" HDPE TILE (0.73' TO FL)
61,9584.506,9917.006,1110.847, TOP 8" HDPE BAND
62,9585.236,9919.039,1110.935, TOP 8" HDPE TILE (0.73' TO FL)
63,9584.668,9915.661,1110.768, TOP 8" HDPE TILE (0.73' TO FL)
64,9589.434,9923.191,1111.576, TOP 8" CLAY/PLASTIC COUPLER (0.73' TO FL)
65,9824.419,9902.517,1111.678, TOP 8" HDPE 45 BEND (0.73' TO FL)
66,9835.875,9885.988,1111.742, TOP 8" HDPE TILE (0.73' TO FL)
67,9844.675,9867.899,1111.797, TOP 8" HDPE TILE (0.73' TO FL)
68,9853.083,9849.735,1111.848, TOP 8" HDPE TILE (0.73' TO FL)
69,9860.410,9831.099,1111.908, TOP 8" HDPE TILE (0.73' TO FL)
70,9865.692,9811.794,1111.972, TOP 8" HDPE TILE (0.73' TO FL)
71,9870.343,9792.306,1112.039, TOP 8" HDPE TILE (0.73' TO FL)
72,9875.359,9772.882,1112.107, TOP 8" HDPE TILE (0.73' TO FL)
73,9872.833,9782.088,1112.071, TOP 8" TO 4" REDUCERTILE TEE (0.73' TO FL)
74,9880.882,9753.619,1112.183, TOP 8" HDPE TILE TEE (0.73' TO FL)
75,9886.546,9734.361,1112.247, TOP 8" HDPE TILE TEE (0.73' TO FL)
76,9891.742,9714.825,1112.299, TOP 8" HDPE TILE TEE (0.73' TO FL)
77,9896.601,9695.407,1112.356, TOP 8" HDPE TILE TEE (0.73' TO FL)
78,9900.835,9689.662,1111.735, TOP 8" SW PERF TILE END PLUGGED
79,9903.039,9676.045,1112.399, TOP 8" HDPE TILE (0.73' TOP TO FL)
80,9910.741,9652.993,1112.440, TOP 6" VCP (0.57' TOP TO FL)
81,9901.306,9674.287,1112.094, TOP 4" PVC PIPE (0.35' TOPTOFL)
82,9899.630,9674.027,1112.019, TOP 4" PVC PIPE (0.35' TOPTOFL)
83,9899.248,9673.959,1111.628, FL PVC PIPE (0.35' TOPTOFL)
84,9910.661,9652.942,1112.499, TOP 8" FRATCO REDUCER
85,9908.273,9656.539,1112.522, TOP 8" HDPE TILE (0.73' TO FL)
86,9854.051,9829.838,1114.949, TOP 4" PERF CPP TILE S SIDE
87,9869.802,9819.884,1114.597, TOP 4" PERF CPP TILE N SIDE
88,9910.418,9652.844,1112.611, TOP 8" HDPE 45 BEND (0.73' TOPTOFL)
89,9907.216,9655.570,1112.503, TOP 8" HDPE 45 BEND (0.73' TOPTOFL)
90,9582.562,9927.140,1110.683, TOP 8" HDPE TEE (0.73' TOPTOFL)
91,9583.660,9927.409,1110.644, TOP 8" HDPE BAND
92,9582.223,9928.025,1110.595, TOP 8" EXTERNAL/INTERNAL FRATCO COUPLER
93,9583.032,9924.291,1110.782, TOP 8" HDPE BAND
94,9903.460,9674.420,1112.399, TOP HDPE TILE
95,9869.632,9781.934,1114.538, TOP 4" CPP TILE TEE
96,9872.108,9781.854,1112.379, TOP 4" CPP TILE TEE
97,9816.019,9671.970,1122.837, TOP FAN CONC
98,9903.039,9676.045,1111.660, FL

6772 DD44 2020-10-20 cs

99,9889.048,9674.149,1112.528, TOP 4" PVC PIPE (0.35' TOPTOFL)
100,9902.560,9674.253,1111.822, FL TEE S
101,9890.076,9674.184,1112.567, TOP 4" PVC GATE VALVE (0.40' TOPTOFL)
102,9992.918,3717.508,1080.039,700 -12'
103,9902.562,9674.199,1112.225, TOP 4" CPP
104,9895.395,9674.072,1112.491, TOP 4" CPP
105,9890.242,9674.429,1112.390, TOP 4" CPP
106,9993.570,3704.399,1079.549,700 -13'
107,9992.743,3689.590,1079.472,700 -16'
108,9992.593,3704.475,1079.178,962? 12? -5.11
109,9992.265,3704.359,1079.965,510 6 -5.11
110,9992.273,3701.083,1080.990,510 6 -5.11
111,9992.435,3694.804,1076.027,510 6
8054,8597.084,4604.774,1102.260, Remote Elevation Benchmark
8055,8597.083,4604.763,1102.260,8054



Drainage Utility Permit Application

Hardin County

Applicant: Heart of Iowa Communication Coop - Jay Duncan

Contact Email: jduncan@heartofiowa.coop

Contact Phone: (641) 486-2211

Utility Type: N/A - Utility Permits Only

Drainage District: DDs\DD 44 (51069)

Description of Work: DDs 44, 62, 1, 128, 78, 63, 8, 93 & 94 - Heart of Iowa - Install fiber optic cable in rural areas of Eldora & Steamboat Rock. Will work with CGA on facility crossings.

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 Districts. 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
Phone (641) 939-8111
Fax (641) 939-8245
drainage@hardincountyia.gov

For Office Use Only

Application Approval:

By:  Date: 6-7-2020
Board of Supervisor Chairman, Acting as Drainage District Trustee

APPROVED PERMIT # 2020-12

- Application in TCM
- GIS Annotation
- Approval Emailed



HARDIN COUNTY

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

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.



HARDIN COUNTY

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ELDORA, IA 50627
(641) 939-8108

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.



HARDIN COUNTY

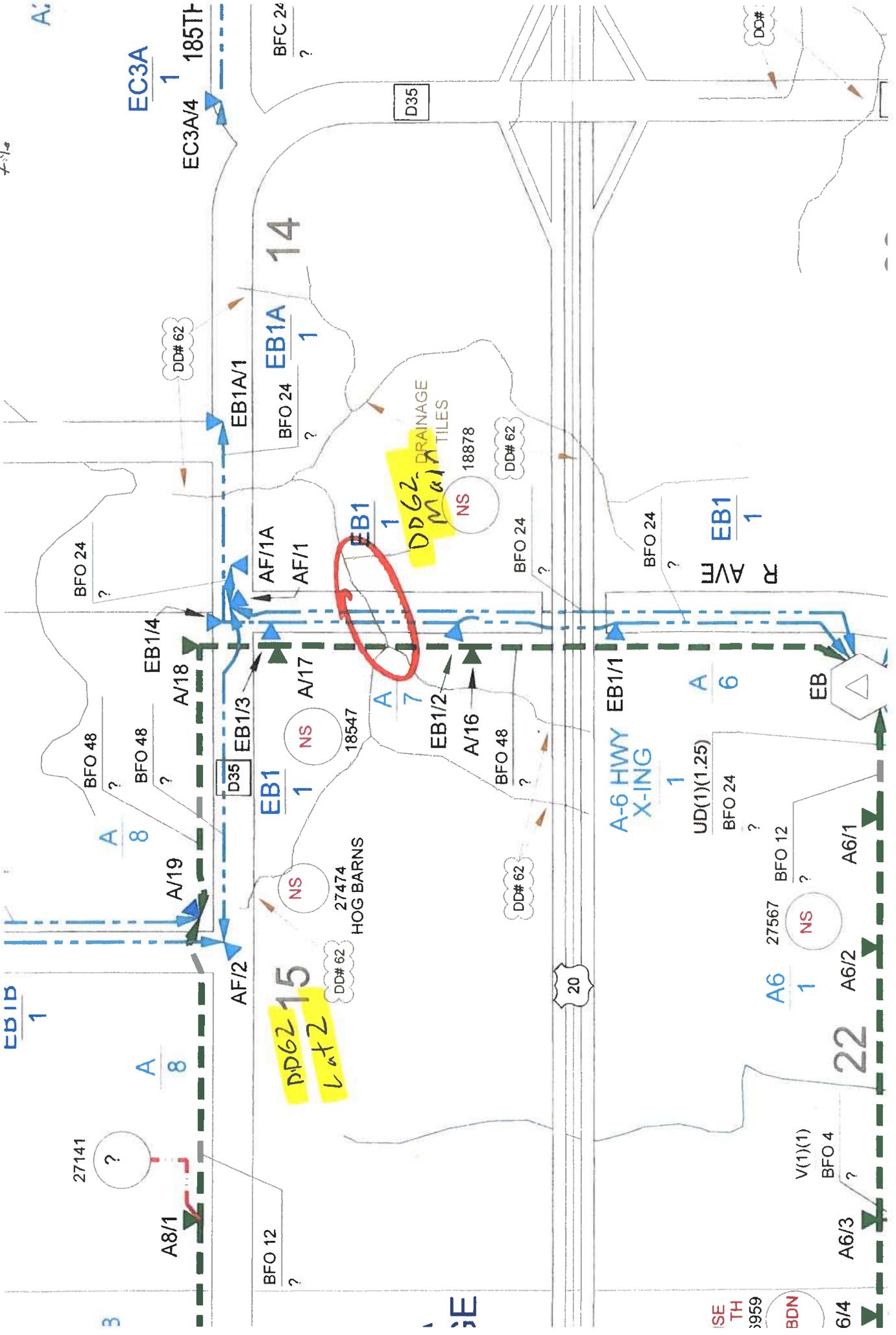
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ELDORA, IA 50627
(641) 939-8108

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.

DD 62

4-1-14

A:



SE TH 1959

BDN

6/4

V(1)(1) BFO 4



Utility Permit #2020-12

Utility Observation Report

General Information	
Project Name and Number:	Utility Permit 6867.3
Drainage District Number:	#62
Drainage District Facility ID:	Main and Lateral #2
Project Location: (1/4, Sec, Twp, Rng and road)	SE-15-88-20
Date of Observation:	10/21/2020
Observer Name/Title:	Chris Sweeney

Field Observations	
District facility type:	<input checked="" type="checkbox"/> Tile <input type="checkbox"/> Open Ditch Other:
Utility Orientation:	<input type="checkbox"/> Parallel <input checked="" type="checkbox"/> Crossing <input type="checkbox"/> Overhead <input type="checkbox"/> Over <input checked="" type="checkbox"/> Under <input type="checkbox"/> Same Elevation Other:
Source of utility elevation and/or location:	<input type="checkbox"/> Probed <input type="checkbox"/> Exposed <input checked="" type="checkbox"/> Utility Reported Other:
Utility Elevation:	@ Lat 2 – 1103.2. @ Main – 1083.9'
Source of district facility elevation and/or location:	<input type="checkbox"/> Probed <input checked="" type="checkbox"/> Exposed <input type="checkbox"/> Utility Reported Other:
District Facility Elevation: (include where measured)	Lat 2 – 1112.1' (bottom of tile) Main – 1094.1' (flowline of tile)
Vertical clearance from district facility: (must be greater than 1-foot for tile, and 5-feet for designed open ditch bottom)	@ Lat 2 – 8.9' @ Main – 10.2'



Utility Permit #2020-12

Horizontal clearance from District Tile or Open Ditch centerline:	
Tile outlets within 25-feet relocated? (If applicable)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Original tile size & material:	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> SW HDPE <input type="checkbox"/> DW HDPE <input checked="" type="checkbox"/> VCP Other: 6"
Tile replaced by utility?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Tile replacement material:	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input checked="" type="checkbox"/> N/A Other:
Condition of District tile:	Intact
Signage present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A

Notes	
Signage was not installed at time of observation and will need to be confirmed with Utility if desired by District Trustees.	

CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

10-20-20

PROJECT NUMBER:

6867.3

COUNTY, ROUTE, ROAD:

DD 62

LOCATION:

SEC 15

DAYS OF WEEK:

S M T W T F S

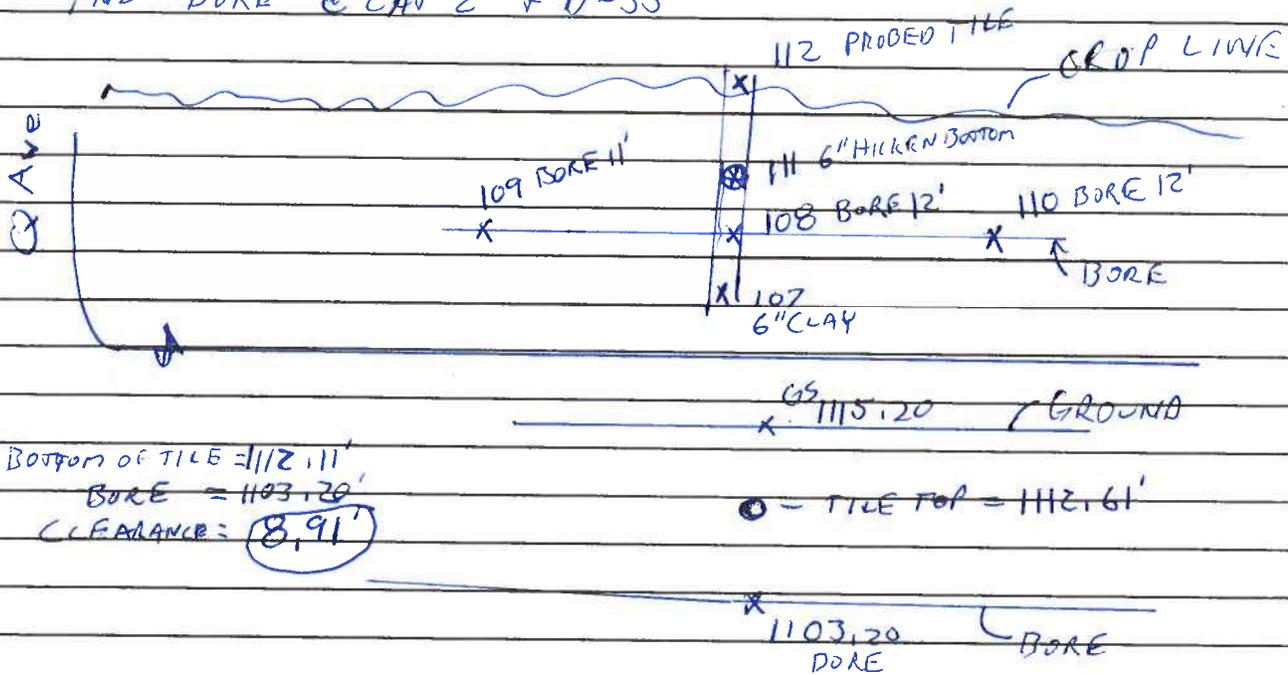
SHEET NO.

1 OF 1

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

ARRIVED ON SET T1 ✓ 3

- LOOKED AT CROSSINGS @ R AVE (GPS 102) FND TILE
- DID NOT FIND BORE. WENT + TALKED TO THE CREW THEY SAID THAT THEY HAD NOT DONE MOST OF THE BORES FOR THESE JOBS TODAY
- FND BORE @ LAT 2 + D-35



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

Observer's Signature:

an [Signature]

Date Prepared:

10-20-20

Reviewed by:

Engineer

Date Reviewed

GPS #107 Looking W



2020/10/20



2020/10/20

GPS #107 Looking N

GPS # 107



GPS # 102

GPS #102 LOOKING N



2020/10/20



2020/10/20

GPS #102 LOOKING N,

CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

10-21-20

DAYS OF WEEK:

S M T **W** T F S

SHEET NO.

1 OF 1

PROJECT NUMBER:

6867.3

COUNTY, ROUTE, ROAD:

0062

LOCATION:

SEC 15 R AVE

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

π 1 √3

TIED OUT CROSSING

TOP OF TILE = 1095.60'

GS @ CROSSING = 1103.87'

FL OF TILE = 1094.10'

DEPTH OF BORE = 1083.87'

CLEARANCE = -10.23'

X 106 TOP TILE -5.11'

X 102 TOP 18" LAY

X 34 BORE DEPTH -20'

R AVE

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

Observer's Signature:

[Signature]

Date Prepared:

10-21-20

Reviewed by:

Engineer

Date Reviewed

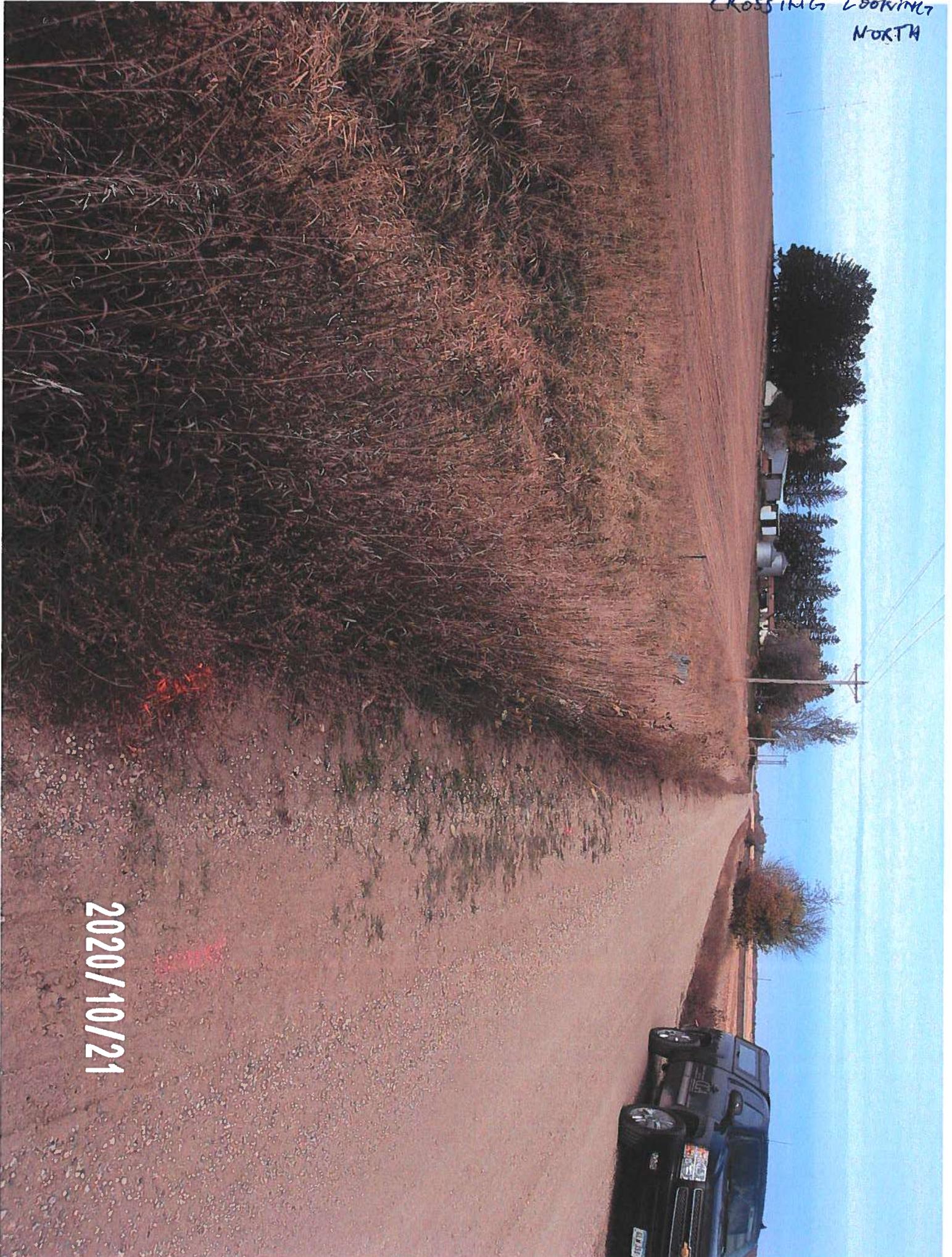
DEPTH OF BORE

20'

2020/10/21



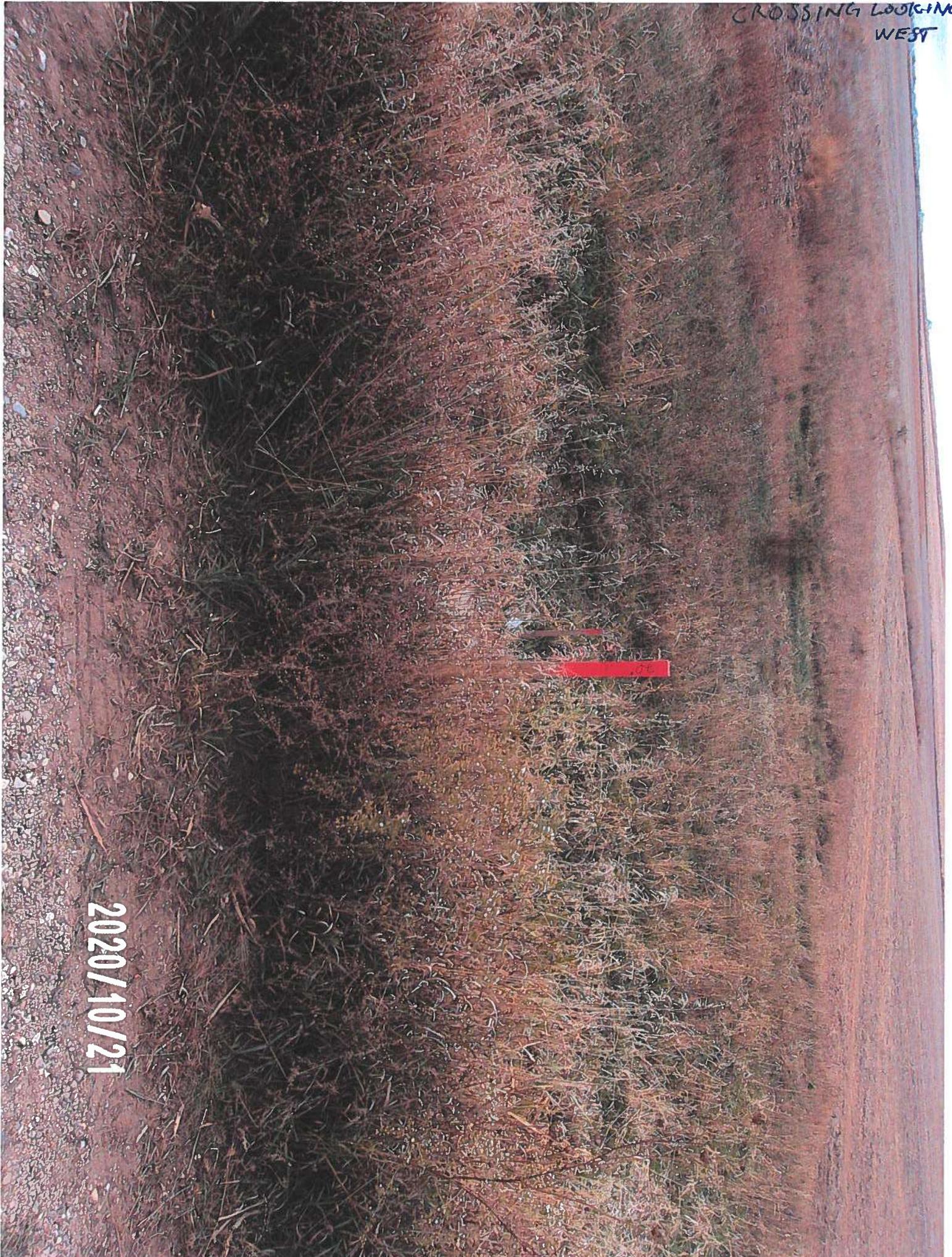
CROSSING LOOKING NORTH



2020/10/21

CROSSING LOOKING WEST

2020/10/21



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1,10000.000,10000.000,1000.000,cpt
 2,10000.000,10000.000,1122.405,Autonomous Setup
 3,9954.168,9344.162,1124.477,surv mark
 4,9626.948,9924.345,1117.327,gs locate
 5,9651.983,9922.988,1110.692,cpp8 top
 6,9648.190,9924.069,1110.729,cpp8 top
 7,9672.042,9924.086,1117.812,gs locate
 8,9713.241,9921.523,1118.569,gs locate
 9,9753.487,9919.909,1118.850,gs locate
 10,9798.350,9918.717,1119.227,gs locate
 11,9831.169,9912.377,1119.065,gs locate
 12,9859.709,9882.751,1118.173,gs locate
 13,9873.698,9843.643,1117.398,gs locate
 14,9882.456,9812.439,1116.703,gs locate
 15,9886.663,9783.824,1116.773,gs locate
 16,9893.867,9749.343,1116.484,gs locate
 17,9899.392,9702.860,1116.451,gs locate
 18,9899.679,9674.934,1116.117,riser15 e side
 19,9905.271,9669.438,1115.893,gs locate
 20,9915.869,9653.111,1111.768,bint fl
 21,9595.439,9414.971,1114.534,tint fl
 22,9574.001,9898.485,1117.207,riser15 e side
 23,9582.440,9927.184,1110.520,tee8 top e-w-n
 24,9582.706,9925.966,1110.687,TOP 7" VCP (0.62' TOP TO FL)
 25,9582.367,9928.053,1110.570,TOP 7" VCP (0.62' TOP TO FL)
 26,9909.783,9652.971,1112.411,TOP 6" VCP (0.57' TOP TO FL)
 27,9582.536,9927.010,1110.005,FL NEW
 28,9909.784,9652.971,1111.841,FL NEW
 29,9909.365,9404.343,1119.542,IR 34 YC 19957
 30,9567.129,9405.420,1118.406,IR 34
 31,9568.745,9941.371,1116.633,IR 34
 32,9911.042,9940.349,1121.000,IR 34 YC 19957
 33,23560.910,4046.087,1039.521,HC GPS MON 8055
 35,9584.142,9918.760,1110.734,TOP 7" VCP TILE (0.65' TOP TO FL)
 36,9584.142,9918.760,1110.084,FL NEW
 37,9584.924,9919.164,1110.933,TOP 8" HDPE TILE (0.73' TO FL)
 38,9603.711,9913.281,1110.978,TOP 8" HDPE TILE (0.73' TO FL)
 39,9623.519,9910.649,1111.036,TOP 8" HDPE TILE (0.73' TO FL)
 40,9643.540,9910.187,1111.113,TOP 8" HDPE TILE (0.73' TO FL)
 41,9683.529,9908.099,1111.237,TOP 8" HDPE TILE (0.73' TO FL)
 42,9663.505,9909.167,1111.187,TOP 8" HDPE TILE (0.73' TO FL)
 43,9667.988,9914.694,1115.010,TOP 4" CPP TILE
 44,9690.184,9903.183,1116.534,TOP 4" CPP TILE
 45,9703.553,9907.271,1111.298,TOP 8" HDPE TILE (0.73' TOP TO FL)
 46,9723.505,9907.091,1111.366,TOP 8" HDPE TILE (0.73' TOP TO FL)
 47,9743.526,9906.118,1111.419,TOP 8" HDPE TILE (0.73' TOP TO FL)
 48,9763.473,9904.757,1111.494,TOP 8" HDPE TILE (0.73' TOP TO FL)
 49,9783.722,9903.679,1111.546,TOP 8" HDPE TILE (0.73' TOP TO FL)
 50,9628.403,9881.296,1120.549,BLD SE COR

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- 51,9679.566,9881.115,1120.671,BLD NE COR
- 52,9760.203,9880.854,1121.486,BLD SE COR
- 53,9811.426,9880.567,1121.477,BLD NE COR
- 54,9808.970,9504.605,1121.205,BLD NW COR
- 55,9803.759,9903.317,1111.623, TOP 8" HDPE TILE (0.73' TO FL)
- 56,9584.768,9915.666,1110.709, TOP 7" VCP TILE (0.62' TOP TO FL)
- 57,9583.908,9919.862,1110.821, TOP 8"*8"*8" HDPE WYE TILE TO NW
- 58,9583.413,9921.929,1110.736, TOP EXISTING 8"*8"*8" HDPE WYE TO SW
- 59,9587.015,9918.378,1110.939, TOP 8" HDPE BAND TILE (
- 60,9823.726,9902.681,1111.670, TOP 8" HDPE TILE (0.73' TO FL)
- 61,9584.506,9917.006,1110.847, TOP 8" HDPE BAND
- 62,9585.236,9919.039,1110.935, TOP 8" HDPE TILE (0.73' TO FL)
- 63,9584.668,9915.661,1110.768, TOP 8" HDPE TILE (0.73' TO FL)
- 64,9589.434,9923.191,1111.576, TOP 8" CLAY/PLASTIC COUPLER (0.73' TO FL)
- 65,9824.419,9902.517,1111.678, TOP 8" HDPE 45 BEND (0.73'TO FL)
- 66,9835.875,9885.988,1111.742, TOP 8" HDPE TILE (0.73' TO FL)
- 67,9844.675,9867.899,1111.797, TOP 8" HDPE TILE (0.73' TO FL)
- 68,9853.083,9849.735,1111.848, TOP 8" HDPE TILE (0.73' TO FL)
- 69,9860.410,9831.099,1111.908, TOP 8" HDPE TILE (0.73' TO FL)
- 70,9865.692,9811.794,1111.972, TOP 8" HDPE TILE (0.73' TO FL)
- 71,9870.343,9792.306,1112.039, TOP 8" HDPE TILE (0.73' TO FL)
- 72,9875.359,9772.882,1112.107, TOP 8" HDPE TILE (0.73' TO FL)
- 73,9872.833,9782.088,1112.071, TOP 8"TO 4" REDUCERTILE TEE (0.73' TO FL)
- 74,9880.882,9753.619,1112.183, TOP 8" HDPE TILE TEE (0.73' TO FL)
- 75,9886.546,9734.361,1112.247, TOP 8" HDPE TILE TEE (0.73' TO FL)
- 76,9891.742,9714.825,1112.299, TOP 8" HDPE TILE TEE (0.73' TO FL)
- 77,9896.601,9695.407,1112.356, TOP 8" HDPE TILE TEE (0.73' TO FL)
- 78,9900.835,9689.662,1111.735, TOP 8" SW PERF TILE END PLUGGED
- 79,9903.039,9676.045,1112.399, TOP 8" HDPE TILE (0.73' TOP TO FL)
- 80,9910.741,9652.993,1112.440, TOP 6" VCP (0.57' TOP TO FL)
- 81,9901.306,9674.287,1112.094, TOP 4" PVC PIPE (0.35'TOFTOFL)
- 82,9899.630,9674.027,1112.019, TOP 4" PVC PIPE (0.35'TOFTOFL)
- 83,9899.248,9673.959,1111.628, FL PVC PIPE (0.35'TOFTOFL)
- 84,9910.661,9652.942,1112.499, TOP 8" FRATCO REDUCER
- 85,9908.273,9656.539,1112.522, TOP 8" HDPE TILE (0.73' TO FL)
- 86,9854.051,9829.838,1114.949, TOP 4" PERF CPP TILE S SIDE
- 87,9869.802,9819.884,1114.597, TOP 4" PERF CPP TILE N SIDE
- 88,9910.418,9652.844,1112.611, TOP 8" HDPE 45 BEND (0.73'TOFTOFL)
- 89,9907.216,9655.570,1112.503, TOP 8" HDPE 45 BEND (0.73'TOFTOFL)
- 90,9582.562,9927.140,1110.683, TOP 8" HDPE TEE (0.73'TOFTOFL)
- 91,9583.660,9927.409,1110.644, TOP 8" HDPE BAND
- 92,9582.223,9928.025,1110.595, TOP 8"EXTERNAL/INTERNAL FRATCO COUPLER
- 93,9583.032,9924.291,1110.782, TOP 8" HDPE BAND
- 94,9903.460,9674.420,1112.399, TOP HDPE TILE
- 95,9869.632,9781.934,1114.538, TOP 4" CPP TILE TEE
- 96,9872.108,9781.854,1112.379, TOP 4" CPP TILE TEE
- 97,9816.019,9671.970,1122.837, TOP FAN CONC
- 98,9903.039,9676.045,1111.660, FL
- 99,9889.048,9674.149,1112.528, TOP 4" PVC PIPE (0.35'TOFTOFL)

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100,9902.560,9674.253,1111.822,FL TEE S
101,9890.076,9674.184,1112.567, TOP 4" PVC GATE VALVE (0.40' TOPTOFL)
102,8906.666,11962.637,1095.596,962 18
103,9902.562,9674.199,1112.225, TOP 4" CPP
104,9895.395,9674.072,1112.491, TOP 4" CPP
105,9890.242,9674.429,1112.390, TOP 4" CPP
106,8902.554,11956.186,1100.794,962 18 -5.11
107,9990.260,9654.414,1112.609,962 6
108,9990.752,9654.623,1115.204,700 12' to bore
109,9990.482,9644.270,1115.253,700 11' to bore
110,9991.911,9670.210,1115.297,700 12' to bore
111,9994.213,9654.630,1113.725,922 6 hick
112,10000.329,9655.161,1117.796,962 6 -5.11
8054,8597.084,4604.774,1102.260,Remote Elevation Benchmark
8055,8597.083,4604.763,1102.260,8054



Drainage Utility Permit Application

Hardin County

Applicant: Heart of Iowa Communication Coop - Jay Duncan

Contact Email: jduncan@heartofiowa.coop

Contact Phone: (641) 486-2211

Utility Type: N/A - Utility Permits Only

Drainage District: DDs\DD 44 (51069)

Description of Work: DDs 44, 62, 1, 128, 78, 63, 8, 93 & 94 - Heart of Iowa - Install fiber optic cable in rural areas of Eldora & Steamboat Rock. Will work with CGA on facility crossings.

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 Districts. 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
Phone (641) 939-8111
Fax (641) 939-8245
drainage@hardincountyiowa.gov

For Office Use Only

Application Approval:
By:  Date: 6-7-2020
Board of Supervisor Chairman, Acting as Drainage District Trustee
APPROVED PERMIT # 2020-12
 Application in TCM
 GIS Annotation
 Approval Emailed



HARDIN COUNTY

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

HARDIN COUNTY DRAINAGE DISTRICT UTILITY PERMIT APPLICATION

Applicant: Heart of Iowa Communications Cooperative
 Company Name
PO Box 130
 Address
 Union IA 50258-0130
 City State Zip
 Applicant Contact: Jay Duncan (641) 486 - 2211
 Name Phone
jduncan@heartofiowa.coop
 Email

Utility Type: Fiber Optic
 Drainage District(s) Crossed: 44, 62, 1, 128, 78, 63, 8, 93 & 94

Facilities Crossed (specific tile, open ditch): tile and open ditch
 Description of Work: Install fiber optic cable in rural areas of Eldora and Steamboat Rock. Will work with CGA on
facility crossings.
(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.

[Signature]
 Applicant Signature

6/10/2020
 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

For Office Use Only

Application Approval:
 By: [Signature] Date: 6-7-2020
Board of Supervisor Chairman, Acting as Drainage District Trustee

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.



HARDIN COUNTY

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

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.



Utility Permit #2020-12

Utility Observation Report

General Information	
Project Name and Number:	Utility Crossing #6666.4
Drainage District Number:	#78
Drainage District Facility ID:	Main
Project Location: (1/4, Sec, Twp, Rng and road)	SE-26-88-20
Date of Observation:	10/23 & 10/29/2020
Observer Name/Title:	Chris Sweeney

Field Observations	
District facility type:	<input checked="" type="checkbox"/> Tile <input type="checkbox"/> Open Ditch Other:
Utility Orientation:	<input type="checkbox"/> Parallel <input checked="" type="checkbox"/> Crossing <input type="checkbox"/> Overhead <input type="checkbox"/> Over <input checked="" type="checkbox"/> Under <input type="checkbox"/> Same Elevation Other:
Source of utility elevation and/or location:	<input type="checkbox"/> Probed <input type="checkbox"/> Exposed <input checked="" type="checkbox"/> Utility Reported Other:
Utility Elevation:	1032'
Source of district facility elevation and/or location:	<input type="checkbox"/> Probed <input checked="" type="checkbox"/> Exposed <input type="checkbox"/> Utility Reported Other:
District Facility Elevation: (include where measured)	1045.7' (flowline)
Vertical clearance from district facility: (must be greater than 1-foot for tile, and 5-feet for designed open ditch bottom)	13.6'



Utility Permit #2020-12

Horizontal clearance from District Tile or Open Ditch centerline:	
Tile outlets within 25-feet relocated? (If applicable)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Original tile size & material:	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> SW HDPE <input type="checkbox"/> DW HDPE <input checked="" type="checkbox"/> VCP Other: 12-inch
Tile replaced by utility?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Tile replacement material:	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input checked="" type="checkbox"/> N/A Other:
Condition of District tile:	Intact
Signage present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A

Notes	
Signage was not installed at time of observation and will need to be confirmed with Utility if desired by District Trustees.	

Inspector's Signature: _____ Date: _____

CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

10-29-20
10-25-20

PROJECT NUMBER:

6688.4

COUNTY, ROUTE, ROAD:

DD 78

LOCATION:

S+55

DAYS OF WEEK:

S M T W T F S

SHEET NO.

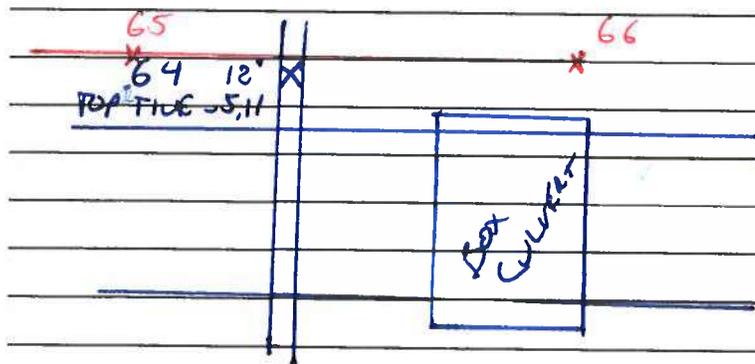
1 OF 1

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

π 2 SET 59

π 59 ✓ 302

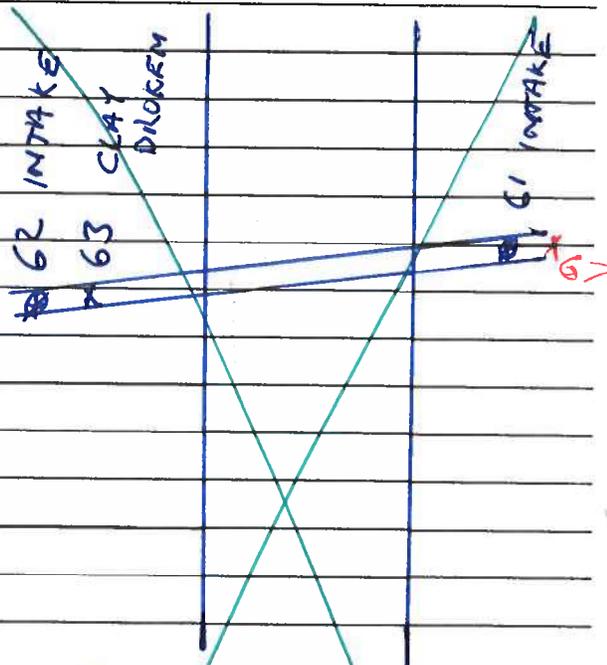
TIED OUT PIPE LOCATIONS



FL TIVE @ 64 = 1045.66'

BORE DEPTH = 1032.04'

CLEARANCE = 13.62'



@ 63 FL TIVE = 1096.85'

TALKED TO HEART OF IOWA
THEY SAID THAT THEY
BAY DOWN THE E. ROW
@ 4.0' DEEP

FL @ 61 = 1097.37'

DEPTH OF BORE = 1097.23'

CLEARANCE = 0.14'

* NOT IN DISTRICT

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

Observer's Signature:

Ann Army

Date Prepared:

10-25-20

Reviewed by:

Engineer

Date Reviewed

Bore Depth @ 64



Bore @ 64 Looking E.

1,5000.000,5000.000,100.000,CPT
1_GNSS,3606848.526,5018937.552,1106.864,Autonomous Setup
2,3604079.030,5025333.700,1041.420,GPS 8060
2_GNSS,3604079.030,5025333.700,1041.107,2
3,3602703.090,5004263.550,1064.070,GPS 8053
3_GNSS,3602703.090,5004263.550,1064.070,3
4,3603086.333,5015230.794,1008.315,FL 18"CMP
5,3603085.078,5015229.708,1009.736,FL 6"CMP
6,3603086.791,5015258.272,1009.356,FL 15"CONC TILE
7,3603090.090,5015267.935,1013.767,GS WASHOUT
8,3603091.046,5015252.422,1012.962,GS WASHOUT
9,3603089.972,5015235.429,1011.506,GS WASHOUT
10,3603081.563,5015236.306,1011.579,GS WASHOUT
11,3603081.619,5015251.873,1012.965,GS WASHOUT
12,3603083.771,5015264.770,1013.561,GS WASHOUT
13,3603100.785,5015317.094,1016.135,GS
14,3603127.618,5015410.366,1017.003,GS
15,3603157.955,5015495.990,1017.609,GS
16,3603210.176,5015589.603,1018.247,GS
17,3603253.543,5015681.752,1016.707,FL SWALE
18,3603354.891,5015681.488,1017.450,FL SWALE
19,3603483.842,5015682.621,1018.579,FL SWALE
20,3603627.047,5015679.163,1018.817,FL SWALE
21,3603774.118,5015675.972,1019.810,FL SWALE
22,3603905.693,5015676.723,1021.314,FL SWALE
23,3604015.590,5015673.593,1022.614,FL SWALE
24,3604076.792,5015667.579,1024.096,FNL EW
25,3604085.836,5015631.816,1018.560,TOP 15"CLAYTILE
26,3604096.129,5015624.124,1024.095,GS BLOWOUT
27,3604089.696,5015619.214,1023.816,GS BLOWOUT
28,3604077.835,5015623.277,1024.134,GS BLOWOUT
29,3604079.774,5015636.071,1024.104,GS BLOWOUT
30,3604091.021,5015642.765,1024.155,GS BLOWOUT
31,3604077.996,5015929.733,1021.434,FNL LOW AREA
32,3602759.407,5015643.300,1017.733,PP EOHL EW
33,3603092.227,5015307.214,1015.536,GS TILELOCATE
34,3603098.909,5015362.307,1016.525,GS TILELOCATE
35,3603109.461,5015435.303,1017.005,GS TILELOCATE
36,3603120.912,5015507.042,1017.746,GS TILELOCATE
37,3603129.608,5015578.378,1018.258,GS TILELOCATE
38,3603137.025,5015629.941,1016.927,GS TILELOCATE
39,3603141.200,5015655.283,1015.600,GS TILELOCATE
40,3603147.944,5015694.168,1017.865,GS TILELOCATE
41,3603169.393,5015762.981,1018.721,GS TILELOCATE
42,3603201.250,5015827.992,1018.662,GS TILELOCATE
43,3603241.797,5015881.054,1018.736,GS TILELOCATE
44,3603279.503,5015907.735,1018.790,GS TILELOCATE
45,3603294.901,5015915.386,1018.806,GS TILELOCATE
46,3604066.639,5015648.787,1023.182,GS TILELOCATE

6688 DD78 2020-10-30 cs

47,3604049.081,5015665.347,1022.814,GS TILELOCATE
48,3604013.550,5015698.939,1023.077,GS TILELOCATE
49,3603969.411,5015741.671,1022.766,GS TILELOCATE
50,3603916.443,5015797.008,1022.324,GS TILELOCATE
51,3603865.149,5015850.882,1022.162,GS TILELOCATE
52,3603820.520,5015899.137,1021.713,GS TILELOCATE
53,3603767.463,5015955.066,1021.203,GS TILELOCATE
54,3603722.278,5015993.438,1020.906,GS TILELOCATE
55,3604100.741,5015631.504,1024.009,GS TILELOCATE
56,3604127.918,5015635.854,1024.297,GS TILELOCATE
57,3604188.668,5015624.886,1024.565,GS TILELOCATE
58,3604237.162,5015616.370,1024.843,GS TILELOCATE
59,3606818.745,5018930.535,1106.463,cpt 34 ir
60,3608065.975,5018953.325,1112.616,scf isp 58
61,3609137.231,5018980.366,1097.369,922 6" cmp fl
62,3609128.199,5018890.197,1096.588,922 6" cmp fl
63,3609133.658,5018897.054,1096.851,963 8"
64,3608098.559,5016439.700,1051.773,962 12" -5.11
65,3608099.004,5016423.062,1053.040,700 -21'
66,3608100.126,5016466.906,1052.512,700 -20'
67,3609138.165,5018986.157,1101.228,700 -4'
100,3608530.173,5017621.551,1089.817,FNL N S
101,3608991.012,5017612.360,1086.046,FNL N S
102,3608760.215,5017634.123,1080.344,INTK 12"HICK
103,3608836.461,5017642.501,1081.157,GS HOLE TERRACE
104,3608847.250,5017638.731,1081.432,GS HOLE TERRACE
104_1,3598437.157,5115989.875,1013.908,Base Setup
105,3608853.659,5017630.417,1081.717,GS HOLE TERRACE
106,3608827.281,5017639.013,1081.136,GS HOLE TERRACE
107,3608831.249,5017626.370,1081.374,GS HOLE TERRACE
108,3608836.299,5017615.550,1085.308,GS HOLE TERRACE
109,3608837.903,5017605.050,1080.644,GS HOLE TERRACE
110,3608839.838,5017595.769,1076.769,GS HOLE TERRACE
111,3608848.483,5017591.812,1076.583,GS HOLE TERRACE
112,3608852.126,5017602.399,1078.372,GS HOLE TERRACE
113,3608859.113,5017613.420,1084.538,GS HOLE TERRACE
114,3608807.059,5017564.615,1070.794,FL 7"CLAY GOOD
115,3608863.777,5017377.514,1072.313,INTK 6"HICK
116,3608867.470,5017377.197,1072.618,TOE
117,3608867.344,5017367.432,1076.287,GS TOP TERRACE
118,3608866.782,5017358.649,1072.444,TOE
119,3608895.940,5017352.469,1067.515,FL 7"CLAY
120,3608890.085,5017353.645,1069.318,FL 4"CLAY
121,3608861.717,5017200.676,1066.070,FL WASHOUT
122,3608894.335,5017231.809,1067.104,FL 4"CLAY DAYLIGHT
123,3608894.722,5017236.714,1067.107,FL 4"CLAY DAYLIGHT
124,3608777.336,5017027.412,1064.584,GS WATER ENDS
125,3608838.111,5017343.431,1071.667,GS BLOWOUT
126,3608897.345,5017335.880,1071.708,GS TILE LOCATE

127,3608903.959,5017287.080,1070.435,GS TILE LOCATE
128,3608911.917,5017241.259,1069.135,GS TILE LOCATE
129,3608908.589,5017188.981,1068.884,GS TILE LOCATE
130,3608895.912,5017124.231,1068.123,GS TILE LOCATE
131,3608876.490,5017063.488,1066.518,GS TILE LOCATE
132,3608851.896,5016993.603,1065.473,GS TILE LOCATE
133,3608830.152,5016934.423,1064.747,GS TILE LOCATE
134,3608793.737,5016860.427,1063.743,GS TILE LOCATE
135,3608773.929,5016817.919,1063.088,GS TILE LOCATE
136,3608784.920,5016847.870,1058.791, TOP 7"VCP TILE
137,3603171.194,5015501.057,1017.941,GS
138,3603121.248,5015507.626,1017.866,GS
139,3603071.114,5015514.086,1017.940,GS
140,3603064.395,5015467.364,1017.595,GS
141,3603114.338,5015457.055,1017.308,GS
142,3603134.846,5015454.293,1017.472,GS
143,3603164.108,5015450.843,1017.560,GS
144,3603157.273,5015401.098,1017.507,GS
145,3603124.871,5015405.489,1017.032,GS
146,3603106.890,5015408.286,1016.813,GS
147,3603057.320,5015414.769,1016.922,GS
148,3603050.412,5015365.234,1015.921,GS
149,3603085.039,5015360.593,1016.511,GS
150,3603100.932,5015358.148,1016.638,GS
151,3603150.556,5015351.462,1017.136,GS
152,3603143.754,5015302.139,1017.444,GS
153,3603108.568,5015306.590,1016.152,GS
154,3603093.756,5015309.013,1016.051,GS
155,3603043.590,5015315.811,1015.523,GS
156,3603090.808,5015278.074,1014.467, tb wshout
157,3603036.886,5015266.316,1013.276,GS
158,3603081.788,5015259.849,1013.275, tb wshout
159,3603083.562,5015260.584,1009.233, toe wshout
160,3603088.886,5015259.467,1009.410, toe wshout
161,3603091.536,5015259.011,1013.458, tb wshout
162,3603114.089,5015255.802,1014.964,GS
163,3603136.961,5015252.498,1015.833,GS
164,3603092.562,5015231.013,1010.904, tb
165,3603087.127,5015230.908,1008.305, TOE
166,3603084.379,5015231.101,1008.177, TOE
167,3603109.148,5015228.861,1011.615,GS
168,3603133.223,5015225.491,1011.982,GS
169,3603082.222,5015231.583,1010.963, tb
170,3603066.783,5015234.233,1012.049,GS
171,3603033.279,5015238.770,1012.211,GS
172,3603092.998,5015211.158,1009.600, tb
173,3603094.711,5015211.543,1008.573, TOE
174,3603096.282,5015212.447,1007.733, TOE
175,3603097.270,5015213.234,1009.291, tb

176,3603102.725,5015216.510,1010.515,GS
177,3603119.339,5015222.349,1011.136,GS
178,3603134.505,5015227.974,1012.307,GS
179,3603150.671,5015232.246,1015.398,GS
180,3603097.570,5015208.982,1007.165,cl
181,3603132.273,5015198.066,1007.659,cl
182,3603132.979,5015199.438,1007.630,toe
183,3603130.631,5015196.416,1007.790,toe
184,3603133.353,5015200.186,1008.968,tb
185,3603129.912,5015195.910,1009.404,tb
186,3603127.476,5015191.817,1010.890,GS
187,3603122.171,5015179.226,1011.979,GS
188,3603115.956,5015170.098,1013.622,GS
189,3603108.058,5015159.810,1014.100,GS
190,3603137.742,5015204.683,1010.035,GS
191,3603142.130,5015212.985,1011.060,GS
192,3603157.758,5015233.240,1016.366,GS
193,3603166.881,5015250.301,1017.341,GS
194,3603187.781,5015213.329,1017.424,GS
195,3603181.214,5015207.551,1016.688,GS
196,3603161.680,5015190.318,1010.122,tb
197,3603157.120,5015187.173,1006.447,toe
198,3603152.651,5015187.358,1006.812,toe
199,3603150.100,5015184.980,1010.371,tb
200,3603139.127,5015173.880,1010.935,GS
201,3603118.062,5015156.099,1013.503,GS
202,3603110.456,5015149.276,1013.902,GS
203,3603163.650,5015154.135,1006.770,toe
204,3603161.112,5015154.800,1009.939,tb
205,3603137.296,5015157.320,1010.766,GS
206,3603116.620,5015156.102,1013.470,GS
207,3603167.077,5015152.237,1005.487,toe
208,3603169.311,5015151.895,1009.086,tb
209,3603178.449,5015150.006,1010.526,GS
210,3603192.475,5015149.644,1016.198,GS
211,3603209.832,5015152.053,1017.533,GS
212,3603135.629,5015086.905,1009.166,tb
213,3603130.459,5015087.528,1006.765,toe
214,3603143.585,5015084.972,1009.685,GS
215,3603155.743,5015084.002,1013.680,GS
216,3603190.867,5015083.294,1015.977,GS
217,3603118.919,5015085.853,1009.436,tb
218,3603123.436,5015085.404,1006.781,TOE
219,3603106.641,5015086.724,1012.785,GS
220,3603086.888,5015086.806,1014.321,GS
221,3603068.964,5015088.168,1015.335,GS
222,3604085.918,5015566.146,1024.790,trl
223,3604137.304,5015570.739,1025.232,trl
224,3604190.535,5015563.312,1025.205,trl

225,3604252.711,5015548.885,1025.308,trl
226,3604281.856,5015563.257,1025.427,trl
227,3604260.024,5015591.304,1025.243,trl
228,3604229.474,5015608.555,1025.270,trl
229,3604191.415,5015613.739,1024.868,trl
230,3604126.389,5015621.162,1024.751,trl
231,3604095.160,5015624.979,1023.636,trl
232,3604082.206,5015593.006,1024.264,trl
233,3603986.581,5015815.529,1023.268,GS
234,3603944.115,5015772.834,1022.651,GS
235,3603901.743,5015730.376,1022.721,GS
236,3603937.237,5015695.033,1021.796,GS
237,3603979.596,5015737.621,1022.937,GS
238,3604021.711,5015780.128,1024.725,GS
239,3604057.386,5015745.055,1025.168,GS
240,3604014.812,5015702.285,1023.151,GS
241,3603981.606,5015668.897,1021.948,GS
242,3603972.494,5015659.973,1022.383,GS
243,3604008.135,5015624.475,1023.089,GS
244,3604047.215,5015664.025,1022.796,GS
245,3604068.387,5015685.216,1024.057,GS
246,3604080.714,5015697.756,1024.813,GS
247,3604092.624,5015709.749,1024.781,GS
248,3604128.087,5015674.547,1024.679,GS
249,3604099.651,5015645.722,1024.678,GS
250,3604074.547,5015620.305,1024.348,GS
251,3604066.462,5015612.485,1023.586,GS
252,3604045.200,5015591.311,1022.886,GS
253,3604038.356,5015584.055,1023.446,GS
254,3604078.559,5015561.918,1024.816,GS
255,3604081.455,5015590.684,1024.132,GS
256,3604083.166,5015604.515,1024.494,GS
257,3604085.005,5015615.771,1023.790,GS
258,3604087.714,5015644.395,1024.346,GS
259,3604090.190,5015672.220,1024.427,GS
260,3604093.105,5015702.004,1024.439,GS
261,3604142.640,5015696.714,1024.704,GS
262,3604137.406,5015644.683,1024.631,GS
263,3604135.247,5015622.164,1024.390,GS
264,3604131.163,5015582.496,1024.761,GS
265,3604127.748,5015552.405,1024.723,GS
266,3604177.157,5015542.304,1024.944,GS
267,3604184.294,5015616.886,1025.193,GS
268,3604190.119,5015667.988,1024.829,GS
269,3604193.243,5015699.937,1024.753,GS
270,3604242.807,5015693.543,1025.063,GS
271,3604238.046,5015645.648,1024.617,GS
272,3604235.150,5015616.336,1024.897,GS
273,3604230.274,5015573.728,1025.228,GS

274,3604227.634,5015546.567,1025.262,GS
275,3604225.900,5015526.884,1024.851,GS
276,3604275.580,5015521.145,1025.168,GS
277,3604282.045,5015582.802,1025.314,GS
278,3604284.541,5015612.884,1024.489,GS
279,3604292.606,5015688.521,1025.758,GS
280,3604342.757,5015686.485,1026.735,GS
281,3604334.486,5015606.412,1025.650,GS
282,3604327.867,5015539.670,1024.933,GS
283,3604321.909,5015480.881,1025.155,GS
284,3604371.325,5015472.056,1025.396,GS
285,3604376.084,5015519.210,1024.737,GS
286,3604381.678,5015573.513,1025.794,GS
287,3604384.228,5015601.411,1026.732,GS
288,3604391.872,5015675.485,1027.977,GS
289,3604441.921,5015673.220,1029.430,GS
290,3604436.615,5015622.586,1028.865,GS
291,3604434.025,5015596.189,1027.675,GS
292,3604429.192,5015551.973,1025.996,GS
293,3604425.035,5015508.104,1025.025,GS
294,3604419.298,5015455.233,1025.713,GS
295,3604464.701,5015404.320,1025.685,GS
296,3604471.512,5015469.380,1025.631,GS
297,3604474.443,5015499.853,1025.099,GS
298,3604477.893,5015532.939,1025.931,GS
299,3604483.746,5015591.331,1028.364,GS
300,3604489.754,5015649.498,1030.769,GS
301,3604491.944,5015671.192,1030.932,GS
302,3600099.495,5017559.308,1026.191,CPT
303,3604079.056,5025333.693,1041.145,gps mon 8060
304,3603092.226,5015307.477,1012.547,top 16" vcp 1.48 to fl
305,3603084.707,5015234.824,1008.495,fl outlet
306,3602703.081,5004263.424,1063.974,gps mon 8053
307,3603092.226,5015307.824,1011.060,fl 16" cmp
308,3603084.707,5015234.824,1009.600,fl cmp outlet
309,3603083.881,5015289.431,1014.650,GS
310,3603096.866,5015287.158,1014.767,GS
311,3603090.290,5015288.084,1012.280,top 18" hdpe
312,3603089.309,5015310.325,1015.739,GS
313,3603093.556,5015273.633,1014.226,GS
314,3603088.713,5015273.308,1011.762,top 18" hdpe
315,3603084.291,5015233.471,1010.516,TOP 18" CMP
316,3603107.791,5015422.293,1012.605,top 16" vcp 1.48 to fl
317,3603108.607,5015428.350,1012.756,top 16" vcp 1.48 to fl
318,3603102.417,5015422.574,1016.717,GS
319,3603112.350,5015419.828,1016.808,GS
320,3603110.518,5015440.275,1012.958,top 16" vcp 1.45 to fl
321,3603105.930,5015440.673,1017.011,GS
322,3603114.686,5015459.328,1017.081,GS ABOVE TILE

6688 DD78 2020-10-30 cs

323,3600081.220,5016436.894,1011.965,FENCE NORTH
324,3600018.399,5016437.373,1012.835,FENCE S&W
325,3600059.114,5015359.098,1004.310,MAG NAIL TOP CMP
326,3603112.620,5015454.461,1012.927, TOP 16" CLAY TILE (1.41'TOFTOFL)
327,3603121.223,5015509.303,1017.714,GS
328,3603119.744,5015499.207,1017.661,GS
329,3600032.332,5017204.144,1016.823,CL 28650 225TH HOG SITE DRIVE
330,3600066.027,5015029.514,1004.054,CL 28231 GRAVEL DRIVE
331,3603121.303,5015513.069,1013.180, TOP 16" CLAY TILE (1.37'TOFTOFL)
332,3603119.651,5015502.854,1013.156, TOP 16" CLAY TILE (1.45'TOFTOFL)
333,3603142.192,5015657.792,1015.640,GS GRASS WATERWAY
334,3603142.511,5015663.721,1015.907,GS GRASS WATERWAY
335,3603143.645,5015669.603,1016.202,GS GRASS WATERWAY
336,3603144.961,5015675.854,1016.501,GS GRASS WATERWAY
337,3603142.367,5015667.991,1013.459, TOP 16" CONC PIPE (1.45'TOFTO FL)
338,3603141.830,5015663.842,1013.725, TOP 16" CLAY PIPE (1.39'TOFTO FL)
339,3603143.465,5015675.528,1013.519, TOP 16" CONC PIPE (1.45'TOFTO FL)
340,3603144.075,5015680.523,1016.705,GS ABOVE TILE
341,3603133.745,5015683.353,1017.663,GRASS WATERWAY ESIDE
342,3603147.723,5015691.975,1017.579,GRASS WATERWAY ESIDE
343,3603167.983,5015700.029,1017.782,GRASS WATERWAY ESIDE
344,3603174.055,5015651.980,1017.139,GRASS WATERWAY WSIDE
345,3603146.587,5015635.955,1016.748,GRASS WATERWAY WSIDE
346,3603119.394,5015621.509,1016.694,GRASS WATERWAY WSIDE
347,3603141.080,5015657.672,1013.656, TOP 16" CLAY TILE (1.39'TOFTOFL)
348,3603140.416,5015649.988,1015.870,GS WATERWAY
349,3603138.332,5015639.265,1016.197,GS WATERWAY
350,3603137.320,5015631.789,1016.774,GS WATERWAY
351,3603148.754,5015696.036,1018.094,GS ABOVE TILE
352,3603151.775,5015707.495,1018.498,GS ABOVE TILE
353,3603149.147,5015697.824,1013.865, TOP 16" CLAY TILE (1.37'TOFTOFL)
354,3603135.857,5015621.510,1013.383, top 16" vcp 1.45 to fl
355,3603131.215,5015622.236,1017.057,GS
356,3603148.457,5015695.965,1018.044,GS
357,3603149.163,5015697.835,1013.874, top 16" vcp
358,3603150.502,5015662.361,1015.634,GS
359,3603159.525,5015733.595,1014.062, top 16" vcp
360,3603135.857,5015621.510,1012.040,FL 15" VCP
361,3603159.525,5015733.595,1012.670,FL 15" VCP
362,3603132.407,5015631.525,1016.606,GS
363,3603135.823,5015621.699,1013.751, TOP 18" HDPE
364,3603137.226,5015630.731,1013.816, TOP 18" HDPE
365,3603138.239,5015638.354,1013.997, TOP 18" PCCPIPE
366,3603139.351,5015646.238,1013.971, TOP 18" PCC PIPE
367,3603136.130,5015654.771,1015.591,GS
368,3603140.844,5015654.105,1013.946, TOP 18" PCC PIPE
369,3603142.121,5015662.006,1013.962, TOP 18" PCC PIPE
370,3603143.387,5015669.936,1013.996, TOP 18" PCC PIPE
371,3603144.771,5015677.794,1014.072, TOP 18" PCC PIPE

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372,3603148.680,5015697.142,1014.032,top 18" hdpe
373,3603159.338,5015733.231,1017.904,top 15" vcp end repair
374,3603153.638,5015716.227,1018.129,top 18" hdpe
375,3603183.600,5015655.954,1017.278,gs cop damage9
376,3603167.364,5015582.666,1018.343,gs cop damage9
377,3603144.898,5015591.264,1018.190,gs cop damage9
378,3603130.992,5015601.964,1018.090,gs cop damage9
379,3603113.754,5015598.549,1017.586,gs cop damage9
380,3603116.575,5015618.764,1016.734,gs cop damage9
381,3603109.124,5015670.499,1017.787,gs cop damage9
382,3603116.404,5015690.921,1018.418,gs cop damage9
383,3603116.703,5015708.168,1018.497,gs cop damage9
384,3603115.171,5015718.774,1018.504,gs cop damage9
385,3603122.511,5015721.108,1018.618,gs cop damage9
386,3603123.870,5015733.291,1018.701,gs cop damage9
387,3603130.737,5015743.360,1018.589,gs cop damage9
388,3603140.387,5015751.036,1018.581,gs cop damage9
389,3603161.591,5015786.476,1018.485,gs cop damage9
390,3603176.853,5015772.685,1018.566,gs cop damage9
391,3603176.398,5015755.602,1018.669,gs cop damage9
392,3603172.185,5015750.781,1018.621,gs cop damage9
393,3603185.007,5015748.400,1018.633,gs cop damage9
394,3603187.310,5015763.501,1018.747,gs cop damage9
395,3603203.647,5015761.688,1018.784,gs cop damage9
396,3603201.092,5015743.172,1018.900,gs cop damage9
397,3603211.102,5015738.542,1018.857,gs cop damage9
398,3603210.547,5015733.662,1018.908,gs cop damage9
399,3603200.382,5015728.390,1018.894,gs cop damage9
400,3603191.752,5015705.984,1018.026,gs cop damage9
401,3603173.351,5015699.774,1017.262,gs cop damage9
402,3603146.220,5015688.880,1017.493,gs cop damage9
403,3603130.276,5015681.575,1017.572,gs cop damage9
404,3603065.475,5015286.568,1014.749,gs cop damage9
405,3603071.605,5015294.389,1014.800,gs cop damage9
406,3603082.525,5015324.717,1015.681,gs cop damage9
407,3603088.544,5015331.962,1016.041,gs cop damage9
408,3603093.686,5015366.159,1016.425,gs cop damage9
409,3603062.510,5015442.736,1016.955,gs cop damage9
410,3603063.641,5015450.173,1017.032,gs cop damage9
411,3603076.675,5015453.234,1017.043,gs cop damage9
412,3603081.459,5015470.414,1017.335,gs cop damage9
413,3603092.957,5015487.349,1017.521,gs cop damage9
414,3603080.674,5015492.974,1017.713,gs cop damage9
415,3603079.905,5015503.045,1017.689,gs cop damage9
416,3603098.083,5015513.342,1017.912,gs cop damage9
417,3603099.863,5015521.645,1017.771,gs cop damage9
418,3603083.888,5015530.844,1017.787,gs cop damage9
419,3603083.098,5015538.565,1017.848,gs cop damage9
420,3603089.525,5015538.258,1017.873,gs cop damage9

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421,3603090.659,5015548.646,1017.769,gs cop damage9
422,3603098.996,5015543.681,1018.030,gs cop damage9
423,3603157.067,5015544.280,1018.257,gs cop damage9
424,3603157.505,5015532.768,1017.949,gs cop damage9
425,3603153.497,5015528.428,1017.882,gs cop damage9
426,3603164.725,5015508.254,1017.602,gs cop damage9
427,3603160.435,5015498.515,1017.496,gs cop damage9
428,3603148.588,5015466.376,1017.290,gs cop damage9
429,3603150.992,5015453.741,1017.171,gs cop damage9
430,3603148.573,5015453.337,1017.155,gs cop damage9
431,3603144.417,5015430.825,1016.992,gs cop damage9
432,3603146.327,5015414.075,1017.027,gs cop damage9
433,3603128.468,5015406.500,1016.850,gs cop damage9
434,3603115.060,5015383.111,1016.564,gs cop damage9
435,3603101.190,5015329.214,1016.451,gs cop damage9
436,3603113.288,5015323.240,1016.643,gs cop damage9
437,3603122.202,5015310.830,1016.602,gs cop damage9
438,3603125.849,5015292.985,1016.314,gs cop damage9
439,3603121.998,5015272.823,1015.389,gs cop damage9
440,3603116.796,5015264.653,1014.964,gs cop damage9
441,3602989.413,5015223.553,1016.445,gs cop damage9
442,3602987.873,5015201.965,1017.308,gs cop damage9
443,3602982.420,5015189.417,1018.309,gs cop damage9
444,3602970.996,5015181.267,1018.871,gs cop damage9
445,3602951.096,5015173.745,1019.146,gs crop damage
446,3602910.060,5015225.719,1018.167,gs crop damage
447,3602911.624,5015226.863,1018.060,gs crop damage
448,3602887.280,5015259.019,1017.971,gs crop damage
449,3602871.051,5015275.517,1017.755,gs crop damage
450,3602849.047,5015293.143,1017.606,gs crop damage
451,3602823.184,5015308.402,1017.462,gs crop damage
452,3602794.497,5015317.916,1017.071,gs crop damage
453,3602766.300,5015323.815,1017.047,gs crop damage
454,3602718.651,5015322.775,1016.699,gs crop damage
455,3602668.150,5015323.050,1016.847,gs crop damage
456,3602667.982,5015320.566,1016.963,gs crop damage
457,3602658.473,5015320.856,1016.976,gs crop damage
458,3602658.247,5015323.059,1016.960,gs crop damage
459,3601522.310,5015327.491,1013.993,gs crop damage
460,3601520.584,5015330.193,1013.693,gs crop damage
461,3600324.593,5015334.804,1005.855,gs crop damage
462,3600305.927,5015335.876,1006.062,gs crop damage
463,3600284.295,5015335.441,1006.175,gs crop damage
464,3600259.053,5015337.058,1006.064,gs crop damage
465,3600237.389,5015341.959,1005.969,gs crop damage
466,3600200.047,5015354.216,1005.882,gs crop damage
467,3600164.585,5015365.427,1005.956,gs crop damage
468,3600138.768,5015369.518,1006.297,gs crop damage
469,3600111.209,5015372.303,1006.018,gs crop damage

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470,3600077.058,5015369.259,1006.151,gs crop damage
471,3600074.811,5015385.185,1006.387,gs crop damage
472,3600095.458,5015383.489,1006.376,gs crop damage
473,3600120.574,5015384.507,1006.258,gs crop damage
474,3600138.982,5015384.072,1006.405,gs crop damage
475,3600169.777,5015378.358,1006.308,gs crop damage
476,3600204.290,5015368.249,1006.319,gs crop damage
477,3600247.426,5015352.930,1006.092,gs crop damage
478,3600262.628,5015349.241,1006.267,gs crop damage
479,3600291.333,5015347.541,1006.419,gs crop damage
480,3601287.942,5015343.564,1012.529,gs crop damage
481,3601287.864,5015346.006,1012.406,gs crop damage
482,3601303.518,5015345.841,1012.439,gs crop damage
483,3601303.504,5015343.372,1012.504,gs crop damage
484,3601544.954,5015342.122,1013.651,gs crop damage
485,3601545.103,5015339.976,1013.603,gs crop damage
486,3601645.008,5015339.621,1014.397,gs crop damage
487,3601645.149,5015341.802,1014.303,gs crop damage
488,3601700.382,5015341.340,1014.806,gs crop damage
489,3601699.879,5015339.348,1014.841,gs crop damage
490,3602013.043,5015337.967,1016.483,gs crop damage
491,3602013.586,5015340.337,1016.473,gs crop damage
492,3602022.055,5015339.961,1016.385,gs crop damage
493,3602022.052,5015337.709,1016.403,gs crop damage
494,3602209.909,5015336.997,1016.041,gs crop damage
495,3602210.501,5015339.414,1016.025,gs crop damage
496,3602746.480,5015337.396,1016.735,gs crop damage
497,3602767.641,5015340.779,1016.914,gs crop damage
498,3602782.791,5015349.877,1016.509,gs crop damage
499,3602794.228,5015358.019,1016.181,gs crop damage
500,3602812.407,5015379.345,1014.581,gs crop damage
501,3602828.319,5015370.751,1014.754,gs crop damage
502,3602810.939,5015357.208,1015.903,gs crop damage
503,3602786.717,5015334.180,1016.799,gs crop damage
504,3602798.644,5015330.339,1016.874,gs crop damage
505,3602822.347,5015322.001,1017.247,gs crop damage
506,3602845.472,5015309.814,1017.344,gs crop damage
507,3602867.747,5015294.496,1017.352,gs crop damage
508,3602888.130,5015275.684,1017.608,gs crop damage
509,3602888.130,5015272.373,1017.685,gs crop damage
510,3602902.256,5015255.730,1017.801,gs crop damage
511,3602908.942,5015247.083,1017.810,gs crop damage
512,3602917.008,5015245.713,1017.431,gs crop damage
513,3602922.565,5015232.690,1017.762,gs crop damage
514,3602934.636,5015216.938,1018.003,gs crop damage
515,3602946.561,5015209.141,1018.111,gs crop damage
516,3602958.239,5015210.470,1017.870,gs crop damage
517,3602965.874,5015220.901,1016.966,gs crop damage
518,3602969.004,5015237.421,1016.170,gs crop damage

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519,3602958.223,5015266.108,1015.645,gs crop damage
520,3602971.009,5015249.706,1015.704,gs crop damage
521,3602983.990,5015232.603,1015.945,gs crop damage
522,3604079.658,5015636.933,1018.567,TOP 15" CLAY TILE (1.27'TOFTO FL)
523,3604245.892,5015613.888,1019.331,TOP EXIST 15" HDPE PERF TILE
524,3604284.099,5015604.178,1019.468,TOP 15" HDPE PERF TILE (1.32'TOP TOFL)
525,3604282.396,5015604.935,1019.481,TOP 15" HDPE PERF TILE (1.32'TOP TOFL)
526,3604332.738,5015578.746,1025.273,GS TILE LOCATE
527,3604395.171,5015539.846,1025.383,GS TILE LOCATE
528,3604394.761,5015530.746,1025.218,GS TILE LOCATE
529,3604393.519,5015547.318,1025.423,GS TILE LOCATE
530,3604389.117,5015550.398,1025.479,GS TILE LOCATE
531,3604382.035,5015553.590,1025.493,GS TILE LOCATE
532,3604369.955,5015558.685,1025.473,GS TILE LOCATE
533,3604356.333,5015565.461,1025.524,GS TILE LOCATE
534,3604395.627,5015518.797,1024.886,GS TILE LOCATE
535,3604114.329,5015633.679,1024.297,Cogo
536,3604279.020,5015606.417,1024.582,GS ABOVE TILE
537,3604286.802,5015603.549,1024.264,GS ABOVE TILE
538,3604076.818,5015533.481,1025.908,WFP FENCE E-W
539,3604076.892,5015458.174,1029.806,WFP FENCE E-W
540,3604076.313,5015652.238,1024.037,WFP FENCE E-W
541,3604077.873,5015697.658,1024.060,WFP FENCE E-W
542,3604078.663,5015792.001,1028.437,WFP FENCE E-W
543,3604081.899,5015634.844,1018.655,TOP 15" HDPE 22.5 BEND (1.35'TOFTOFL)
544,3604101.363,5015632.530,1018.732,TOP 15" HDPE DW NONPERF RIB S OF BELL END DAY
(1.35'TOFTOFL)
545,3604097.037,5015663.651,1024.468,GS CORN DAMAGE 1
546,3604108.541,5015650.976,1024.346,GS CORN DAMAGE 1
547,3604124.618,5015642.972,1024.335,GS CORN DAMAGE 1
548,3604161.287,5015628.274,1024.432,GS CORN DAMAGE 1
549,3604190.629,5015622.759,1024.448,GS CORN DAMAGE 1
550,3604227.504,5015615.961,1024.637,GS CORN DAMAGE 1
551,3604257.760,5015609.282,1024.876,GS CORN DAMAGE 1
552,3604260.624,5015608.419,1024.928,GS CORN DAMAGE 1
553,3604285.638,5015597.058,1024.363,GS CORN DAMAGE 1
554,3604293.085,5015586.943,1024.290,GS CORN DAMAGE 1
555,3604294.039,5015577.633,1024.296,GS CORN DAMAGE 1
556,3604290.669,5015565.839,1024.712,GS CORN DAMAGE 2
558,3604268.313,5015547.799,1025.285,GS CORN DAMAGE 2
559,3604277.615,5015552.140,1025.173,GS CORN DAMAGE 2
560,3604254.870,5015545.083,1025.058,GS CORN DAMAGE 2
561,3604247.501,5015545.075,1024.999,GS CORN DAMAGE 3
562,3604232.520,5015546.914,1025.108,GS CORN DAMAGE 3
563,3604209.891,5015550.835,1024.931,GS CORN DAMAGE 3
564,3604201.234,5015552.689,1024.935,GS CORN DAMAGE 3
565,3604187.526,5015555.784,1024.896,GS CORN DAMAGE 3
566,3604172.275,5015558.087,1024.860,GS CORN DAMAGE 3
567,3604150.931,5015554.572,1024.758,GS CORN DAMAGE 3

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568,3604133.747,5015551.179,1024.607,GS CORN DAMAGE 3
 569,3604102.994,5015544.941,1024.738,GS CORN DAMAGE 3
 570,3604120.834,5015630.058,1018.820, TOP 15" HDPE DW NONPERF RIB S OF BELL
 (1.35'TOFTOFL)
 571,3604140.319,5015627.519,1018.900, TOP 15" DW HDPE NONPERF 1ST (1.35'TOFTOFL)
 572,3604159.944,5015625.669,1018.981, TOP 15" DW HDPE NONPERF 2ND (1.35'TOFTOFL)
 573,3604179.478,5015623.701,1019.055, TOP 15" DW HDPE NONPERF 3RD (1.35'TOFTOFL)
 574,3604198.998,5015621.048,1019.130, TOP 15" DW HDPE NONPERF 1ST (1.35'TOFTOFL)
 575,3604218.380,5015617.996,1019.209, TOP 15" DW HDPE NONPERF 2ND (1.35'TOFTOFL)
 576,3604237.547,5015614.620,1019.288, TOP 15" DW HDPE NONPERF 3RD (1.35'TOFTOFL)
 577,3604257.002,5015611.499,1019.370, TOP 15" DW HDPE NONPERF 4TH (1.35'TOFTOFL)
 578,3604245.187,5015540.741,1024.840,GS CORN DAMAGE 3
 579,3604236.234,5015541.323,1024.866,GS CORN DAMAGE 3
 580,3604234.555,5015536.384,1024.863,GS CORN DAMAGE 3
 581,3604225.710,5015538.057,1024.843,GS CORN DAMAGE 3
 582,3604226.715,5015545.053,1024.899,GS CORN DAMAGE 3
 583,3604198.970,5015550.626,1024.949,GS CORN DAMAGE 3
 584,3604194.691,5015543.921,1024.811,GS CORN DAMAGE 3
 585,3604180.575,5015546.786,1024.798,GS CORN DAMAGE 3
 586,3604178.596,5015542.272,1024.798,GS CORN DAMAGE 3
 587,3604164.416,5015543.685,1024.792,GS CORN DAMAGE 3
 588,3604163.543,5015541.214,1024.742,GS CORN DAMAGE 3
 589,3604154.900,5015541.758,1024.638,GS CORN DAMAGE 3
 590,3604154.488,5015539.274,1024.578,GS CORN DAMAGE 3
 591,3604145.330,5015539.546,1024.585,GS CORN DAMAGE 3
 592,3604136.470,5015531.333,1024.722,GS CORN DAMAGE 3
 593,3604126.324,5015530.252,1024.771,GS CORN DAMAGE 3
 594,3604125.349,5015532.616,1024.755,GS CORN DAMAGE 3
 595,3604114.134,5015524.021,1025.276,GS CORN DAMAGE 3
 596,3604106.966,5015530.256,1025.162,GS CORN DAMAGE 3
 597,3604104.675,5015535.796,1025.015,GS CORN DAMAGE 3
 598,3604299.642,5015556.142,1024.665,GS CORN DAMAGE 2
 599,3604292.971,5015548.349,1024.869,GS CORN DAMAGE 2
 600,3604279.224,5015538.599,1025.118,GS CORN DAMAGE 2
 601,3604274.071,5015533.861,1025.065,GS CORN DAMAGE 2
 602,3604265.686,5015531.536,1025.019,GS CORN DAMAGE 2
 603,3604256.945,5015535.754,1024.961,GS CORN DAMAGE 2
 604,3604276.039,5015607.096,1019.461, TOP 15" HDPE DW NONPERF 1ST (1.35'TOFTOFL)
 605,3604096.259,5015667.037,1024.333,GS CORN DAMAGE 1
 606,3604107.940,5015664.906,1024.506,GS CORN DAMAGE 1
 607,3604115.836,5015666.640,1024.565,GS CORN DAMAGE 1
 608,3604117.538,5015664.128,1024.575,GS CORN DAMAGE 1
 609,3604121.961,5015662.095,1024.581,GS CORN DAMAGE 1
 610,3604143.135,5015664.190,1024.716,GS CORN DAMAGE 1
 611,3604166.342,5015659.976,1024.791,GS CORN DAMAGE 1
 612,3604167.600,5015662.898,1024.722,GS CORN DAMAGE 1
 613,3604173.572,5015662.164,1024.696,GS CORN DAMAGE 1
 614,3604173.250,5015659.435,1024.758,GS CORN DAMAGE 1
 615,3604206.550,5015656.516,1024.711,GS CORN DAMAGE 1

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616,3604224.235,5015654.362,1024.439,GS CORN DAMAGE 1
617,3604250.822,5015649.356,1024.510,GS CORN DAMAGE 1
618,3604259.261,5015647.516,1024.664,GS CORN DAMAGE 1
619,3604260.143,5015649.246,1024.645,GS CORN DAMAGE 1
620,3604276.399,5015645.046,1025.097,GS CORN DAMAGE 1
621,3604287.069,5015641.249,1025.201,GS CORN DAMAGE 1
622,3604294.337,5015633.965,1025.214,GS CORN DAMAGE 1
623,3604293.840,5015618.985,1024.685,GS CORN DAMAGE 1
624,3604304.464,5015610.282,1024.890,GS CORN DAMAGE 1
625,3604312.012,5015599.592,1024.922,GS CORN DAMAGE 1
626,3604308.343,5015597.151,1024.939,GS CORN DAMAGE 1
627,3604308.812,5015585.779,1024.967,GS CORN DAMAGE 1
628,3604309.004,5015574.206,1024.934,GS CORN DAMAGE 1
629,3604298.553,5015572.199,1024.481,GS CORN DAMAGE 1
630,3604293.315,5015572.642,1024.415,GS CORN DAMAGE 1
631,3604283.903,5015604.298,1019.473, TOP 15" DW HDPE NONPERF (1.35'TOPTOFL)
632,3604399.485,5015518.683,1019.920, TOP EXISTING 14" CLAY TILE (1.25'TOPTOFL)
633,3604291.662,5015600.361,1019.523, TOP 15" HDPE DW NONPERF RIB S OF BELL 1ST 8.7'
(1.35'TOPTOFL)
634,3604307.957,5015589.602,1019.603, TOP 15" HDPE DW NONPERF RIB S OF BELL 2ND
(1.35'TOPTOFL)
635,3604323.122,5015577.264,1019.650, TOP 15" HDPE DW NONPERF RIB S OF BELL 3RD
(1.35'TOPTOFL)
636,3604313.269,5015588.866,1019.564, TOP 15" HDPE SW PERF TILE (REMOVE TO NW)
637,3604337.238,5015563.534,1019.750, TOP 15" HDPE DW NONPERF RIB SOF BELL 4TH
(1.35'TOPTOFL)
638,3604351.024,5015549.692,1019.807, TOP 15" HDPE DW PERF TILE RIB S OF BELL 1ST
(1.35'TOPTOFL)
639,3604380.376,5015523.850,1019.952, TOP 15" HDPE DW PERF TILE RIB S OF BELL 3RD
(1.35'TOPTOFL)
640,3604365.347,5015536.232,1019.887, TOP 15" HDPE DW PERF TILE RIB S OF BELL 2ND
(1.35'TOPTOFL)
641,3604352.503,5015551.081,1019.750, Cogo
642,3604368.795,5015540.006,1019.750, Cogo
643,3604384.060,5015527.554,1019.750, Cogo
644,3604376.692,5015523.980,1018.672, FL ABANDONED 15" CLAY TILE TO S
646,3604383.061,5015521.609,1019.975, TOP 15" HDPE 22.5 BEND



Drainage Utility Permit Application

Hardin County

Applicant: Casey Huff

Contact Email: chuff@midlandpower.coop

Contact Phone: (515) 709-3908

Utility Type: N/A - Utility Permits Only

Drainage District: DDs\Big 4 Main (51193)

Description of Work: Midland Power Coop - DD Big 4 & DD 46 - Setting poles along B Ave. starting at Hwy D20, Alden twp., Sec. 16 for 1 mile, heading east along 120th for 1 mile.

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 Districts. 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
Phone (641) 939-8111
Fax (641) 939-8245
drainage@hardincountyia.gov

For Office Use Only

Application Approval:

By: _____ **Date:** _____
Board of Supervisor Chairman, Acting as Drainage District Trustee

APPROVED PERMIT # _____ **2020-14**

- Application in TCM
- GIS Annotation
- Approval Emailed



HARDIN COUNTY

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

HARDIN COUNTY DRAINAGE DISTRICT UTILITY PERMIT APPLICATION

Applicant: Midland Power Cooperative
Company Name

PO Box 368
Address

Boone IA 50036
City State Zip

Applicant Contact: Casuy Huff (515) 709-3908
Name Phone

chuff@midlandpower.coop
Email

Utility Type: Primary overhead electrical

Drainage District(s) Crossed: Big 4, DD 46

Facilities Crossed (specific tile, open ditch): _____

Description of Work: Setting poles along B Ave starting at Hwy
(Location plan of proposed utility must be attached.) D20, Alden Township Sections 16 for
1 mile, heading east along 120m for 1 mile

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.

[Signature]
Applicant Signature

10/6/20
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

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.

Midland Power Cooperative

Name: Phone 1:
Srv Map Loc: 1276-6616 Phone 2:
Equip Map Loc: Staked By: CASSANDRA A HUFF
911 Addr:
Acct #:

Loan Project: 317-1 **City:** **TWP:** 89N **Section(s):** 16
Budget Code#: 01 **County:** Hardin **Range:** 22W **Tax Dist:**

Pole #	BACK SPAN	* POLE	#	PRI UNITS	WIRE SIZE	#	MISC UNITS	#	GUY LD	#	ANCHOR	#	TRANS	KVA	#	SEC UNITS	#	SECONDARY WIRE SIZE
chuff.1	E	40-3	1	C2.21P-4/0		1	H1.1-1/0	1	E1.1	1	F1.12							
Remove guy pole	C		1	C7.1-1/0														
chuff.2	42	C	35-3	1	C6.21-1/0	1/0-ACSR	1	H1.1-#2	3	E1.1	3	F1.12						
		C				2-ACSR												
chuff.3	244	C	(3) P1.1-1/0	1	C1.11-1/0	1/0-ACSR	1	H1.1-#2										
		C	35-3			2-ACSR												
chuff.4	238	C	40-3	1	C1.11-1/0	1/0-ACSR	1	H5.1-#2										
		C				2-ACSR												
chuff.5	225	C	40-3	1	C1.11-1/0	1/0-ACSR	1	H5.1-#2										
		C				2-ACSR												
chuff.6	243	C	35-3	1	C1.11-1/0	1/0-ACSR	1	H5.1-#2										
		C				2-ACSR												
chuff.7	225	C	(3) P1.1-1/0	1	C1.11-1/0	2-ACSR	1	H1.1-#2										
		C	35-3			1/0-ACSR												
chuff.8	230	C	35-3	1	C1.11-1/0	1/0-ACSR	1	H5.1-#2										
		C				2-ACSR												
chuff.9	234	C	35-3	1	C1.11-1/0	2-ACSR	1	H5.1-#2										
		C				1/0-ACSR												
chuff.10	229	C	35-3	1	C1.11-1/0	2-ACSR	1	H5.1-#2										
		C				1/0-ACSR												

Midland Power Cooperative

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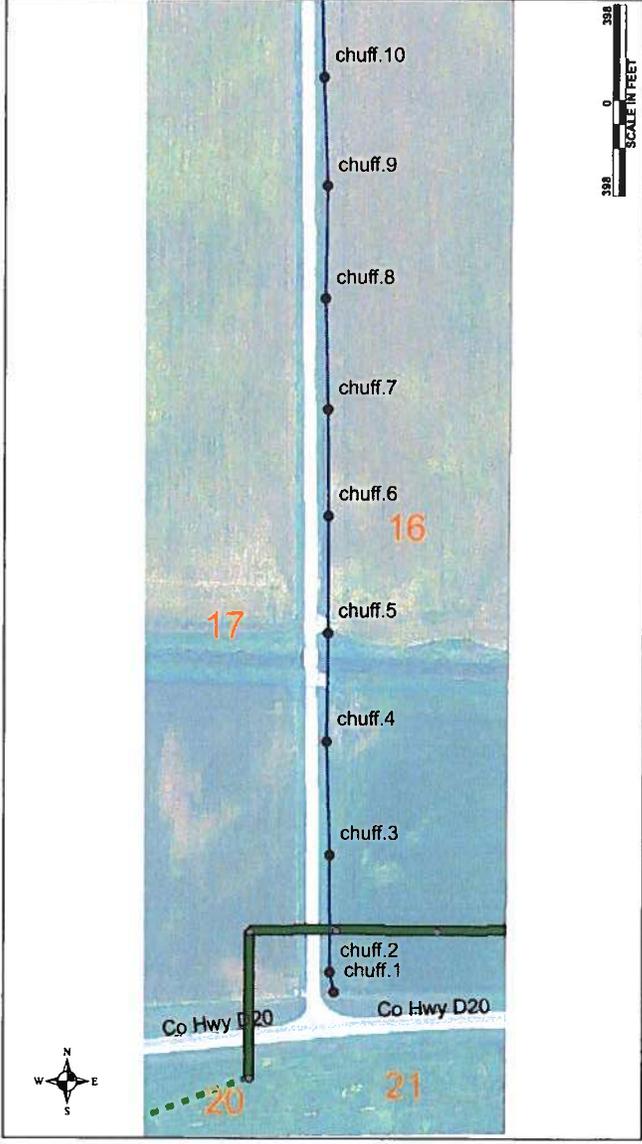
Phone 1:
Phone 2:
Staked By: CASSANDRA A HUFF

Loan Project: 317-1
Budget Code#: 01
City:
County: Hardin

TWP: 89N
Range: 22W
Section(s): 16
Tax Dist:

Comments: 2 mile line rebuild to 1/0-acsr

Directions:



Midland Power Cooperative

Name: Phone 1:
Srv Map Loc: 1276-6616 Phone 2:
Equip Map Loc: Staked By: CASSANDRA A HUFF
911 Addr: Loan Project: 317-1 City: TWP: 89N Section(s): 16
Acct #: Budget Code#: 01 County: Hardin Range: 22W Tax Dist:

Pole #	BACK SPAN	* POLE	#	PRI UNITS	WIRE SIZE	#	MISC UNITS	#	GUY LD	#	ANCHOR	#	TRANS	KVA	#	SEC UNITS	#	SECONDARY WIRE SIZE
chuff.11	230 C	35-3	1	C1.11-1/0	2-ACSR	1	H1.1-#2											
		(3)			1/0-ACSR													
		P1.1-1/0																
chuff.12	227 C	40-3	1	C1.11-1/0	1/0-ACSR	1	H5.1-#2											
		C			2-ACSR													
chuff.13	197 C	40-3	1	C1.11-1/0	1/0-ACSR	1	H1.1-#2											
		C		A5.1-1/0	2-ACSR													
chuff.14	227 C	40-3	1	C1.11-1/0	1/0-ACSR	1	H5.1-#2											
		C			2-ACSR													
chuff.15	225 C	35-3	1	C1.11-1/0	1/0-ACSR	1	H1.1-#2											
		(3)			2-ACSR													
		P1.1-1/0																
chuff.16	231 C	35-3	1	C1.11-1/0	1/0-ACSR	1	H5.1-#2											
		C			2-ACSR													
chuff.17	232 C	35-3	1	C1.11-1/0	1/0-ACSR	1	H5.1-#2											
		C			2-ACSR													
chuff.18	226 C	35-3	1	C1.11-1/0	2-ACSR	1	H5.1-#2											
		C			1/0-ACSR													
chuff.19	222 C	35-3	1	C1.11-1/0	1/0-ACSR	1	H1.1-#2											
		(3)			2-ACSR													
		P1.1-1/0																
chuff.20	225 C	35-3	1	C1.11-1/0	1/0-ACSR	1	H5.1-#2											
		C			2-ACSR													
chuff.52	65 C		1	A6.1-1/0	1/0-ACSR	1	H1.1-1/0	1	E1.1									1

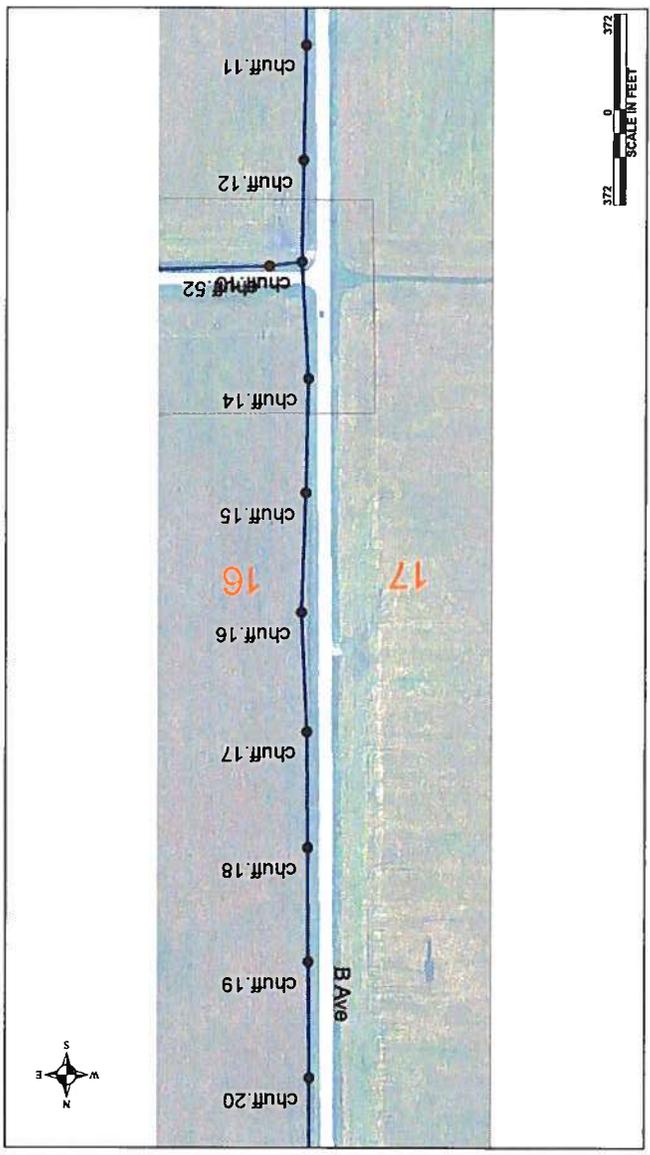
Midland Power Cooperative

Name: Phone 1:
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 911 Addr: Acct #:
 Loan Project: 317-1 City:
 Budget Code#: 01 County: Hardin

TWP: 89N Section(s): 16
 Range: 22W Tax Dist:

Comments: 2 mile line rebuild to 1/0-acsr

Directions:



Midland Power Cooperative

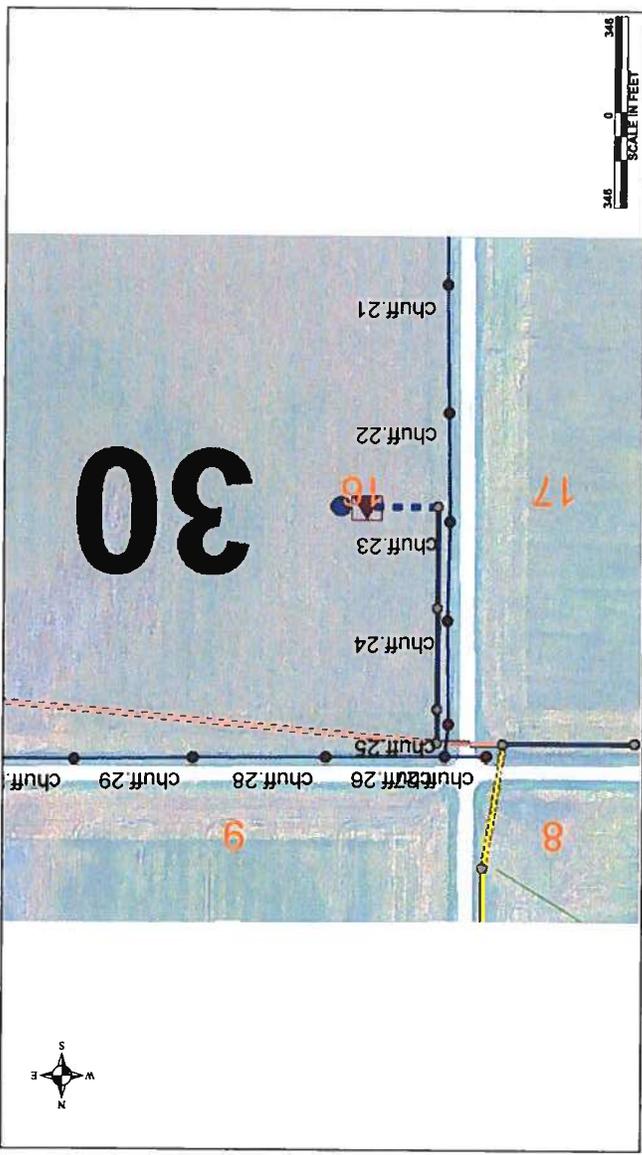
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 Acct #: Loan Project: 317-1 TWP: 89N Section(s): 16
 Range: 22W Tax Dist:

Pole #	BACK SPAN	* POLE	# PRI UNITS	WIRE SIZE	# MISC UNITS	# GUY	GUY LD	# ANCHOR	# TRANS	KVA #	SEC UNITS	# SECONDARY WIRE SIZE
chuff.21	221 C	35-3 C	1 C1.11-1/0	2-ACSR 1/0-ACSR	1 H5.1-#2							
chuff.22	231 C	40-3 C (3) P1.1-1/0	1 C1.11-1/0	1/0-ACSR 2-ACSR	1 H1.1-#2							
chuff.23	199 E	1 UA1										
1276-030	C	40-3 C	1 C1.11-1/0	1/0-ACSR 2-ACSR	1 H1.1-#2							
chuff.24	179 C	35-3 C	1 C1.11-1/0	2-ACSR 1/0-ACSR	1 H5.1-#2							
chuff.25	186 C	35-3 C	1 C6.21-1/0	2-ACSR 1/0-ACSR	1 H1.1-#2	3 E1.1		3 F1.12				
chuff.26	59 C	40-3 C	1 C1.11-1/0 1 C7.1-1/0	2-ACSR 1/0-ACSR	1 H1.1-1/0							
chuff.27	77 C	40-3 C	1 C7.1-1/0 2 A5.21-1/0	1/0-ACSR 2-ACSR	1 H1.1-#2	4 E1.1		4 F1.12				
chuff.28	215 C	35-3 C (3) P1.1-1/0	1 C1.11-1/0	2-ACSR 1/0-ACSR	1 H1.1-#2							
chuff.29	242 C	35-3 C	1 C1.11-1/0	2-ACSR 1/0-ACSR	1 H5.1-#2							
chuff.30	216 C	35-3 C	1 C1.11-1/0	2-ACSR 1/0-ACSR	1 H5.1-#2							

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Loan Project: 317-1 City: TWP: 89N Section(s): 16
Budget Code#: 01 County: Hardin Range: 22W Tax Dist:



Comments: 2 mile line rebuild to 1/0-acsr

Directions:

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Pole #	BACK SPAN	* POLE	#	PRI UNITS	WIRE SIZE	#	MISC UNITS	#	GUY LD	#	ANCHOR	#	TRANS	KVA	#	SEC UNITS	#	SECONDARY WIRE SIZE
chuff.31	216 C	35-3	1	C1.11-1/0	1/0-ACSR	1	H5.1-#2											
	C				2-ACSR													
chuff.32	211 C	35-3	1	C1.11-1/0	1/0-ACSR	1	H1.1-#2											
	C	(3)			2-ACSR													
		P1.1-1/0																
chuff.33	214 C	35-3	1	C1.11-1/0	1/0-ACSR	1	H5.1-#2											
	C				2-ACSR													
chuff.34	216 C	35-3	1	C1.11-1/0	2-ACSR	1	H5.1-#2											
	C				1/0-ACSR													
chuff.35	231 C	35-3	1	C1.11-1/0	1/0-ACSR	1	H5.1-#2											
	C				2-ACSR													
chuff.36	240 C	35-3	1	C1.11-1/0	1/0-ACSR	1	H1.1-#2											
	C	(3)			2-ACSR													
		P1.1-1/0																
chuff.37	226 C	40-3	1	C1.11-1/0	1/0-ACSR	1	H5.1-#2											
	C				2-ACSR													
chuff.38	203 C	40-3	1	C1.11-1/0	1/0-ACSR	1	H1.1-#2											
	C				2-ACSR													
1276-028																		
chuff.39	241 C	35-3	1	C1.11-1/0	1/0-ACSR	1	H5.1-#2											
	C				2-ACSR													
chuff.40	216 C	35-3	1	C1.11-1/0	1/0-ACSR	1	H1.1-#2											
	C	(3)			2-ACSR													
		P1.1-1/0																

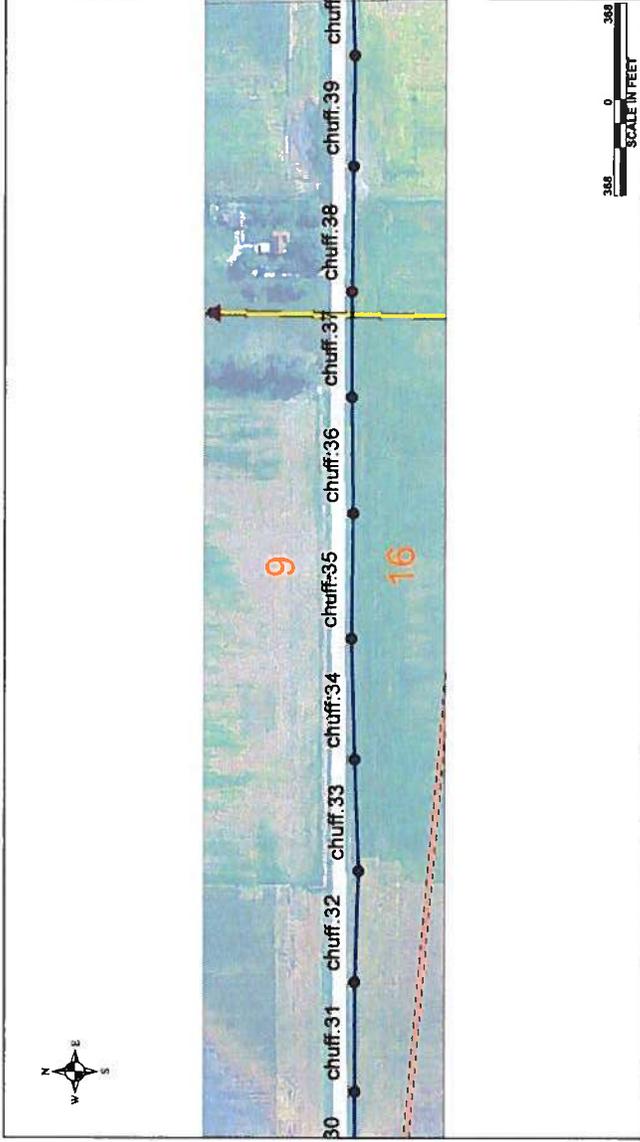
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Pole #	BACK SPAN	* POLE	#	PRI UNITS	WIRE SIZE	#	MISC UNITS	#	GUY	GUY LD	#	ANCHOR	#	TRANS	KVA	#	SEC UNITS	#	SECONDARY WIRE SIZE	
chuff.41	235 C	35-3	1	C1.11-1/0	1/0-ACSR	1	H5.1-#2													
	C				2-ACSR															
chuff.42	231 C	35-3	1	C1.11-1/0	1/0-ACSR	1	H5.1-#2													
	C				2-ACSR															
chuff.43	239 C	35-3	1	C1.11-1/0	1/0-ACSR	1	H5.1-#2													
	C				2-ACSR															
chuff.44	222 C	35-3	1	C1.11-1/0	1/0-ACSR	1	H1.1-#2													
	C	(3)			2-ACSR															
		P1.1-1/0																		
chuff.45	237 C	35-3	1	C1.11-1/0	2-ACSR	1	H5.1-#2													
	C				1/0-ACSR															
chuff.46	208 C	40-3	1	A5.1-1/0	1/0-ACSR	1	H1.1-#2		2 E1.1					2 F1.12						
	C				2-ACSR															
1276-025																				
chuff.47	197 C	40-3	1	C1.11-1/0	2-ACSR	1	H5.1-#2													
	C				1/0-ACSR															
chuff.48	203 C	35-3	1	C1.11-1/0	2-ACSR	1	H1.1-#2													
	C	(3)			1/0-ACSR															
		P1.1-1/0																		
chuff.49	201 C	35-3	1	C1.11-1/0	1/0-ACSR	1	H5.1-#2													
	C				2-ACSR															
chuff.50	204 C	40-3	1	C1.11-1/0	2-ACSR	1	H5.1-#2													
	C				1/0-ACSR															
chuff.51	187 C	40-3	1	C7.1-1/0	2-ACSR	1	H1.1-#2		1 E1.1					1 F1.12						
	C				1/0-ACSR				1 E1.4											
	C			1 UA1																

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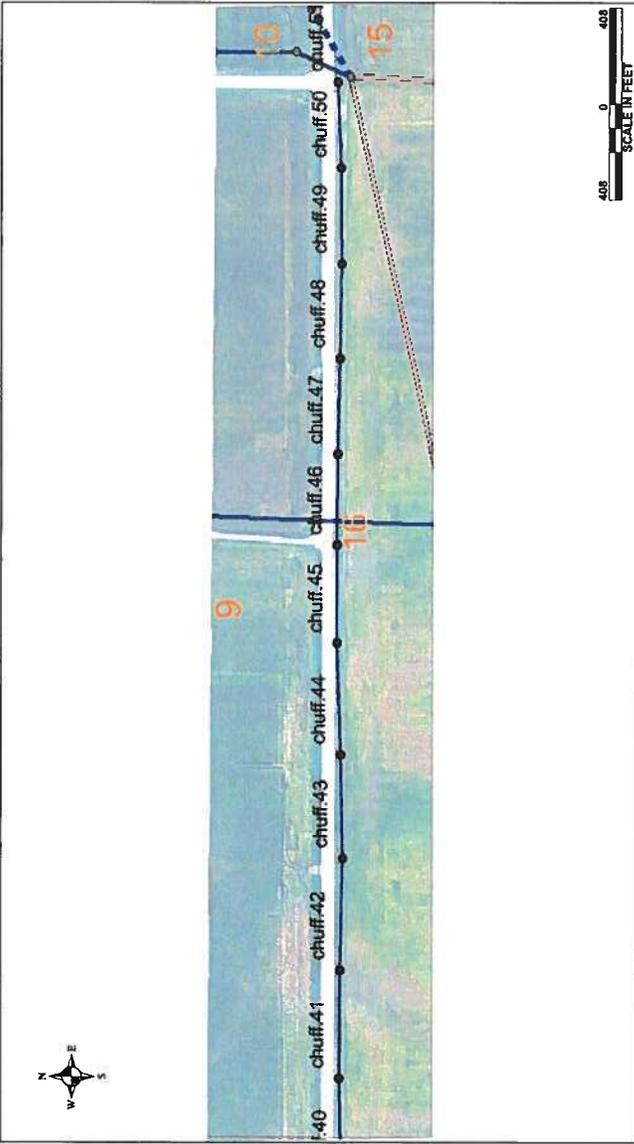
Name:
Srv Map Loc: 1276-6616
Equip Map Loc:
911 Addr:
Acct #:

Phone 1:
Phone 2:
Staked By: CASSANDRA A HUFF

Loan Project: 317-1 **City:**
Budget Code#: 01 **County:** Hardin

TWP: 89N
Range: 22W

Section(s): 16
Tax Dist:



Comments: 2 mile line rebuild to 1/0-acsr

Directions:

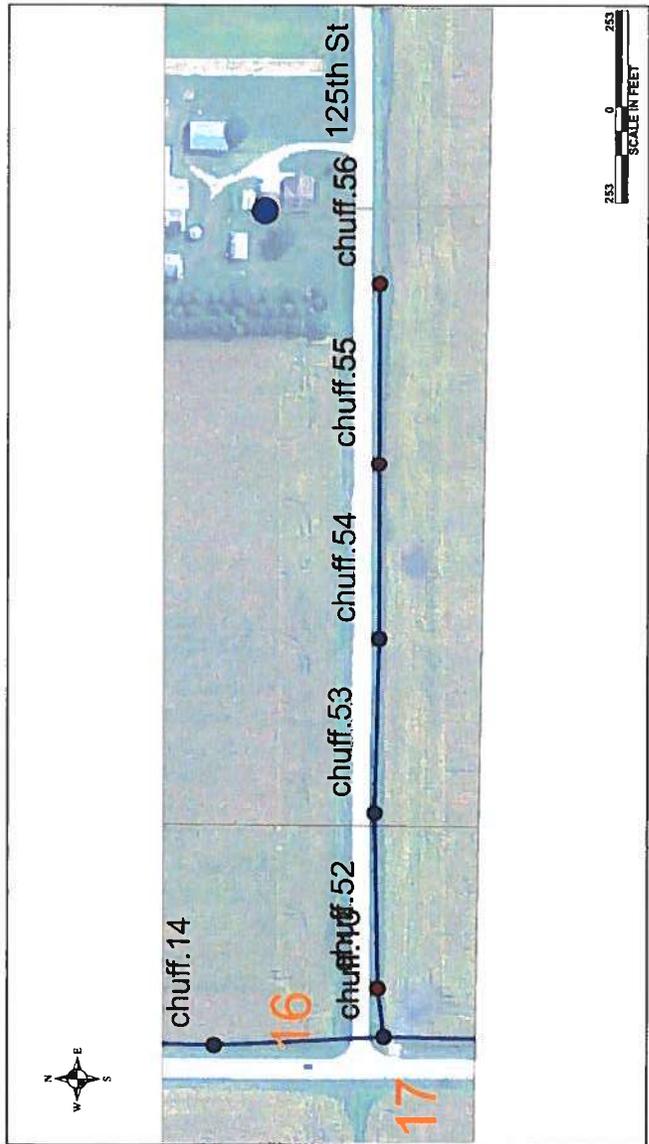
Midland Power Cooperative

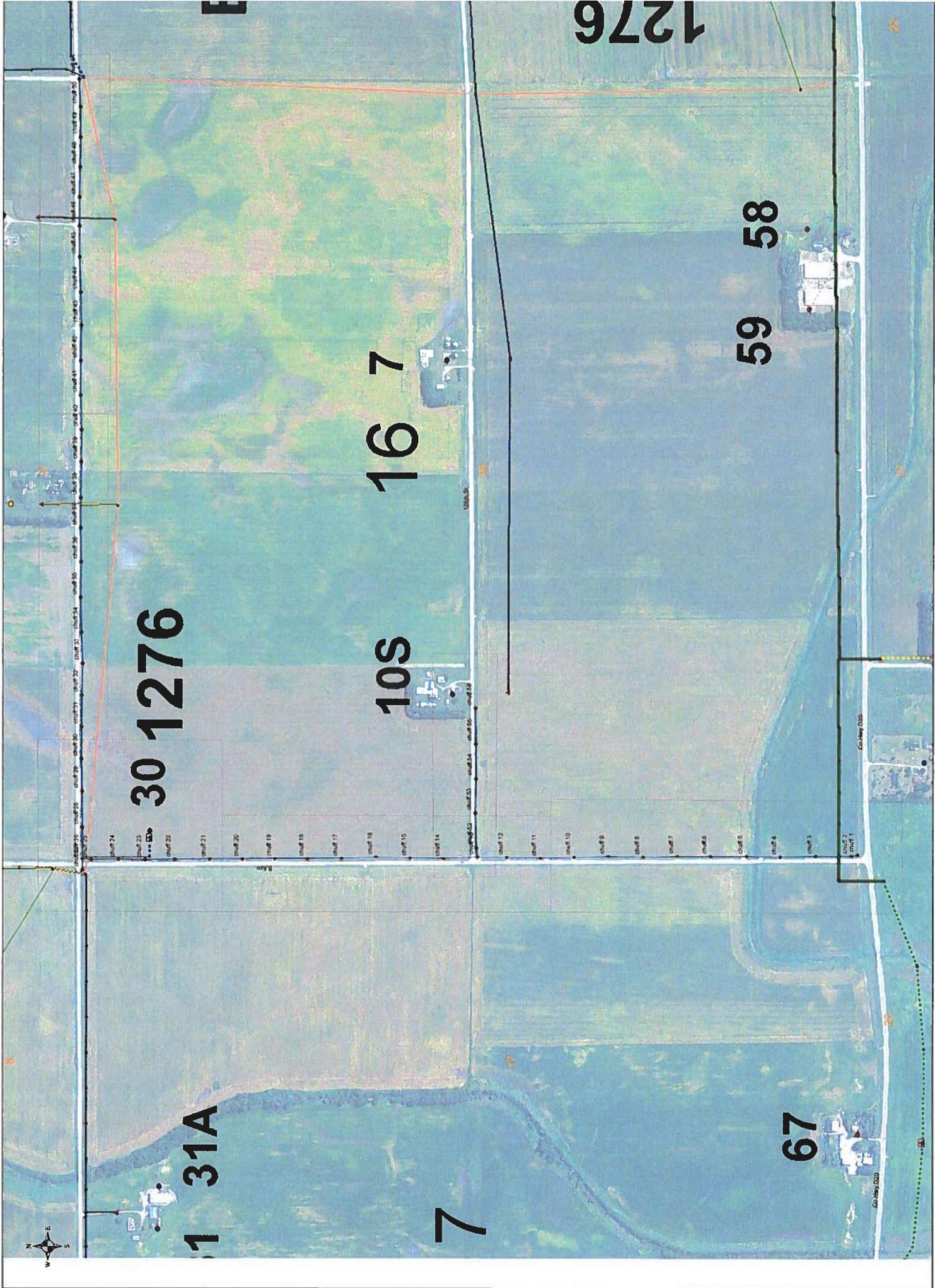
Name: Phone 1: Phone 2: Srv Map Loc: 1276-6616
 Equip Map Loc: Staked By: CASSANDRA A HUFF
 911 Addr: Acct #: Loan Project: 317-1 City: TWP: 89N Section(s): 16
 Budget Code#: 01 County: Hardin Range: 22W Tax Dist:

Pole #	BACK SPAN	* POLE	#	PRI UNITS	WIRE SIZE	#	MISC UNITS	#	GUY LD	GUY	#	ANCHOR	#	TRANS	KVA	#	SEC UNITS	#	SECONDARY WIRE SIZE
chuff.53	232 C	40-5	1	A1.1-1/0	1/0-ACSR														
chuff.54	231 C	40-5	1	A1.1-1/0	1/0-ACSR														
chuff.55	232 C	40-5	1	A1.1-1/0	1/0-ACSR														
chuff.56	239 R	40-5	1	A4.1-1/0	1/0-ACSR														
1276-010	C	40-5	1	A5.1-1/0	1/0-ACSR														
	C		1	A6.1-1/0															

Comments: 2 mile line rebuild to 1/0-acsr

Directions:







Utility Permit #2020-14

Utility Observation Report

General Information	
Project Name and Number:	Utility Permit 6885
Drainage District Number:	#46
Drainage District Facility ID:	Lateral 5
Project Location: (1/4, Sec, Twp, Rng and road)	NE-16-89-22
Date of Observation:	10/20/2020
Observer Name/Title:	Chris Sweeney, Observer

Field Observations	
District facility type:	<input checked="" type="checkbox"/> Tile <input type="checkbox"/> Open Ditch Other:
Utility Orientation:	<input type="checkbox"/> Parallel <input type="checkbox"/> Crossing <input checked="" type="checkbox"/> Overhead <input type="checkbox"/> Over <input type="checkbox"/> Under <input type="checkbox"/> Same Elevation Other: Electrical poles embedded vertically
Source of utility elevation and/or location:	<input type="checkbox"/> Probed <input type="checkbox"/> Exposed <input type="checkbox"/> Utility Reported Other: Above ground
Utility Elevation:	NA
Source of district facility elevation and/or location:	<input type="checkbox"/> Probed <input checked="" type="checkbox"/> Exposed <input type="checkbox"/> Utility Reported Other:
District Facility Elevation: (include where measured)	NA
Vertical clearance from district facility: (must be greater than 1-foot for tile, and 5-feet for designed open ditch bottom)	NA



Utility Permit #2020-14

Horizontal clearance from District Tile or Open Ditch centerline:	149.2' east of west power pole 80.5' west of east power pole
Tile outlets within 25-feet relocated? (If applicable)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Original tile material:	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> SW HDPE <input type="checkbox"/> DW HDPE <input checked="" type="checkbox"/> VCP Other: 6"
Tile replaced by utility?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Tile replacement material:	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input checked="" type="checkbox"/> N/A Other:
Condition of District tile:	
Signage present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A

Notes	
Signage was not installed at time of observation and will need to be confirmed with Utility if desired by District Trustees.	

CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

~~6885~~ 10-20-20

PROJECT NUMBER:

6885

DAYS OF WEEK:

S M W T F S

COUNTY, ROUTE, ROAD:

120th St

SHEET NO.

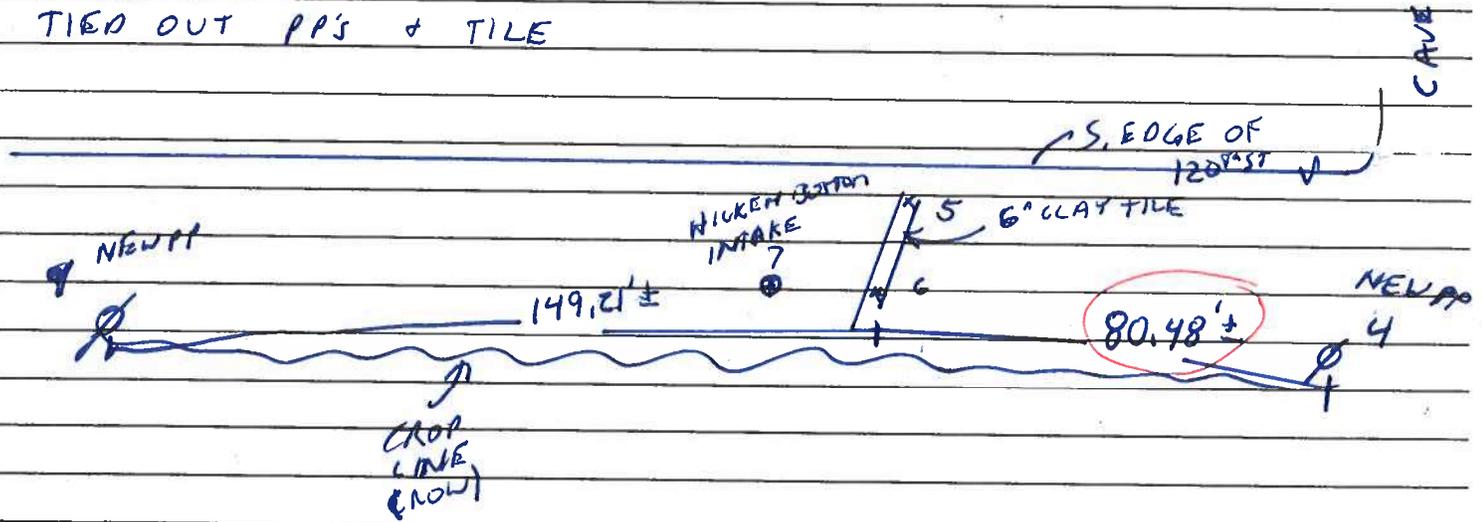
1 OF 1

LOCATION:

0046 LATS

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

STARTED NEW JOB GPS MONS N+S ARE DESTROYED
SET 3/4" Ø 1/2" IR, 0.5' DEEP, IN NE DRIVE IN NE QUAD
OF THE INTERSECTION OF 120th ST + C AVE. IR IS 10' S. OF GUY
WIRE
TIED OUT PPS + TILE



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

Observer's Signature:

Chris [Signature]

Date Prepared:

10-20-2020

Reviewed by:

Engineer

Date Reviewed





6885 DD46 2020-10-20 cs

1,10000.000,10000.000,1000.000,ir 34 0.4d
2,10000.000,10000.000,1000.000,Autonomous Setup
3,9928.554,9969.057,1001.043,334 e-w-n 324 s
4,9890.484,8532.552,994.242,928 1.0n
5,9902.151,8456.084,988.515,962 6"
6,9894.054,8452.152,988.515,962 6"
7,9894.448,8446.441,990.303,922 6" hick
8,9886.499,8447.704,992.200,300
9,9889.254,8303.022,995.226,928 1.0n