

AGENDA
REGULAR DRAINAGE MEETING
Wednesday, August 26, 2020 9:30 AM

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:

[08_19_20 - DRAINAGE MINUTES.PDF](#)

4. DD 26 WO 266 - Discuss W Possible Action - Repair Summary
Reply from landowner on grading/seeding and crop damage has been received.

Documents:

[DD 26 WO 266 - REPAIR SUMMARY 07_22_20.PDF](#)

5. DD 68 WO 293 - Discuss W Possible Action - Repair Summary

Documents:

[DD 68 WO 293 - REPAIR SUMMARY 08_19_20.PDF](#)

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

Documents:

[DD 109 WO 269 - REPAIR SUMMARY.PDF](#)

7. Discuss W Possible Action - Drainage Utility Permit Process
8. Other Business
9. Adjourn Meeting

REGULAR DRAINAGE MEETING
Wednesday, August 19, 2020 9:30 AM

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

8/19/2020 - Minutes

1. Open Meeting

Hardin County Drainage Chairperson Lance Granzow opened the meeting. Also present were Trustee BJ Hoffman; Trustee Renee McClellan; Lee Gallentine and Heather Thomas of Clapsaddle-Garber Associates; Michael Pearce, Network Specialist; and Denise Smith, Drainage Clerk.

2. Approve Agenda

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

3. Approve Minutes

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

4. DD 22 WO 176 - Discuss W Possible Action - Completion Hearing

Heather Thomas of CGA stated that lien waivers are in and we are ready to look at a date for a completion hearing for DD 22.

Motion by McClellan to set the date for the Completion Hearing for Wednesday, September 9, 2020 at 11:00 am in the large conference room of the Courthouse and to direct the Drainage Clerk to send out publication and landowner notices for the hearing. Second by Hoffman. All ayes. Motion carried.

5. DD 121 WO 295 - Discuss W Possible Action - Investigation Summary / Landowner Meeting

Gallentine gave a brief overview of the investigation summary on the report of a blowout/sinkhole in which there were issues of wet area upstream of blowout, water flowing overland through a grassy swale, exposed and broken tile shards, stumps, rocks, and shallow tile. Gallentine asked if the Trustees would like to review the issues with landowners in a landowner meeting as it may involve replacement of several hundred feet of tile.

Motion by Hoffman to hold a DD 121 Landowner Meeting on Wednesday, September 2, 2020 at 11:00 Am in the large conference room of the courthouse and to direct the Drainage Clerk to send meeting notices to landowners. Second by McClellan. All ayes. Motion carried.

6. DD 48 - WO #237 Discuss W/ Possible Action - Repair Summary

Gallentine stated that the existing CMP surface drain and anti-seep collar were in good condition and set aside for re-use, set aside topsoil and borrowed clay were used to grade the slope of surface drain, original 1/2 diameter anti-seep collar and additional full HDPE seep collar were installed nearer the inlet, waterway was graded to direct overland water flow towards inlet of surface drain, silt bar in main channel identified in previous investigation has been mostly washed away. CGA was not on-site for seeding and final grading and recommends the contractor be contacted to verify that seeding and grading were done, if erosion occurs again we could put some erosion stone on the inlet or outlet side, but is not warranted unless we get more erosion occurring.

Motion by McClellan to direct the Drainage Clerk to contact the contractor to see if repair area has been graded and seeded. Second by Hoffman. All ayes. Motion carried.

7. DD Big 4 Lat 4 - WO 195 - Discuss W Possible Action - Repair Summary

Gallentine stated this is a really old work order for a beaver dam west of Alden, on the open ditch of Lateral 4 under the Canadian National Railroad and there was a beaver dam downstream of it. Gallentine stated we thought we had a contractor lined up for this, this goes back to R&D Custom, who said they would do the work order but never did. Gallentine contacted contractor Seward and Seward visited the site and the dam is gone, it was unclear if it washed out or someone took it out. No action at this time, CGA recommends the area be monitored for beaver activity, Gallentine stated the landowners will do that and let us know if there are more issues.

8. DD Big 4 Main - WO 247 - Discuss W Possible Action - Repair Summary

Gallentine stated this is in addition to the small projects that Hands On is finalizing, while we were out there we received a work order for another washed out surface drain. Gallentine stated we believe it is completed and has been seeded.

Motion by McClellan to direct the Drainage Clerk to contact the contractor to see if repair area has been graded and seeded. Second by Hoffman. All ayes. Motion carried.

9. JDD H-H 118-232 WO 281 - Discuss W Possible Action - Repair Summary

Gallentine stated this is the joint district with Hamilton County on branch 2CA and 2B5, we had issues with intakes in the road ditch right along AA Ave. In investigation, it was dug up and found tile was having issues connecting to the main, it was repaired. Initially there were sinkholes reported south of the highway, turns out they were animal holes. Gallentine noted they did find that the road ditches on AA Ave. need to be cleaned out, and recommends that is turned over to Secondary Roads, as there is also a culvert in the ditch that needs cleaned out. Gallentine stated that this did not get seeded, so either the contractor or Secondary Roads needs contacted to complete the seeding. Smith asked if the invoices that will come in from the contractor will need to be billed to the district or billed to Secondary Roads. Gallentine stated he would have to look through and verify, but was pretty sure all of this was in the road right of way. Granzow asked if they are parallel with the right of way or across the right of way. Gallentine stated this was crossing the right of way and had a lot to do with the intakes in the ditches. Gallentine stated they either weren't connected up or original construction was faulty.

Gallentine referenced a 15" beehive intake that was put right on top of district tile, but only knocked an 8" hole in the district tile, while it looked good on the surface, when the cover was removed, it was just a small hole draining the intake. Gallentine stated this one would go to Secondary Roads. McClellan asked if Secondary Roads installed the intake. Gallentine stated he is not sure who did the work the intake has been there for a very long time, probably back to the 1960's. Gallentine stated if he remembered right, Taylor Roll was originally contacted on this work order but didn't have time to get to this one immediately.

Motion by McClellan to direct Drainage Clerk to contact Secondary Roads to see if they want to do the seeding or if they want the contractor to do the seeding. Second by Hoffman.

In additional discussion on the motion, Granzow stated we have IRVM and a hydro-seeder and it would make more sense for us to do it and needs to be taken care of.

All ayes. Motion carried.

10. Discuss W Possible Action - Drainage Utility Permit Process

Smith provided an update on responses from the utilities on the letter sent out to them regarding open Drainage Utility Permits, Smith stated she could provide an update today or wait until we heard back from attorney Mike Richards on his update of drainage utility permit language. Hoffman stated lets have an update today. Smith stated the certified letters were sent out to all open drainage utility permit holders and we have received responses from all but three of the utility permit holders, the three we have not received a response back from are IRUA, Century Link and Alliant Energy on one of two permits because they were directed to two different people at Alliant. Smith stated in those responses, there are two permits she thought we could possibly call complete as they provided some CGA invoices for observation, this would include Radcliffe Telephone permit 2018-13, Ed Drake reports that is complete and has provided us with a CGA invoice. Smith stated the other permit would be from South Front Networks permit 2018-12 because no line was completed in Hardin County, they ended up utilizing a line in Franklin County. Gallentine will verify those two permits and get back to Smith, Gallentine thinks on the Radcliffe Telephone permit they were billed by CGA for the 2 districts they contacted CGA about but not for the other districts they did not contact CGA on. Smith stated the other replies she received back tell a similar story, that work is completed. Alliant Energy tells us that majority of work is complete, except for some rework, Aureon states they are reaching out to their contractor to see what correspondence they had with CGA, says work itself is complete. Midland states there was a miscommunication with their contractor and contractor Highland did not contact the County, they have one more permit that has not commenced work yet but will begin soon. Smith stated she reiterated to the utility companies that it is immensely important that you give us 24 hour construction notice and they reach out to the Drainage Clerk or CGA for tile locate and observation. Smith stated Minerva Valley reports their project construction is ongoing for the next 2 to 3 months. Smith stated she thanked the utilities for their responses, Smith stated she would like clarification on her next step for those utilities that completed work and did not utilize construction observation, Smith stated she was unsure if the Trustees would like her to do anything at this time or wait until we hear back from the three that have not responded yet.

Granzow stated one will not respond as they have a cease and desist order currently, the other two we may move forward with a cease and desist, we should talk to Mike Richards on this, the ones that claim they have done it and have had a miscommunication on it, they need to come to a meeting and explain to us why they did not provide 24 hours notice of construction or tile locates and it needs to be corrected. Hoffman stated he agreed, we need to be consistent across the board. McClellan concurred. Granzow stated if they refuse to come to the meeting we can do a cease and desist. Smith stated she can send another letter out to the utilities that have replied and let them know that for the work that has been completed the Trustees would like them to attend a meeting, Smith will provide zoom information for that meeting as well. Gallentine stated, just to be clear, when the utility says their work is complete, their work is complete, but they still don't even acknowledge that they have located the tile or acknowledged it's existence. Granzow stated the utility needs to explain how the work can be complete if they have not followed the permitting process. Smith asked if there was a specific meeting date we can invite the utilities to so that Smith can provide that information in a letter. McClellan stated it can be on the agenda, and it did not matter which specific meeting date we choose. Smith stated she may put it on the September 2, or September 16th agenda, as she wanted to give them time to prepare but did not want to give them too much time or it would be forgotten. McClellan asked if it would be worthwhile waiting on the three utilities we have not heard from. Granzow stated we could wait on reply from Mike Richards on these.

Smith stated she had reached out to attorney Mike Richards for clarification on the drainage permit language as we had talked about adding a bonding or application fee as well, and Smith sent Richards a copy of the letter sent to all the utilities so Richards is aware of that also. Smith stated she could provide Richards with more direction after the Trustees had reviewed these responses. McClellan asked if there are other counties that require a bond. Smith stated there are other counties that may not require a bond but there is an application fee. Scott County and Louisa County both have an application fee on their utility permits, whether that be a regular utility permit or a drainage utility permit, there is an application fee. Smith believes it is \$1,000 for each application so that is quite expensive, maybe, but if you looked at that in lieu of using that fee to have CGA on-site as an observer and use those application fees to pay for that, it might not be a bad trade-off in the end, because you are guaranteeing that if they have paid up front that you can have an observer on site. Smith stated it may give a little more tooth to the permit language itself in the sense that we are trying to get the utility to comply. McClellan asked if any of that fee is refundable. Smith stated that if Scott and Louisa County's application fee is not completely used any remaining funds will be returned to the utility upon completion of inspection of the work. Granzow stated that CGA could recommend a dollar amount. Smith stated we currently don't have any application fee language. Gallentine stated he liked the deposit up front, truthfully it is almost to the point where part of that deposit is paid to a contractor who can go out and find the tile and locate it for these utility companies, because they have no interest in finding the tile themselves.

Hoffman stated that may be the solution, if we initiate finding the tile, that the key thing is adequately, properly, legally locating and marking the tile and then making sure the observers have a better relationship with our local contractors than they do with the utilities and wanting to effectively communicate that. Gallentine stated once we have dug it up and go out and shoot it with GPS then we won't have to locate it the next time that it comes through in that location, we can just stake it out with GPS again. Hoffman stated that may be something we want to amend to the utility permit process, is that one of our contractors will come out and do the locate, or unearthen and do the locate work. Smith asked if the Trustees would like Mike Richards to look at that and see if he can incorporate that with a bond or application fee language that he is looking at now. McClellan thought that would be a good idea, Granzow agreed and added that would be in lieu of a bond, but it should be each crossing, if they cross 5 times on one district it would be \$5,000. Gallentine stated it can't be just \$1,000 per district, because on some of these large projects that would not cover the costs. Granzow stated \$1,000 per tile/facility crossing with the remainder of unused funds to go back to the applicant utility/contractor. Hoffman stated we just need to make sure we publish and let every utility know what the rates are for CGA to do that upfront so that they understand the logic behind the dollar amount. Granzow stated if it is missed, it is on us and not them, that would be easier. Smith will communicate this information to Mike Richards, that the Trustees would like to see language that reflects a \$1,000 application fee per crossing to be used for CGA/local contractor to locate the tile and shoot GPS coordinates of the crossing. The Trustees agreed that this was what they would like communicated to Mike Richards and felt this was a productive discussion.

11. Other Business

DD 25 - Gallentine provided an update on work south of Garden City, the contractor did wrap up work last week and the contractor is working on a punch list, and this project is 99% done.

DD 55-3 - Lat 12 Gallentine provided an update on work on near railroad, the contractor has completed jet cleaning and was not able to complete televising yesterday, but the railroad flagger's stated if all the contractor is doing is televising and won't have equipment in the right of way, they do not have to have the flaggers come back, the contractor can just televise. Seward will televise tile soon within the next couple weeks.

Contractor Status - Granzow stated that contractor Seward is completing a lot of these work orders. Gallentine stated that the contractor is getting us very caught up and we are at the point now where there are only a few bigger work orders left that will require some crop damage to do and we will wait until fall to look at them. Gallentine stated we were also contacted by another contractor who is interested in doing work, Layne Aldinger, so Gallentine sent him information and Smith made sure he had current information to get started, and hopefully we will get another contractor in the pool.

DD 143 - Calvin Hiland spoke with McClellan and Hiland is wanting the trees removed and jet cleaning/cutting done on the tree roots in the tile in Radcliffe along Ionia St., the Trustees discussed that progress will be made by the tree removal being done by the city of Radcliffe, and that water is still flowing. Granzow stated he appreciated Hiland's patience with the process.

Smith asked a general question on the depth of open ditches when they are cleaned out that was posed by landowner Larry Dougan. Gallentine clarified that when ditches are cleaned out, they are not made any deeper than the original design, they are just restored to the original specifications, the problem is that no one in their lifetime may have seen the ditches cleaned out to their original specifications. McClellan asked if the sides are so steep that rip-rap could not be added to prevent meandering. Granzow stated that he expects Dougan is seeing the ditch on low current fed by an 8" tile that goes for one mile which does not have enough flow to keep your base flush, it has just filled back in some, Dougan's was added on and annexed later. Gallentine stated we just restore ditches to original specs, to deepen a ditch would be an improvement.

12. Adjourn Meeting

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

Drainage District:

26

Repair Summary:

- Per recommendation of investigation summary, installed new of 24" CMP surface drain with anti-seep collar.
- Repaired the existing 24" CMP surface drain, by cutting off damaged end and covering hole in pipe with engineering fabric and 3/4 concrete collar.
- Moved boulders and regraded the area so that surface water would flow to surface drains.

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

See attached Contractor Time and Materials sheet.

Additional Actions Recommended:

- Verify with landowner that the seeding, grading, and clean-up of the area is acceptable as this was performed without CGA representative present.
- Pay landowner/tenant for the approximately 0.14 acres of crop damage to the beans that were planted.



Tabulated Contractor Time and Materials

Date	Totals	6/1/2020	6/2/2020
Workman (hrs)	38.25	23.25	15.00
Mini Excavator (hrs)	15.25	7.75	7.50
Skidloader (hrs)	15.25	7.75	7.50
Compactor (hrs)	8.50	3.50	5.00
Concrete Collars	1	1	
24" CMP Tile (ft)	40.2	20.1	20.1
Crop Damage (ac)	0.14		0.14
Anti-Seep collar (ea.)	1		1



Drainage Work Order Request For Repair

Hardin County

Date: 7/31/2019

Work Order #: WO00000266

Drainage District: DDs\DD 26 (51049)

Sec-Twp-Rge: 30-88-22 Qtr Sec: SE NE

Location/GIS: _____

Requested By: James Sweeny

Contact Phone: (614) 373-3131

Contact Email: jsweeney@cgaconsultants.com

Landowner (if different): David/Annette Sweeney

Description: DD 26 - Overland water flow is bypassing surface inlet and has created a washout in the north bank of the DD26 main open ditch. Said washout and surface inlet are marked with a fencepost and pvc at each. The washout is approximately 1200 feet upstream of the DD22 Main tile outlet (of which is on the west side of C Avenue). Both the surface inlet and washout are visible via aerial photography on the beacon website.

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

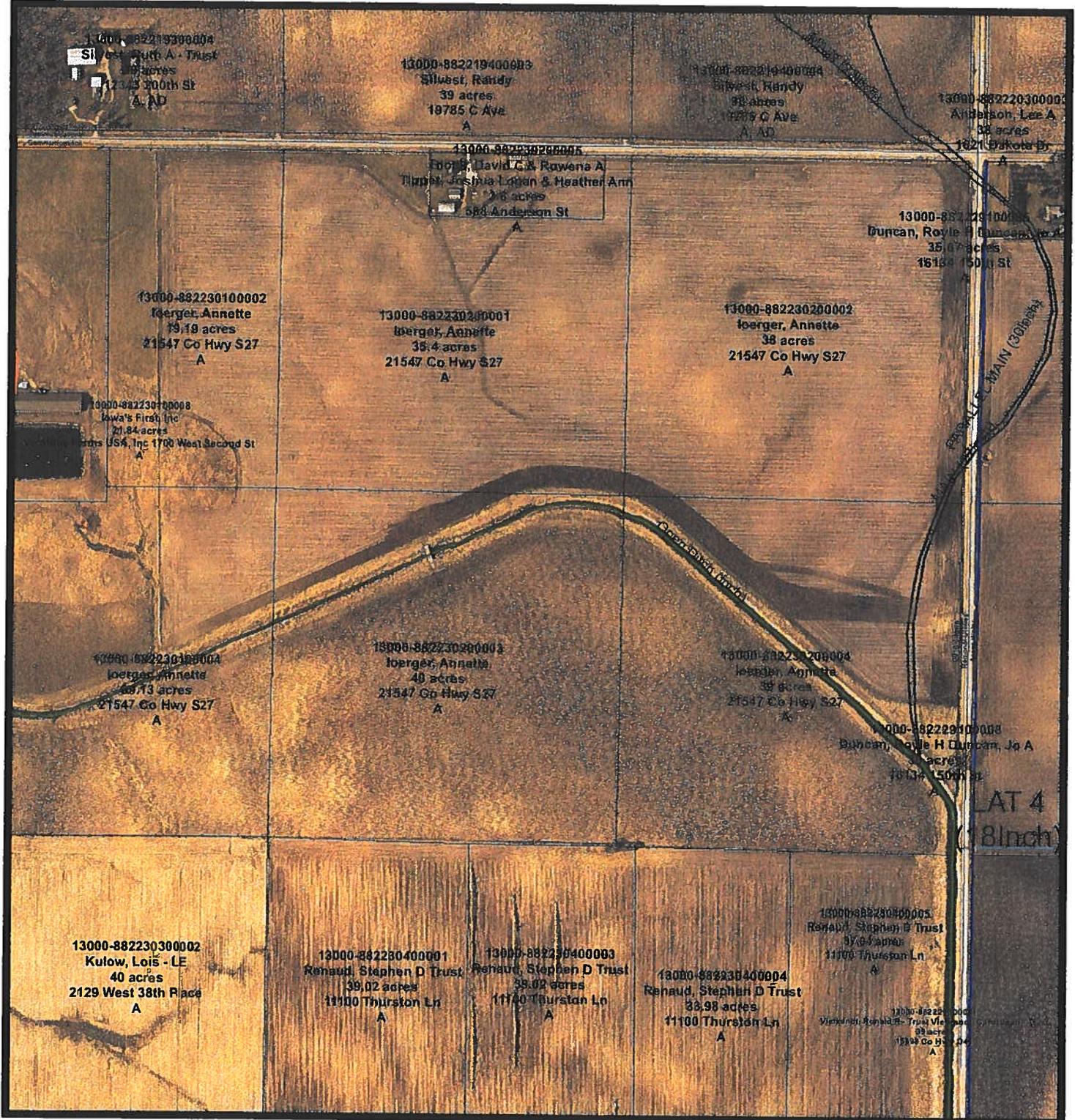
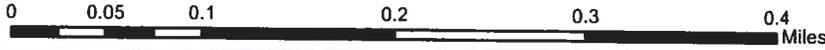
Approved: _____ Date: _____



Hardin County Auditor's Office



Date: 7/31/2019



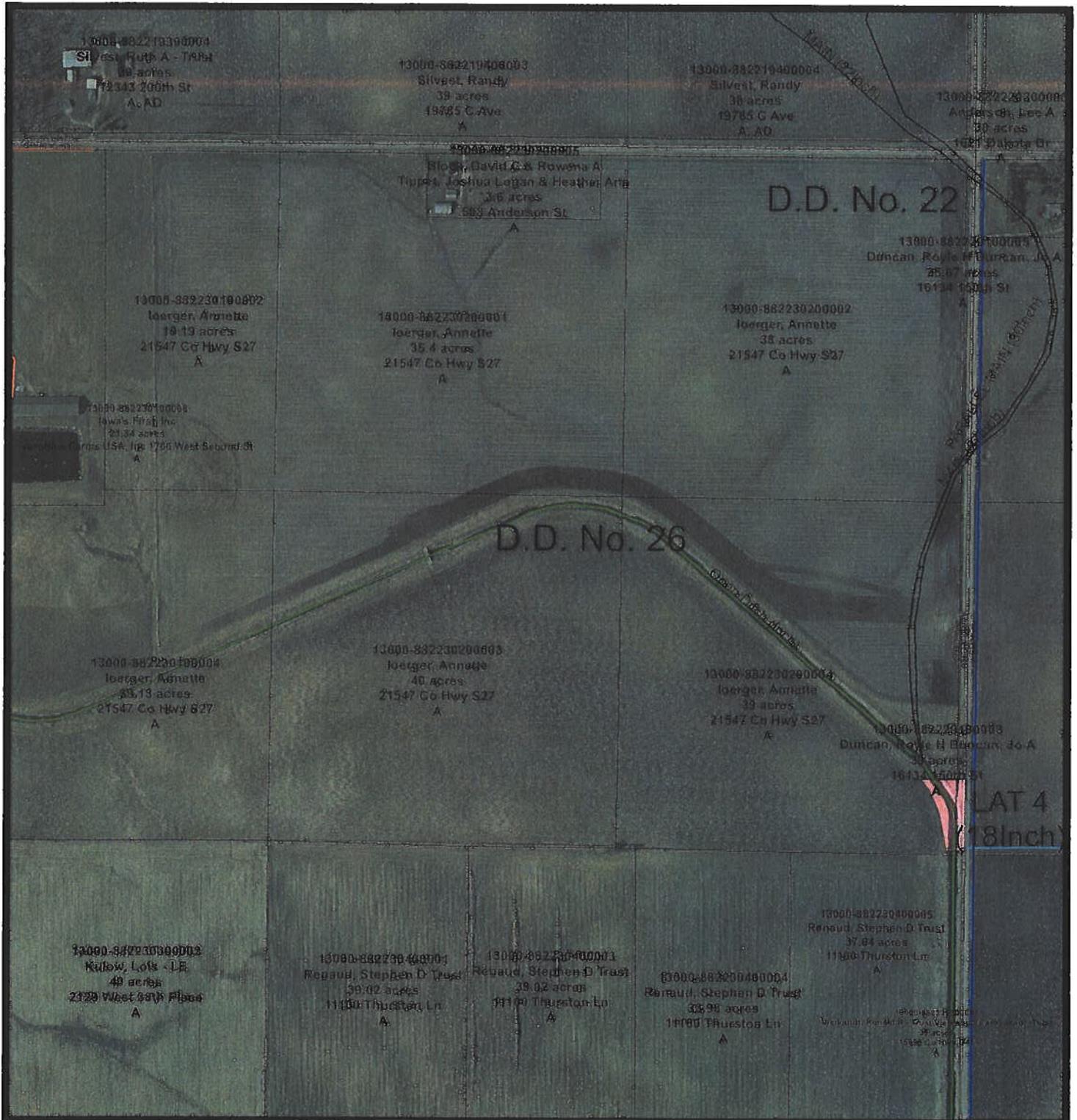
The Data is provided "as is" without warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the requester. Hardin County makes no warranties,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



Hardin County Auditor's Office



Date: 7/31/2019



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CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

06/01/2020

PROJECT NUMBER:

HARDIN COUNTY DDW# 266

DAYS OF WEEK:

S M T W T F S

COUNTY, ROUTE, ROAD:

5055.12 DD# 26
996.4 ± 8 1051.7 ± WEST OF
& CAVE & 1538.6 ± SOUTH OF
ROAD BE & 200TH STREET
1491.4 ±

SHEET NO.

1 OF 4

LOCATION:

SE NE 30-88-22 REPAIR SMASHED
END OF EXISTING 24" CMP INLET &
INSTALL NEW 24" CMP WITH ANTISEEP COLLAR
IN BLOWOUT

LOW 60'S TO UPPER 80'S
SUNNY & WINDY

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

JOB# 5055 DD26 SURVEY

7:25 A.M. OBSERVER LEFT OFFICE FOR JOB SITE.

8:10 A.M. OBSERVER ARRIVED ON SITE WITH CREW NOT ON SITE YET
OBSERVER CALLED ADAM AND INFORMED THAT OBSERVER
WOULD BE SETTING UP GPS BASE. ADAM SAID HE WAS ABOUT
TO JOB SITE AND WOULD BE UNLOADING EQUIPMENT ON 220TH ST.
& CO HWY 5-27,

8:14 A.M. AFTER THINKING ABOUT IT MORE OBSERVER REALIZED THAT
ADAMS CREW WAS AT DIFFERENT LOCATION. OBSERVER DROVE
TO 220TH ST & CO HWY 5-27 TO MET WITH ADAM TO MAKE SURE
WHICH ONE WAS IN WRONG LOCATION.

8:30 A.M. AFTER DISCUSSION, THE REPAIR WAS BACK ON NORTH SIDE
OF DRAINAGE DITCH WEST OF CAVE & SOUTH OF 200TH WHERE
OBSERVER WAS THE FIRST TIME.

8:45 A.M. CREW WAS AT REPAIR LOCATION AND STARTED UNLOADING
EQUIPMENT FOR REPAIR. OBSERVER STARTED SETTING GPS BASE
ON GPS# 26008 5/8" Ø FROWN ROD IN NE COR OF FIELD DRIVE ON
NORTH SIDE OF 200TH ST 1299 ± WEST OF & CAVE.

9:15 A.M. GPS BASE SET UP AND CHECKED INTO GPS# 4895 HARDIN COUNTY
GPS MONUMENT # 8016 WITH GOOD HORIZONTAL POSITION AND
VERTICAL POSITION SHOWING CUT 0.04' TO 0.05' (WITHIN REASON)

9:30 A.M. OBSERVER ARRIVED BACK ON SITE. PERRY LEFT SITE AROUND

9:15 A.M. WITH PICK UP AND TRAILER TO PICK UP 40' OF 24" CMP
& 24" CMP BAND. CARSON AND ADAM WERE AT REPAIR
LOCATION WITH CAT 299D XHP TRACKED SKID LOADER & KOLBELCO
SK85 CS MIN EXCAVATOR FOR EQUIPMENT. CREW STARTED
UNCOVERING EXISTING 24" CMP SURFACE DRAIN. I ADVISED

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

Observer's Signature:

Dean Peering

Date Prepared:

06/01/2020

Reviewed by:

Engineer

Date Reviewed

CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

06/01/2020

PROJECT NUMBER:

MARION COUNTY DDW0#266

DAYS OF WEEK:

S M T W T F S

COUNTY, ROUTE, ROAD:

5055.12 DD#26
996.4' ± E 1051.7' ± WEST OF
E CAVE & 1538.6' ± SOUTH & 1491.4' ±
SOUTH OF S 200TH ST

SHEET NO.

2 OF 4

LOCATION:

SE NE 30-88-22 REPAIR SMASHED END
OF EXISTING 24" CMP INLET & INSTALL
NEW 24" CMP WITH ANTISEEP COLLAR
IN BLOWOUT

LOW 60'S TO UPPER 80'S
SUNNY & WINDY

JOB# 5055 DD26, SURVEY

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

ADAM THAT EXISTING 24" CMP SURFACE DRAIN
DOES NOT NEED REMOVED. NEED TO FIX OR CUT OFF MANGLED
END AND DO SOMETHING WITH PUNCTURED AREA FROM (12 TO 2) (1.5' SOUTH FROM NORTH
END). ASKED LEE ABOUT CMP, HIS THOUGHTS ARE TO CUT OR STRAIGHTEN MANGLED
END OF CMP & COVER WITH FABRIC AND CONCRETE OVER PUNCTURED
AREA.

9:46 A.M. PICTURE # 3617 SEE PICTURE FOR DETAILS.

9:50 A.M. CREW WAS PLACING SOIL BACK ON TOP OF EXISTING 24"
CMP SURFACE DRAIN. EXPOSED PORTION OF 24" CMP HAD
JUST SOME SMALL AMOUNT OF SURFACE RUST. CREW
ALSO STARTED TO REMOVE BOULDERS SET IN DD BANK WASHOUT
ABOUT 72' ± UPSTREAM FROM EXISTING 24" CMP SURFACE DRAIN.
TO INSTALL AN ADDITIONAL NEW 24" CMP SURFACE DRAIN. CREW
ALSO STARTED TO GRADE BOTTOM OF TRENCH FOR NEW SURFACE
DRAIN.

10:10 A.M. OBSERVER SHOT GPS# 70500 FL 24" CMP INLET 1133.526
& GPS# 70501 TOP 24" CMP OUTLET 1133.734 TOP

-2.04 TOPTOFL 1133.526 - 1131.694 = 5.33%
1131.694 FL 34.367

CREW WILL SET NEW 24" CMP SURFACE CLOSE TO SAME GRADE
AND ELEVATION.

11:12 A.M. PICTURE # 3618 SEE PICTURE FOR DETAILS

11:30 A.M. CREW STRAIGHTENED UP CRUSHED AND MANGLED
END OF EXISTING 24" CMP INLET.

11:40 A.M. OBSERVER HAD FL SET UP FOR 40' OF NEW 24" CMP
AND STARTED CHECKING GRADE ON BOTTOM OF TRENCH
FOR CREW TO CUT DOWN TOO.

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

Observer's Signature:

Dean Penning

Date Prepared:

06/01/2020

Reviewed by:

Engineer

Date Reviewed

CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE: 06/01/2020

DAYS OF WEEK:

S	M	T	W	T	F	S
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SHEET NO. 3 OF 4

PROJECT NUMBER: HAROLD COUNTY DDW#26

COUNTY, ROUTE, ROAD: 5055.12 DD#26
996.4' E & 1051.7' WEST OF
E CAVE & 1538.6' SOUTH & 1491.4'
SOUTH OF E 200TH ST

LOCATION: SE NE 30-88-22 REPAIR SMASHED END
OF EXISTING 24" CMP INLET & INSTALL
NEW 24" CMP WITH ANTISERP COLLAR
IN BLOWOUT

LOW 60'S TO UPPER 80'S
SUNNY & WINDY
JOB # 5055 DD 26. SURVEY

DESCRIPTION OF WORK AND MATERIAL USED FOR EACH OPERATION, INCLUDING CONTRACTOR/SUB NAME, ITEM NO. AND LOCATION 12:30 P.M. CREW HAD BOTTOM OF TRENCH

ROUGH GRADED AND CREW WAS RUNNING OVER BOTTOM OF TRENCH
WITH MINI EXCAVATOR BEFORE JUMPING JACK COMPACTING BOTTOM
OF TRENCH.

1:00 P.M. CREW STARTED JUMPING JACK COMPACTING BOTTOM OF TRENCH
FOR NEW 24" CMP SURFACE DRAIN IN DD BANK BLOWOUT.

1:14 P.M. PICTURE # 3619, 1:17 P.M. PICTURE # 3620, & 1:21 P.M. PICTURE # 3621 SEE PICTURE FOR DETAILS.

1:40 P.M. OBSERVER SET UP PROPOSED FL FOR NEW 24" CMP TILE
GPS # 70503 FL PROPOSED NEW 24" CMP INLET 1133.53'
GPS # 70502 FL PROPOSED NEW 24" CMP OUTLET 1131.69
 $\frac{1133.53 - 1131.69}{34.37} = \text{GRADE} = 5.35\%$

2:00 P.M. OBSERVER WAS CHECKING GRADE FOR NEW 24" CMP
SURFACE DRAIN.

3:59 P.M. PICTURE # 3622. SEE PICTURE FOR DETAILS.

4:09 P.M. PICTURE # 3623 SEE PICTURE FOR DETAILS.

4:31 P.M. PICTURE # 3624 & PICTURE # 3625, AND 4:32 P.M. PICTURE # 3626
SEE PICTURE FOR DETAILS.

4:30 P.M. CREW LEFT SITE FOR DAY. OBSERVER SHOT UPSTREAM @
BAND & DOWNSTREAM END @ OUTLET FOR NEW 24" CMP SURFACE DRAIN
GPS # 70506 24" CMP OUTLET FL = 1131.55 = $\frac{1132.54 - 1131.55}{20.05} = \text{GRADE} = 4.938\%$
GPS # 70507 24" CMP @ BAND FL = 1132.54

4:40 P.M. OBSERVER SHOT BEYOND DAMAGE DURING REPAIR.

4:50 P.M. OBSERVER SET GRADE STAKES FROM FIELD TO
FL OF EXISTING 24" CMP FOR CONTRACTOR

5:08 P.M. PICTURE # 3629, 5:09 P.M. PICTURE # 3630 SEE PICTURE FOR DETAILS.

5:30 P.M. PICTURE # 3631 SEE PICTURE FOR DETAILS.

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

Observer's Signature: Dean Penning Date Prepared: 06/01/2020

Reviewed by: _____ Engineer Date Reviewed: _____

CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

06/01/2020

PROJECT NUMBER:

MARION COUNTY DD#266

DAYS OF WEEK:

S M T W T F S

COUNTY, ROUTE, ROAD:

5055.12 DD#26
996.4' E & 1051.7' WEST OF
E CAVE & 1538.6' SOUTH & 1491.4' S
SOUTH OF E 200TH ST

SHEET NO.

4 OF 4

LOCATION:

SE NE 30-88-22 REPAIR SMASHED END
OF EXISTING 24" CMP INLET & INSTALL
NEW 24" CMP WITH ANTISEEP COLLAR
IN BLOWOUT

LOW 60'S TO UPPER 80'S
SUNNY & WINDY

JOB # 5055 DD 26, SURVEY

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

5:30 P.M. OBSERVER TORE DOWN GPS AND LEFT SITE

QUANTITIES

ADAM 7 3/4 HOURS

CARSON 7 3/4 HOURS

PERRY 4 HOURS 3 3/4 HOURS GETTING SUPPLIES

CAT 299D X HP TRACKED SKIDLOADER 7 3/4 HOURS

KOLBELCO SK85CS MINI EXCAVATOR 7 3/4 HOURS

JUMPING JACK COMPACTOR 3 1/2 HOURS

2- 60 LB BAGS OF ALLSTAR CONCRETE

20' X 20' ENGINEERING FABRIC

20.1 LF 24" CMP WITH 24" CMP BAND & 5 BOLTS

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

Observer's Signature:

Dean Penning

Date Prepared:

06/01/2020

Reviewed by:

Engineer

Date Reviewed

PICTURE# 3617 IS LOOKING SW SHOWING END OF 24" CMP ON SURFACE DRAIN INLET CRUSHED FROM (7 TO 2) AND ABOUT 1.5' BACK WITH A CUT FROM (12 TO 2) ON TOP, EXISTING 24" CMP INLET THAT



SOMETHING TORE INTO CMP.



CPS #70500
FL EXISTING
24" CMP



PICTURE# 3618 IS LOOKING NW SHOWING CREW REMOVING BOULDERS SET IN DRAINAGE DITCH WASHOUT AND GRADING BOTTOM OF TRENCH FOR NEW 24" CMP SURFACE DRAIN.

PICTURE# 3619 IS LOOKING SW SHOWING CREW BACK FILLING SOIL AROUND 24" EXISTING CMP INLET.



PICTURE# 3620 IS LOOKING SW SHOWING CREW JUMPING JACK COMPACTING BOTTOM OF TRENCH FOR NEW 24" CMP SURFACE DRAIN

PICTURE #3621 IS LOOKING NE SHOWING 2 BAGS OF 60 LB QUIKRETE CONCRETE & 2.0'x2.0' PIECE OF FABRIC PLACE OVER EXISTING HOLE TORE IN TOP OF EXISTING 24" CMP.



PICTURE #3622 IS LOOKING NE SHOWING CREW PUSHING IN NEW CMP AFTER BOTTOM OF TRENCH GRADED AND JUMPING JACK COMPACTED.

PICTURE #3623 IS LOOKING NW - SHOWING 40FT OF NEW 24" CMP IN PLACE WITH CREW BACK FILLING LOOSE SOIL AROUND CMP. CREW IS TAMPING WITH SHOVEL SOIL UNDER HAUNCH OF PIPE



PICTURE # 3624 IS LOOKING SW SHOWING CREW JUMPING JACK COMPACTING LOOSE SOIL ON SIDES OF PIPE WITH 24" CMP BAND IN PLACE.

PICTURE # 3625 IS LOOKING SOUTH SHOWING CREW STILL BACKFILLING WITH LOOSE SOIL AND JUMPING JACK COMPACTING SOIL AROUND CMP



PICTURE # 3626 IS LOOKING SOUTH SHOWING SOIL COMPACTED ON SIDE OF NBW 24" CMP

PICTURE # 3627 IS LOOKING SW SHOWING BOTTOM OF TRENCH GRADED & COMPACTED WITH SOIL BACKFILLED AND COMPACTED AROUND TILE.



GPS # 20506
CMP TOP
NEW 24" OUTLET
2.04' TO PTO FL.



PICTURE # 3628 IS LOOKING SE AT OUTLET END OF NEW 24" CMP OUTLET INTO DITCH. PIPE IS BACKFILL AROUND PIPE AND STILL NEEDS MORE COMPACTING.

PICTURE # 3629 IS LOOKING SW SHOWING GRADING STAKES SET FROM FIELD TO FL EXISTING 24" CMP



PICTURE# 3630 IS LOOKING SE SHOWING GRADING STAKES SET TO FL 24" CMP SURFACE DRAIN FROM FIELD

PICTURE # 3631 IS LOOKING SW SHOWING EXISTING 24" CMP
SURFACE DRAIN INLET WITH STRAIGHTENED MANGLED END.
LOOKS LITTLE ROUGH. CREW HAS BACKFILL SOIL AROUND
CMP INLET BUT STILL NEEDS COMPACTED.
GPS # 70500 FL 24"
CMP INLET



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CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

06/02/2020

PROJECT NUMBER: HARDIN COUNTY DDW#266

DAYS OF WEEK:

S M W T F S

COUNTY, ROUTE, ROAD: 5055.12 DD#26
996.4' ± E 1051.7' ± WEST OF
E CLAVE B 1538.6' ± SOUTH 121491.4' ±
SOUTH OF 200TH ST

SHEET NO.

1 OF 3

LOCATION: SENE 30-88-22 REPAIR SMASHED END
OF EXISTING 24" CMP INLET & INSTALL
NEW 24" CMP WITH ANTISEEP COLLAR
IN BLOWOUT

LOW 70'S TO MID 90'S
SUNNY & WINDY

JOB # 5055 DD 26. SURVEY

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

9:15 A.M. OBSERVER TALKED TO JAMES ABOUT A COUPLE THINGS ON
PROJECT.

9:40 A.M. OBSERVER LEFT OFFICE FOR JOB SITE.

10:20 A.M. OBSERVER ARRIVED ON SITE AND STARTED SETTING UP GPS
BASE ONEPS 2600B 5/8" IRON ROD IN NE CORNER OF FIELD DRIVE
ON NORTH SIDE OF 200TH ST 1299' ± WEST OF CLAVE

10:50 P.M. OBSERVER HAD GPS BASE SETUP AND CHECKED INTO HARDIN
GPS MONUMENT #8086 (GPS#4895) WITH GOOD HORIZONTAL POSITION
AND VERTICAL POSITION SHOWING CUT 0.04' TO 0.05' (WITHIN REASON)

11:00 A.M. OBSERVER ARRIVED ON SITE WITH ADAM AND PERRY ON
SITE SINCE 9:00 A.M. WITH JUMPING JACK COMPACTOR, ROBELO
SK85CS MINI EXCAVATOR, & CASE TR340 TRACKED SKI LOADER
ON SITE FOR EQUIPMENT. CREW WAS WORKING ON GETTING 2ND
24" CMP IN PLACE AND EXCAVATED FOR 7.0' WIDE 24" ANTISEEP
COLLAR

11:40 A.M. CREW WAS WORKING ON FASTENING 2 SECTIONS OF
24" CMP WITH 24" CMP BAND AND GETTING 24" HOPE
ANTISEEP COLLAR IN PLACE.

12:14 P.M. PICTURE #3632, 12:43 P.M. PICTURE #3633 & PICTURE #3634 SEE PICTURE
FOR DETAILS.

12:47 P.M. PICTURE #3635 SEE PICTURE FOR DETAILS.

12:57 P.M. PICTURE #3636, 12:58 P.M. PICTURE #3637, & 12:59 P.M. PICTURE
#3638 SEE PICTURE FOR DETAILS.

1:42 P.M. PICTURE #3640 SEE PICTURE FOR DETAILS.

2:00 P.M. CREW WAS DONE USING JUMPING JACK FOR COMPACTING SOIL.

4:30 P.M. CREW LEFT SITE AND WILL FINISH GRADING AREA TOMORROW.

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

Observer's Signature: Dean Penny

Date Prepared: 06/02/2020

Reviewed by: _____ Engineer

Date Reviewed _____

CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

06/02/2020

PROJECT NUMBER: HAZARD COUNTY DD W0#266

DAYS OF WEEK:

S M Q W T F S

COUNTY, ROUTE, ROAD: 5055.12 DD#26

SHEET NO.

2 OF 3

LOCATION: SE NE 30-88-22 REPAIR SMASHED END OF EXISTING 24" CMP INLET & INSTALL NEW 24" CMP WITH ANTISEEP COLLAR IN BLOWOUT

LOW 70'S TO MID 90'S
SUNNY & WINDY

JOB# 5055 DD 26, SURVEY

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

4:42 P.M. PICTURE # 3641 & 4:43 P.M. PICTURE # 3643 SEE PICTURE FOR DETAILS.

4:44 P.M. PICTURE # 3644 & 4:45 P.M. PICTURE # 3645 SEE PICTURE FOR DETAILS.

4:46 P.M. PICTURE # 3646 SEE PICTURE FOR DETAILS.

5:00 P.M. OBSERVER ADJUST SOME OF BEAN DAMAGE SHOTS, TORE DOWN GAS AND LEFT SITE. OBSERVER WILL CHECK OVER SITE AFTER CREW IS DONE FINE GRADING AND HAS IT SEEDS.

QUANTITIES

ADAM 7 1/2 HOURS

PERRY 7 1/2 HOURS

KOLBELCO SK85CS MINI EXCAVATOR 7 1/2 HOURS

CASE TR340 TRACKED SKIDLOADER 7 1/2 HOURS

JUMPING JACK COMPACTOR 5 HOURS

20.1 LF 24" CMP

24" HDPE ANTISEEP COLLAR (ONLY PARTIAL ON TOP) METAL 2 BANDS 10 BOLTS TO FASTEN

1 CAN OF FOAM FILL (SEAL HDPE ANTISEEP COLLAR TO 24" CMP, SUAS CALLS) FOR BITUMINOUS MATERIAL FOR SEALING (INFORMED CONTRACTOR IT SHOULD BE BITUMINOUS)

TRUCK AND TRAILER TO HAUL 2 BOULDERS OFF SITE

BEAN DAMAGE DURING REPAIR 0.14 ACRES

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

Observer's Signature: Dean Penny

Date Prepared: 06/02/2020

Reviewed by: _____ Engineer

Date Reviewed: _____

CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

06/02/2020

PROJECT NUMBER: MARION COUNTY DD W0#266

DAYS OF WEEK:

S M W T F S

COUNTY, ROUTE, ROAD: 5055.12 DD#26
996.4' ± E 1051.7' ± WEST OF
EAVE & 1538.6' ± SOUTH & 1491.4' ±
SOUTH OF S 200TH ST

SHEET NO.

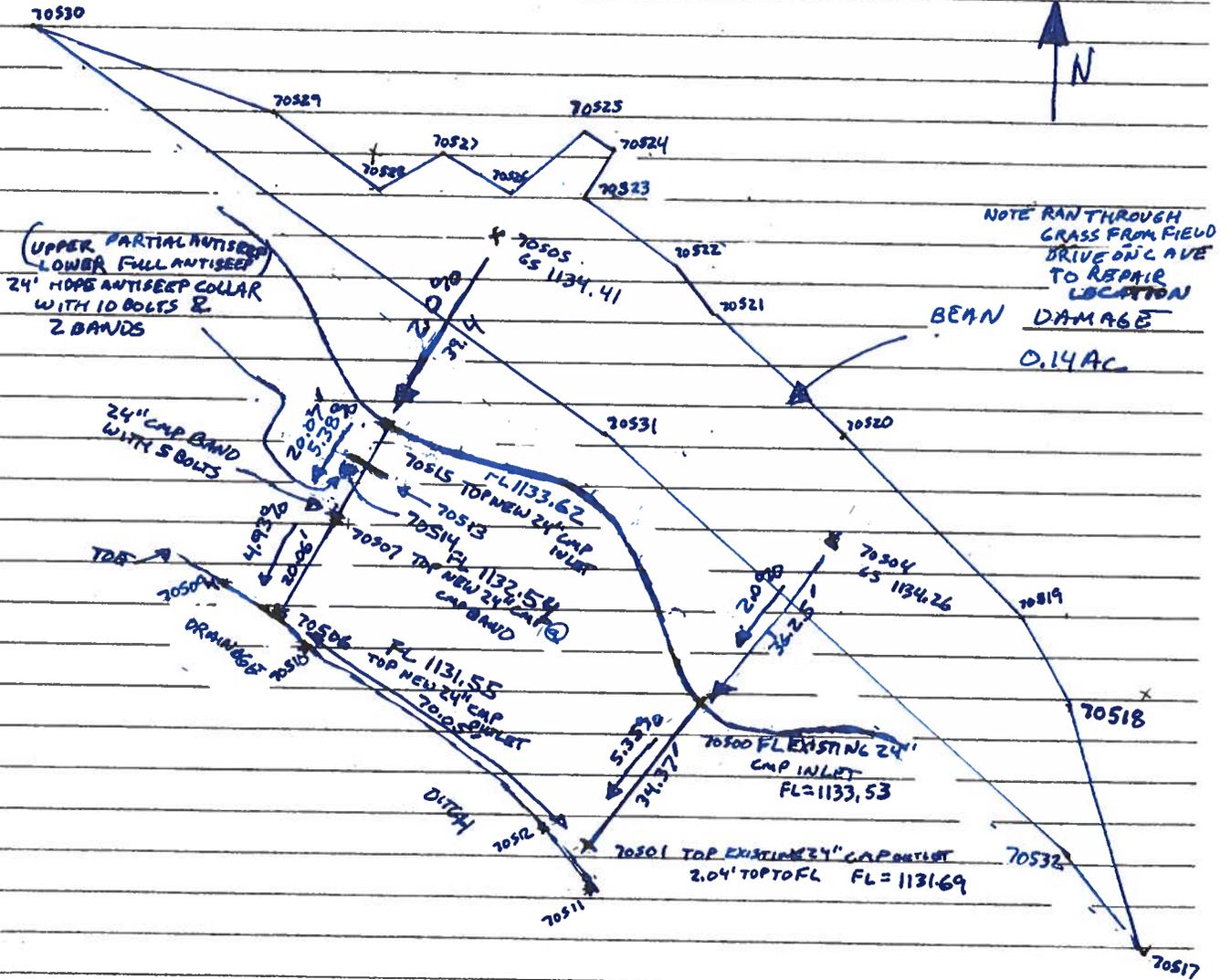
3 OF 3

LOCATION: SE NE 30-88-22 REPAIR SMASHED END
OF EXISTING 24" CMP INLET & INSTALL
NEW 24" CMP WITH ANTISEEP COLLAR
IN BLOWOUT

LOW 70'S TO MID 90'S
SUNNY & WINDY

JOB # 5055 DD 26, SURVEY

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



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

Observer's Signature: Dean Penning

Date Prepared:

06/02/2020

Reviewed by: _____

Engineer

Date Reviewed: _____

5055.12 / 0026

NOTE EXISTING 24" CAMP INLET 185.8' ± WEST OF EC C&M & 1525' ± SOUTH OF E 200TH ST
NEW CAMP INLET 1531.4' ± SOUTH E 200TH ST & 1051.74' WEST OF EC C&M

Layers Map

Layer List Legend

Quick Links:

- Property Search
- View Map
- Drainage District Search

Layers:

- Address
- Corporate Limits
- Political Townships
- Geographic Townships
- Sections
- Subdivision Annotation
- Subdivisions
- Lot Annotation
- Lot Lines
- Road Dimensions
- Roads
- Road ROW
- Railroad Annotation
- Railroads
- Railroad ROW
- Water
- Parcel Dimensions
- Parcels
- Drainage Tiles
- Drainage Districts
- Cartography
- Landuse
- Soils
- Enterprise Zones
- Conservation Property
- Structures
- Garden Winds Turbines
- Airport Protected
- Airspace Surfaces
- Two Mile Boundary
- School Districts
- Voting Districts
- LOMR

Map navigation tools including zoom in (+), zoom out (-), home, and search icons.

882229100005

200002

LOCATION NEW 24" CAMP
LOCATION OF EXISTING 24" CAMP

NOTE USED THIS FIELD DATA AND PROVED THROUGH GRASS TO ACCESS REPAIR AREA
882229100003

C&M

882260200004

882260200003



PICTURE# 3632 IS LOOKING SE SHOWING CREW INSTALLING 2ND NEW 24" CMP WITH 24" CMP BAND & 5 BOLTS.



PICTURE# 3633 IS LOOKING NW SHOWING 24" HDPE ANTISEEP COLLAR IN PLACE WITH 2 BANDS AND 5 BOLTS FASTENING LOWER ANTISEEP AND PARTIAL UPPER ANTISEEP HDPE COLLAR ONE EAST SIDE



PICTURE #3634 IS LOOKING NE AT 2 BANDS AND 5 BOLTS FASTENING LOWER ANTISEEP AND PARTIAL UPPER ANTISEEP.

↖ N



↖ N



PICTURE # 3635 IS LOOKING NW SHOWING CREW JUMPING JACK COMPACTING SOIL AROUND 24" HDPE ANTISEEP COLLAR.

PICTURE # 3636 IS LOOKING EAST SHOWING CREW USING FOAM FILL TO SEAL BETWEEN HDPE ANTISEEP COLLAR AND 24" CMP SURFACE DRAIN, (SUDAS SHOWS SHOULD BE BITUMINOUS MATERIAL)



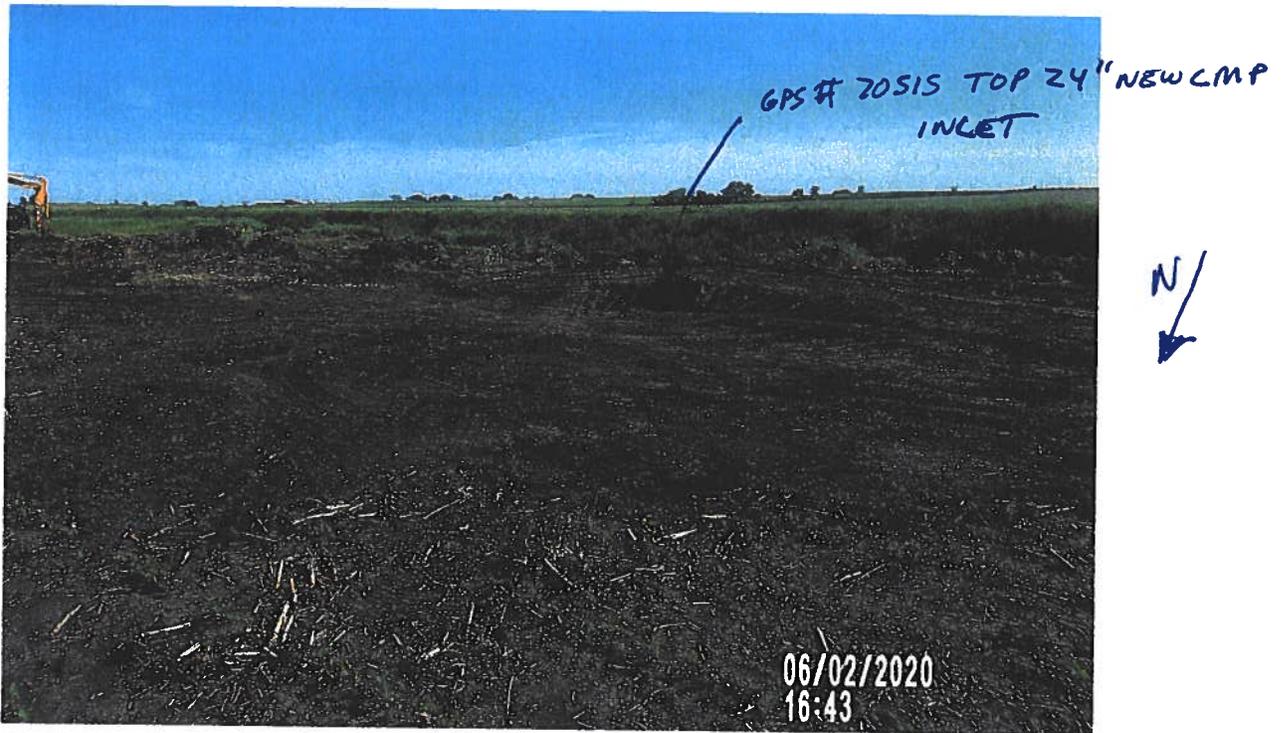
PICTURE # 3637 IS LOOKING SE SHOWING CREW USING FOAM FILL TO SEAL BETWEEN HDPE ANTISEEP COLLAR AND 24" CMP SURFACE DRAIN. (SUDAS SHOWS SHOULD BE BITUMINOUS MATERIAL)

PICTURE # 3638 SHOWING FOAM FILL USED TO SEAL VOID BETWEEN HDPE ANTISEEP COLLAR AND CMP SURFACE DRAIN (OBSERVER INFORMED CREW THAT SUDAS CALLS FOR BITUMINOUS MATERIAL AND THIS IS WHAT CREW BROUGHT BACK)



PICTURE # 3640 IS LOOKING SOUTH SHOWING BACK FILL SOIL AROUND 24" CMP WITH CREW USING JUMPING JACK COMPACTOR TO COMPACT SOIL AROUND CMP.

PICTURE #3641 IS LOOKING SE AT 0.14' AC OF BEAN
DAMAGE DURING REPAIR



PICTURE # 3643 IS LOOKING SE SHOWING AREA AROUND
NEW 24" CMP INLET STILL WEEDING GRADED. CREW
WILL FINE GRADE TOMORROW.

PICTURE # 3644 IS LOOKING SW SHOWING AREA AROUND
EXISTING 24" CMP INLET STILL NEEDING GRADED. CREW
WILL FINE GRADE TO MORROW,



GPS# 20507 TOP 24" NEW CMP. OUTLET



PICTURE # 3645 IS LOOKING AT NEW 24" CMP OUTLET AT DRAINAGE
DITCH

PICTURE # 3646 IS SHOWING 2 BOULDERS THAT CREW
IS MAULING OFFSITE,



CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

06/18/2020

DAYS OF WEEK:

S M T W Th F S

SHEET NO.

1 OF 1

PROJECT NUMBER: HARDIN COUNTY DDWA#266
SOSS.12 DD#126
COUNTY, ROUTE, ROAD: 996.4'± & 1051.7'± WEST OF
E CAVE & 1538.6'± SOUTH & 1491.4'±
SOUTH OF E 200TH ST
LOCATION: SENE 30-88-22 REPAIR SMASHED END
OF EXISTING 24" CMP INLET & INSTALL
NEW 24" CMP WITH ANTISEEP COLLAR
IN BLOWOUT

MID 60'S TO MID 80'S MOSTLY
CLOUDY AND BREEZY
JOB# 5055 DD26 SURVEY

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

1:20 P.M. OBSERVER ON SITE TO CHECK OVER GRADING AROUND
EXISTING SURFACE DRAIN AND NEW SURFACE DRAIN.

1:20 P.M. PICTURE # 3831 & PICTURE # 3832 SEE PICTURE FOR DETAILS.

1:21 P.M. PICTURE # 3833 & PICTURE 3834 SEE PICTURES FOR DETAILS.

1:22 P.M. PICTURE # 3835, 1:23 P.M. PICTURE # 3836, PICTURE # 3837, &
PICTURE # 3838 SEE PICTURE FOR DETAILS.

1:24 P.M. PICTURE # 3839, 1:25 P.M. PICTURE # 3840 & PICTURE
3841 SEE PICTURE FOR DETAILS.

1:30 P.M. OBSERVER LEFT SITE AFTER TAKING PICTURES OF
FINAL GRADING.

CREW SAID THEY SEEDED AREA BUT DID NOT SEE MUCH
GRASS GROWING YET.

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

Observer's Signature: Dean Penning

Date Prepared: 06/18/2020

Reviewed by: _____ Engineer

Date Reviewed _____

PICTURE# 3831 IS LOOKING SE SHOWING DD NORTH BANK
NEEDING DRESS UP YET

GPS 70506 NEW 24" CMP OUTLET



GPS # 70506 NEW CMP OUTLET



PICTURE# 3832 IS LOOKING SE SHOWING DD NORTH BANK
NEEDING DRESSED UP ON WEST SIDE OF NEW CMP
OUTLET

PICTURE #3833 IS LOOKING NW SHOWING BOULDERS IN DD BANK FOR A FILLED IN WASHOUT BETWEEN NEW AND EXISTING SURFACE DRAIN. NEEDS DRESSED UP / GPS#70506 NEW CMP OUTLET



GPS# 70515 TOP 24" CMP INLET
2.05' TOP TO FL



PICTURE #3834 IS LOOKING SW AT NEW SURFACE DRAIN INLET WITH WATER STARTING TO ERODE UNDER CMP

PICTURE # 3835 IS LOOKING NW SHOWING SOIL GRADED OVER SURFACE DRAINS AND CREW SAID THEY SEEDED IT



06/18/2020
13:22

AREA SETTLED WHERE CREW EXCAVATED FOR SOME BETTER SOIL TO BACKFILL AROUND SURFACE DRAINS



SMALL WASHOUT WITH ROCKS IN IT

CORN STALKS ON TOP WHERE WATER WENT OVER AND RAN TO WASHOUT

06/18/2020
13:23

PICTURE # 3836 IS LOOKING SW SHOWING AREA GRADED TO EXISTING SURFACE DRAIN BUT NO GRASS GROWING

PICTURE # 3837 LOOKING SOUTH AT LOW AREA WHERE GRASS NOT GROWING VERY WELL,

DD BANK ERODED FROM WATER RUNNING TO DD SMALL WASHOUT WITH BOULDERS MAY NEED TO GRADE LOW AREA TO GET FLOW TO SURFACE DRAIN BY ADDING MORE SOIL



06/18/2020
13:23

DD BANK NEEDS DRESSED UP



06/18/2020
13:23

PICTURE # 3838 IS LOOKING SW SHOWING SOIL STARTING TO ERODE UNDER INLET OF NEW 24" CMP INLET. AND GRASS NOT GROWING.

PICTURE # 3839 IS LOOKING NW SHOWING AREA
ALONG FIELD NW OF NEW 24" CMP WHERE GOOD SOIL
WAS EXCAVATED FOR BACK FILL AROUND CMP AND BACK FILLED



AREA
HAS
SETTLED
NOW



PICTURE # 3840 IS LOOKING NW OF NEW 24" SURFACE
DRAIN SHOWING NORTH BANK WEEDING DRESSED UP
AND SOIL PACKED IN.

PICTURE #3841 IS LOOKING SE SHOWING DD BANK BETWEEN
EXISTING AND NEW OUTLET NEEDING DRESSED UP WITH SOIL IN
WASHOUT FILLED WITH BOULDER AND ALL BOULDERS TAPPED

INTO
BANK



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Drainage Work Order Request For Repair

Hardin County

Date: 4/28/2020

Work Order #: WO00000293

Drainage District: DDs\DD 68 (51098)

Sec-Twp-Rge: 06-89-21 Qtr Sec: _____

Location/GIS: 89-21-06-400-003

Requested By: Nick Hoversten

Contact Phone: (515) 290-5806

Contact Email: _____

Landowner (if different): Thielke Farms

Description: DD 68 - Nick Hoversten reports intake is sucking dirt on N side of 110th St. in parcel #892106400003 (Thielke Farms) just west of acreage/house site owned by Jeff Hoversten.

Repair labor, materials and equipment: _____

Repaired By: _____ Date: _____

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

For Office Use Only

Approved: _____ Date: _____

Drainage District:

#68 Lat 5

Repair Summary:

- Per the recommended actions of the Investigation Summary, returned to the site of the blowout/sinkhole at the Lateral 5 offset intake on the north side of 110th Street in the SW¼ SE¼ Section 6, Township 89 North, Range 21 West.
- Upon excavation, the standpipe was found to have been inserted in the original concrete beehive intake. Further excavation found the 6-inch VCP tile which drains said intake to the Lateral 5 tile to be broken and collapsed.
- Removed the original concrete intake and collapsed VCP tile sections until a fully intact piece of the VCP tile was found. The removed intake was replaced with rock bedding, a Hickenbottom intake, HDPE riser, HDPE Tee, and HDPE reducer attached to the section of intact 6-inch VCP tile. The connection was then solidified with a ¾ concrete collar, and rock backfill was installed.
- The ditch around the intake had excess sediment built up around the intake and road box culvert, so additional grading was completed to provide positive drainage towards these structures, and the excavation was filled with on-site soil.

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

See attached Tabulated Contractor Time and Materials Sheet. Crop damage is included in this tabulation.

Additional Actions Recommended:

- The surrounding road ditch on both sides of the road was found to be filled with excess sediment. Secondary roads should be contacted so that ditch can be cleaned out. The road box culvert had approximately 1-foot of sediment in its base that also needs to be cleaned out.
- After work was completed, no seeding was applied to the disturbed soil. Secondary Roads or the contractor should be informed that seeding needs to be done.
- Crop damage claims should be paid as submitted by landowners and verified as shown in the attached tabulation.



Tabulated Contractor Time and Materials

Date	Totals	7/7/2020
Workman (hrs)	11 1/4	11 1/4
Mini Excavator (hrs)	5 1/2	5 1/2
Skidloader (hrs)	5 1/2	5 1/2
1" Clean Bedding Rock	Yes	
Concrete Collars	Yes	
Hickenbottom Intake and Riser(ea)	0	
8"x8"x8" HDPE Tee (ea)	1	1
8"x6" HDPE Reducer (ea)	1	1
Crop Damage (ac)	0.02	0.02

CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

07/07/2020

PROJECT NUMBER:

HARDIN DD WD # 293

DAYS OF WEEK:

S M W T F S

COUNTY, ROUTE, ROAD:

6802 / DD68

SHEET NO.

1 OF 3

LOCATION:

110TH ST BETWEEN CO HWY 525
& G AVE 1782.9' EAST OF
SW 1/4 SE 1/4 6-89-21 REPAIR DEF SO HWY 525
INTAKE IN NORTH DITCH ON DD #68

LOW 20'S TO LOW 90'S SUNNY
WITH LIGHT WINDS

JOB # 6802 DD68 SURVEY

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

7:15 A.M. OBSERVER LEFT OFFICE FOR TILE

REPAIR LOCATION.

7:40 A.M. OBSERVER ARRIVED ON SITE AND SET GPS BASE ON HARDIN
COUNTY GPS # 8022.

8:00 A.M. OBSERVER HAD GPS BASE SETUP AND CHECKED INTO GPS #4
1/2" Ø IRON ROD FLUSH ON FIELD EDGE NORTH OF FIELD DRIVE IN SW
QUADRANT @ 110TH ST & H AVE. CHECKED GOOD FOR BOTH HORIZONTAL & VERTICAL
POSITION.

8:05 A.M. OBSERVER AT REPAIR LOCATION WITH CREW NOT ON
SITE YET.

8:15 A.M. ADAM AND PERRY ON SITE WITH KOLBELCO SK 85 CS MINI
EXCAVATOR AND CASE TR 340 TRACKED SKID LOADER.

8:32 A.M. PICTURE # 4026 SEE PICTURE FOR DETAIL.

8:50 A.M. PICTURE # 4027 & 9:12 A.M. PICTURE # 4028 SEE PICTURE FOR DETAILS.

9:20 A.M. OBSERVER CONTACTED LEE ABOUT THE 6" CLAY TILE OUTLET
FROM BEEHIVE BEING BROKE & SUCKING SOIL ON EAST EDGE
OF ORIGINAL CONCRETE BEEHIVE INTAKE. LEE AGREED
TO REPLACE WITH AN 8" TO 10" HICKEN BOTTOM.

9:21 A.M. PICTURE # 4029 AND PICTURE # 4031, & 9:27 A.M. PICTURE # 4032
SEE PICTURE FOR DETAILS.

9:30 A.M. PERRY LEFT SITE TO GET SUPPLIES (HICKEN BOTTOM &
QUIKRETE CONCRETE BAGS.

9:35 A.M. PICTURE # 4033 & 9:36 A.M. PICTURE # 4034 SEE PICTURE FOR DETAILS.

9:55 A.M. PICTURE # 4035 & PICTURE # 4036 SEE PICTURE FOR DETAILS.

10:41 A.M. PICTURE # 4037 & PICTURE # 4038 SEE PICTURE FOR DETAILS.

11:30 A.M. PERRY BACK ON SITE WITH 8" HICKEN BOTTOM TOP & BOTTOM
SECTION, 601B BAGS OF QUIKRETE CONCRETE, & 8" X 8" HOPE
DEND END TEE, & 8" X 6" HDPE REDUCER,

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

Observer's Signature:

Dean Perry

Date Prepared:

07/07/2020

Reviewed by:

Engineer

Date Reviewed

CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

02/07/2020

PROJECT NUMBER:

HARDIN DD WO # 293

DAYS OF WEEK:

S M W T F S

COUNTY, ROUTE, ROAD:

6802 / DD68
110TH ST BETWEEN CO HWY 525
& CAVE 17829' ± EAST OF

SHEET NO.

2 OF 3

LOCATION:

SW 1/4 SE 1/4 6-89-21 & CO HWY 525
REPAIR INTAKE IN NORTH
DITCH ON DD # 68

LOW 70'S TO LOW 90'S SUNNY
WITH LIGHT WINDS

JOB # 6802 DD68 SURVEY

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

11:30 A.M. ADAM AND PERRY LEFT SITE

TO GET ROCK.

12:00 P.M. ADAM AND PERRY BACK ON SITE WITH ROCK FROM
MARTIN MARIETTA QUARRY.

12:29 P.M. PICTURE # 4039 & 12:40 P.M. PICTURE # 4040 SEE PICTURE FOR DETAILS,

12:55 P.M. PICTURE # 4042 SEE PICTURE FOR DETAILS,

1:56 P.M. PICTURE # 4044, 1:57 P.M. PICTURE # 4045, 1:58 P.M. PICTURE # 4046,
& 1:59 P.M. PICTURE # 4047 SEE PICTURE FOR DETAILS.

1:00 P.M. OBSERVER SHOT BEAN DAMAGE GPS # 150 TO GPS # 153

2:00 P.M. CREW WAS DONE GRADING DITCH & LOADED UP EQUIPMENT.
OBSERVER TORE DOWN GPS.

2:15 P.M. OBSERVER AND CREW TORE DOWN GPS.

QUANTITIES

ADAM 11:30-12:00 1/2 HR GETTING A LOAD OF ROCK
8:15-11:30, 12:00-2:15 5 1/2 HOURS
PERRY 9:30-12:00 2 1/2 HOURS GETTING HICKEN BOTTOM, TREE, REDUCER, ROCK
8:15-9:30, 12-2:15 3 1/2 HOURS

DYLAN 12:00 - 2:15 2 1/4 HOURS

CASE TR 340 TRACKED SKIDLOADER 5 1/2 HOURS 1/2 HOUR CONCRETE MIXER FOR SKIDLOADER

KOLBELCO SK 85CS MINI EXCAVATOR 5 1/2 HOURS

8" X 6" HDPE REDUCER, 3" X 8" HDPE DEAD END TREE, TOP & BOTTOM SECTION OF HICKEN BOTTOM

2.0' X 2.0' ENGINEER FABRIC.

1.0' X 2.0' 6" X 6" WIRE MESH

8- 60LB BAGS OF QUIKRETE HIGH STRENGTH CONCRETE MIX

MARTIN MARIETTA TICKET # 1" CLEAN ROCK TONS

BEAN DAMAGE GPS # 150 TO GPS # 153 .021 ACRES

ADDITIONAL
ACTIONS

DITCH NEEDS SEEDED, CONCRETE BOX CULVERT UNDER 110TH ST NEEDS
SOIL CLEAN OUT (COUNTY), DITCH CLEANING NORTH SIDE & SOUTH SIDE 110TH ST (COUNTY)

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

Observer's Signature:

Adam Perry

Date Prepared:

02/07/2020

Reviewed by:

Engineer

Date Reviewed

PICTURE #4026 IS LOOKING WEST SHOWING HDPE
STAND PIPE WITH 18" BEEHIVE TOP OVER 12" HDPE STAND
PIPE WITH 1.3' E-W X 2.0' N-S HOLE ON WEST SIDE & 1.8' DEEP
← GPS #140 N RIM OF 12"
SW HDPE PERFORMED
STAND PIPE
WITH 12"



PICTURE #4027 IS LOOKING SW SHOWING CREW EXCAVATING
AROUND 12" HDPE PERF STAND PIPE TO INVESTIGATE
BLOWOUT ON EAST SIDE OF INTAKE,

PICTURE # 4028 IS LOOKING SOUTH SHOWING ORIGINAL BEEHIVE INTAKE IN PLACE WITH 12" CLAY STAND PIPE WITH CONCRETE RIM ON TOP & 12" HOPE PERF TILE STAND PIPE STILL ON TOP GPS # 140 TOP 12" HOPE PERF



GPS # 141
NRIM
CONCRETE
ON BEEHIVE
INTAKE

07/10/2020
09:12

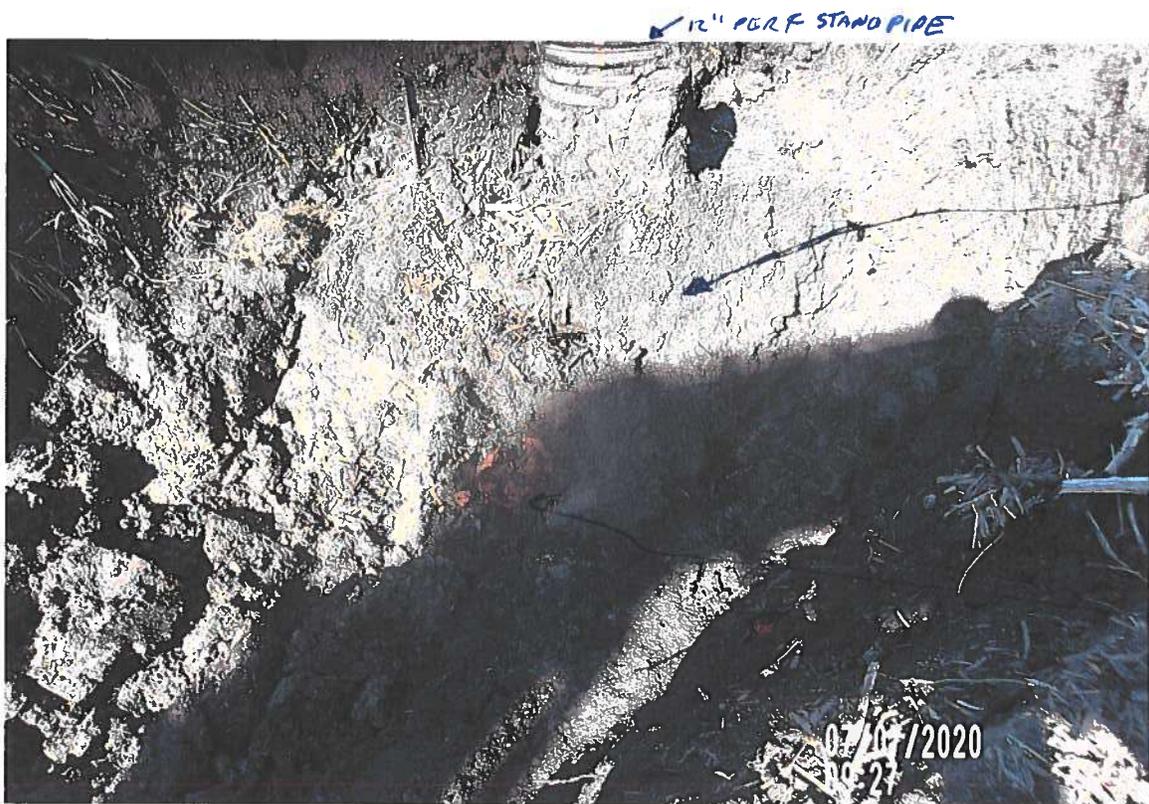


BROKEN
COLLAPSED
SECTION
OF TILE

07/10/2020
09:21

PICTURE # 4029 IS LOOKING SOUTH SHOWING BROKEN & COLLAPSED SECTION OF TILE JUST ON EAST SIDE OF ORIGINAL BEEHIVE INTAKE,

PICTURE #4031 IS LOOKING WEST SHOWING 6" CLAY TILE
OUTLET TILE FROM BEE HIVE INTAKE BROKEN & COLLAPSED.



✓ 12" PERF STAND PIPE

ORIGINAL
CONCRETE
BEEHIVE
INTAKE



BROKEN
6" CLAY
OUTLET
TILE

PICTURE # 4032 IS LOOKING EAST. SHOWING BEEHIVE INTAKES
6" CLAY TILE OUTLET BROKEN & COLLAPSED

PICTURE #4033 IS LOOKING EAST INSIDE 6" CLAY TILE
OUTLET SHOWING TILE IN GOOD SHAPE AND CLEAN FROM
GPS # 142 TOP 6" CLAY (0.55' TOP TO FL)



BROKEN 6" TILE OUTLET

PICTURE #4034 IS LOOKING WEST AT ORIGINAL BEEHIVE
INTAKE. 1.5' TALL 12" SW PERF TILE WAS SET IN PLACE
ON TOP

PICTURE #4035 SHOWING ORIGINAL CONCRETE BEEHIVE
INTAKE REMOVE AND READY TO BE HAULED OUT.



PICTURE #4036 IS LOOKING WE SHOWING 6" CLAY TILE
REMOVED TO A GOOD SECTION.

PICTURE#4037 IS LOOKING SOUTH AT NORTH END OF CONCRETE BOX
 CULVERT UNDER 110TH STREET HAVING 4.0' PLUS OF
 SOIL THAT NEEDS CLEANED OUT. (COUNTY NEEDS TO CLEAN OUT) CREW GRADED
 FROM FL CONCRETE BOX CULVERT



FROM
 FL CONCRETE
 BOX CULVERT



GPS#146

FL 2.2' x 2.0'
 CONCRETE
 BOX CULVERT

07/07/2020
 10:41



GPS#145

FL 2.1' x 2.0'
 CONCRETE BOX
 CULVERT



07/07/2020
 10:46

PICTURE#4038 IS LOOKING NORTH AT SOUTH END OF CONCRETE
 BOX CULVERT UNDER 110TH STREET HAVING 2.2' ± OF SOIL THAT NEEDS
 CLEANED OUT (COUNTY NEEDS TO CLEAN OUT) CONCRETE BOX CULVERT

PICTURE# 4039 IS LOOKING SOUTH SHOWING 8"x8" HDPE DEAD
 END TEE WITH 8"x6" HDPE REDUCER INSTALLED ON EXISTING 6"
 CLAY TILE WITH 4" PLUS OF BEDDING ROCK UNDER TEE.



GPS# 149 FL 8"x8"
 HDPE DEAD END
 TEE



GPS# 142
 TOP 6" CLAY (0.55' TO TOP TO FL)

GPS# 148 TOP 8"x6" HDPE REDUCER



GPS# 149
 FL 8"x8"
 HDPE DEAD
 END TEE

07/07/2020
 12:40

PICTURE# 4040 IS LOOKING SOUTH SHOWING TEE
 BEDDED WITH ROCK WITH 1.0' X 2.0' 6" X 6" SQUARE WIRE MESH
 & 2.0' X 2.0' ENGINEERING FABRIC OVER JOINT BEFORE 3/4 COLLAR POURED.

PICTURE #4042 IS LOOKING WEST SHOWING BOTTOM & TOP SECTION OF HICKENBOTTOM SET IN PLACE IN 8"x8" HOPE DEAD END TEE, ALSO SHOWS 3/4" CONCRETE COLLAR POURED AROUND 8"x6" HOPE REDUCER USING 8-60 LB QUIKRETE BAGS



8 SKIDLOADER
CONCRETE
MIXER



PICTURE #4043 IS LOOKING SE SHOWING ROCK BEDDED AROUND HICKEN BOTTOM

PICTURE# 4044 IS LOOKING WEST SHOWING FL IN NORTH
DITCH GRADED TO FL CONCRETE BOX CULVERT &
HICKEN BOTTOM



PICTURE# 4045 IS LOOKING SOUTH SHOWING BEAN
DAMAGE & DITCH GRADED TO HICKEN BOTTOM & FL
OF CONCRETE BOX CULVERT (SOIL STILL NEEDS CLEANED OUT.)

PICTURE # 4046 IS LOOKING EAST SHOWING RL NORTH
DITCH GRADED TO RL CONCRETE BOX CULVERT & HICKEN BOTTOM.



PICTURE # 4047 IS LOOKING SOUTH SHOWING ROCK BEDDED AROUND
HICKEN BOTTOM WITH NORTH DITCH GRADED TO HICKEN BOTTOM
& RL CONCRETE BOX CULVERT (STILL NEEDS SOIL REMOVED FROM CULVERT)

6802 DD68 2020-07-08 DP

1,3659158.436,4964209.084,1164.725,6" HICK INTK
2,3659803.127,4964200.688,1169.198,FNL E
3,3659810.167,4964194.931,1166.556,FL DITCH TREES N
4,3660997.476,4964095.530,1174.963,CPT 1/2IR
5,3659782.333,4964178.335,1171.251,GRAV
6,3659779.197,4964192.249,1166.124,GS
7,3666244.429,4953341.469,1130.202,GPS 8020
8,3660715.611,4964165.393,1169.023,6"HICK INTK
9,3660721.554,4964154.122,1175.525,SH
10,3660698.370,4964154.543,1175.512,SH
11,3660710.118,4964155.967,1169.080,TILE 1'W
12,3660710.737,4964157.380,1168.596,TILE TO INTK
13,3660171.265,4964178.675,1167.939,FL DITCH @END TREES
14,3659777.875,4964181.677,1171.127,SH
15,3659794.014,4964193.153,1165.832,6"HICK INTK NEW
16,3659794.252,4964184.023,1164.285,8"CLAY 3'W
17,3660553.531,4964158.271,1175.158,SH START TREES
18,3660986.937,4964147.605,1176.415,SH END TREES
19,3659777.587,4964188.145,1166.500,TOE
20,3659778.618,4964196.603,1166.014,TOE
21,3659778.550,4964200.250,1168.677,TB
22,3659777.548,4964213.140,1168.810,GS
23,3659782.126,4964181.595,1162.826,FL 8"CLAY
24,3660120.006,4964167.747,1172.758,FO
25,3660079.058,4964168.041,1172.591,FO
26,3660079.439,4964172.837,1172.418,SH
27,3660146.568,4964170.649,1172.594,SH
28,3660146.579,4964166.686,1172.900,FO
29,3660191.815,4964164.713,1173.115,FO
30,3660191.428,4964168.960,1172.834,SH
31,3659793.853,4964184.483,1163.609,TOP 8X8X8 T
32,3659801.906,4964185.966,1163.641,TOP HDPE JOINT
33,3659796.549,4964185.209,1164.381,GRAV
34,3659787.321,4964183.052,1164.557,GRAV
35,3659806.457,4964186.250,1164.780,GRAV
36,3659817.224,4964186.472,1164.290,GRAV
37,3659821.910,4964186.113,1163.688,TOP HDPE JOINT
38,3659831.879,4964186.007,1163.775,TOP HDPE COUPLER
39,3659842.061,4964185.411,1163.820,TOP HDPE JOINT
40,3659862.212,4964184.361,1163.861,TOP HDPE JOINT
41,3659872.351,4964183.695,1163.660,TOP HDPE JOINT
42,3659882.110,4964183.301,1163.758,TOP HDPE COUPLING
43,3659902.462,4964183.853,1163.870,TOP HDPE JOINT
44,3659912.583,4964183.829,1163.828,TOP HDPE COUPLING
45,3659911.732,4964183.934,1165.326,GRAV
46,3659922.771,4964183.531,1163.880,TOP HDPE JOINT
47,3659932.454,4964183.191,1164.053,TOP HDPE COUPLER
48,3659942.909,4964182.614,1163.973,TOP HDPE JOINT
49,3659952.878,4964182.197,1163.969,TOP HDPE COUPLER

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50,3659963.220,4964181.841,1164.000, TOP HDPE JOINT
 51,3659983.357,4964181.263,1163.956, TOP HDPE JOINT
 52,3659993.392,4964181.251,1164.034, TOP HDPE COUPLER
 53,3660003.450,4964180.857,1164.065, TOP HDPE JOINT
 54,3660013.541,4964180.556,1164.096, TOP HDPE COUPLER
 55,3660032.849,4964179.983,1164.013, TOP HDPE JOINT
 56,3660043.897,4964179.416,1164.168, TOP HDPE JOINT
 57,3660053.794,4964179.414,1164.166, TOP HDPE COUPLER
 58,3660063.923,4964178.896,1164.130, TOP HDPE JOINT
 59,3660073.944,4964178.585,1164.217, TOP HDPE COUPLER
 60,3660084.144,4964178.570,1164.170, TOP HDPE JOINT
 61,3660094.290,4964179.022,1164.255, TOP HDPE COUPLER
 62,3660104.260,4964178.951,1164.284, TOP HDPE JOINT
 63,3660114.186,4964178.584,1164.281, TOP HDPE COUPLER
 64,3660124.329,4964178.411,1164.364, TOP HDPE JOINT
 65,3660134.352,4964178.152,1164.375, TOP HDPE COUPLER
 66,3660144.532,4964177.474,1164.436, TOP HDPE JOINT
 67,3660160.559,4964169.033,1172.289, SH CONC COLLAR
 68,3660541.983,4964158.687,1166.001, TOP 5"CLAY
 69,3660552.627,4964158.660,1166.148, TOP 8"HDPE
 70,3660562.610,4964157.815,1166.150, TOP 8"HDPE
 71,3660573.182,4964158.183,1166.274, TOP 8"HDPE
 72,3660582.937,4964157.997,1166.331, TOP 8"HDPE
 73,3660602.829,4964157.847,1166.818, TOP 8"HDPE
 74,3660622.009,4964156.943,1167.960, TOP 5"CLAY
 75,3660613.353,4964157.500,1166.924, TOP 8"HDPE
 76,3660664.040,4964156.156,1167.514, TOP 8"HDPE
 77,3660673.926,4964156.317,1167.678, TOP 8"HDPE
 78,3660687.401,4964155.089,1168.229, TOP 5"CLAY
 79,3660683.795,4964155.568,1167.571, TOP 8"HDPE
 80,3660693.988,4964155.607,1167.674, TOP 8"HDPE
 81,3660705.025,4964154.841,1168.423, TOP 5"CLAY
 82,3660704.275,4964155.557,1167.783, TOP 8"HDPE
 83,3660713.569,4964154.184,1168.666, TOP 5" T WEST
 84,3660714.568,4964154.234,1168.510, TOP 5" T EAST INTK
 85,3660713.465,4964115.555,1170.841, RIM BEEHIVE
 86,3660713.196,4964153.141,1169.457, GRAV@CONC COLLAR
 87,3660713.528,4964155.626,1168.115, 8X8X8 T WEST
 88,3660715.502,4964155.752,1167.879, 8X8X8 T EAST
 89,3660726.354,4964155.308,1167.909, TOP 8"HDPE
 90,3660732.967,4964153.835,1168.645, TOP 5"CLAY
 91,3660716.669,4964169.155,1168.700, TOP 5"CLAY TO EAST
 92,3660747.473,4964154.383,1168.152, TOP 8"HDPE
 93,3660762.682,4964152.941,1168.669, TOP 5"CLAY
 94,3660716.690,4964167.713,1169.441, FL DITCH@8"HICKINTK
 95,3660756.026,4964154.095,1168.184, TOP 8"HDPE
 96,3660779.550,4964152.488,1168.656, TOP 5"CLAY
 97,3660776.199,4964153.880,1168.229, TOP 8"HDPE
 98,3660786.529,4964153.384,1168.347, TOP 8"HDPE

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99,3660796.866,4964153.135,1168.454, TOP 8"HDPE
 100,3660805.865,4964151.639,1168.842, TOP 5"CLAY
 101,3660844.656,4964150.942,1169.004, TOP 5"CLAY
 102,3660826.747,4964152.414,1168.736, TOP 8"HDPE
 103,3660836.975,4964152.086,1168.682, TOP 8"HDPE
 104,3661027.241,4964576.664,1167.358, FL STEEL INTK
 105,3660882.256,4964149.887,1169.239, TOP 5"CLAY
 106,3660867.667,4964151.490,1168.929, TOP 8"HDPE
 107,3660895.324,4964149.387,1169.283, TOP 5"CLAY
 108,3660877.518,4964151.428,1169.075, TOP 8"HDPE
 109,3661022.766,4964106.710,1174.696, PK IN CMP
 110,3660906.360,4964148.844,1169.385, TOP 5"CLAY
 111,3660897.877,4964150.313,1169.096, TOP 8"HDPE
 112,3660914.181,4964148.629,1169.347, TOP 5"CLAY
 113,3660922.454,4964148.309,1169.406, TOP 5"CLAY
 114,3660907.309,4964150.265,1169.241, TOP 8"HDPE
 115,3660919.427,4964145.248,1176.123, GRAV FO LOCATE
 116,3660917.589,4964150.219,1169.331, TOP 8"HDPE
 117,3660930.417,4964148.071,1169.421, TOP 5"CLAY
 118,3660962.194,4964147.611,1169.526, TOP 5"CLAY
 119,3660947.922,4964148.755,1169.609, TOP 8"HDPE
 120,3660957.956,4964148.522,1169.680, TOP 8"HDPE
 121,3660968.052,4964148.256,1169.778, TOP 8"HDPE
 122,3660992.422,4964146.488,1169.703, TOP 5"CLAY
 123,3660978.103,4964148.095,1169.781, TOP 8"HDPE
 124,3660992.122,4964146.114,1169.717, CLAY-HDPE JOINT
 125,3653372.447,4962727.331,1144.755, GS S SIDE BLOWOU
 126,3653377.963,4962727.527,1144.669, GS N SIDE BLOWOU
 127,3653427.962,4962946.731,1154.313, FNL N-S
 128,3653240.983,4962949.420,1146.536, FNL N
 129,3653206.715,4962729.630,1148.069, CL 125TH ST
 130,3653376.251,4962725.130,1140.177, Tile TOP 6" CONC 0.54'TOFTOFL
 131,3653378.090,4962729.138,1140.001, Tile TOP 15" CLAY 1.38.'TOFTOFL
 132,3653372.864,4962729.828,1140.057, Tile TOP 15" CLAY 1.36.'TOFTOFL
 140,3661139.523,4956391.508,1159.413, INTAKE N RIM BEEHIVE 12"HDPE PERF TILE
 141,3661139.795,4956391.553,1157.847, INTAKE BEEHIVE CONC N RIM
 142,3661139.339,4956394.861,1155.942, Tile TOP 6" CLAY 0.55 'TOFTOFL
 143,3661122.431,4956405.101,1160.218, GS
 144,3661094.653,4956404.591,1161.345, GS
 145,3661095.332,4956404.516,1158.881, FL 2.1''*2'CONC BOX
 146,3661122.342,4956405.022,1159.172, FL 2.2''*2'CONC BOX
 147,3661090.334,4954609.324,1166.283, MAG NAIL S25&110TH
 148,3661139.266,4956394.781,1156.027, REDUCER TOP HDPE 8"*6"
 149,3661139.196,4956393.507,1155.492, FL 8"*8" HDPE TEE
 150,3661141.209,4956357.421,1160.039, GS BEAN DAMAGE
 151,3661159.582,4956386.460,1160.140, GS BEAN DAMAGE
 152,3661158.742,4956405.628,1160.044, GS BEAN DAMAGE
 153,3661139.917,4956438.390,1160.098, GS BEAN DAMAGE
 154,3661119.857,4956321.598,1162.968, EOG

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155,3661094.818,4956323.224,1162.842,EOG

156,3661120.158,4956450.992,1162.826,EOG

157,3661094.769,4956451.055,1162.811,EOG

8022,3666160.310,4968629.670,1166.150,GPS 8022

8022_GNSS,3666160.310,4968629.670,1166.150,Autonomous Setup

8023,3651643.392,4969838.856,1101.611,GPS 8023



Drainage Work Order Request For Repair

Hardin County

Date: 10/8/2019

Work Order #: WO00000269

Drainage District: DDs\DD 109 (51127)

Sec-Twp-Rge: _____ Qtr Sec: _____

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

Requested By: Dennis Prochaska

Contact Phone: (641) 373-0297

Contact Email: _____

Landowner (if different): _____

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

Repair labor, materials and equipment _____

Repaired By: _____ Date: _____

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

For Office Use Only

Approved: _____ Date: _____



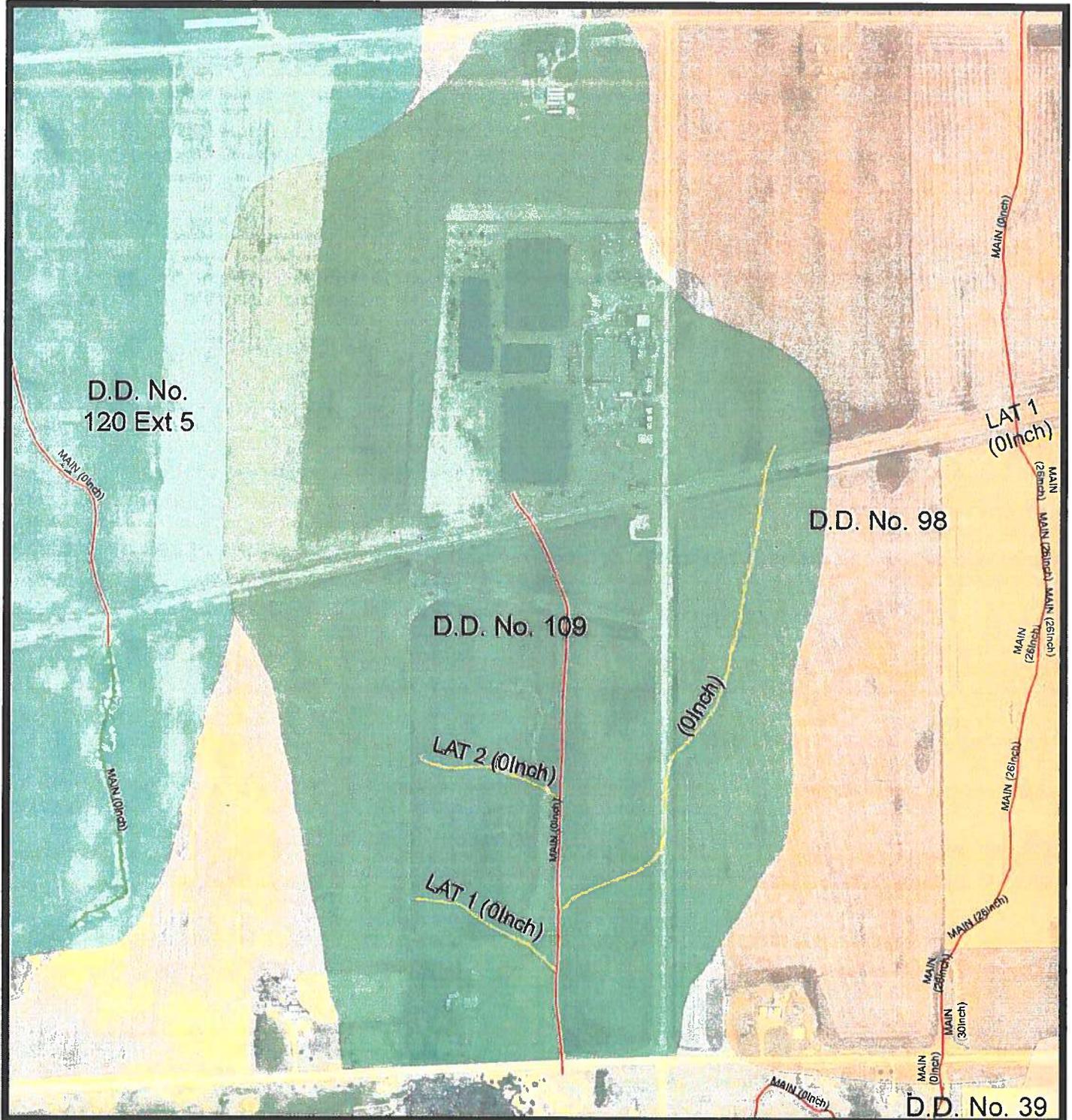
Drainage Tiles

- Lateral
- Main
- Open Ditch
- Private Tile

Hardin County Auditor's Office



Date: 10/8/2019



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

Drainage District:

#109

Repair Summary:

- Per the recommended actions of the Investigation Summary, returned to the site of the willow trees in the NE¼ NE¼ of Section 16, Township 89 North, Range 20 West.
- Found the 12-inch VCP and adjacent 12-inch concrete private tile, both already exposed by landowner's contractor (excavation left open) and measured 50-feet in each direction along the tile route to determine trees to be removed.
- Cut down trees that were in the vicinity of the Main tile and treated stumps to prevent reemergence. Trees and limbs were removed from the site.
- While on-site, observed trench that was excavated by the landowner's contractor for the private 12-inch concrete tile where overland water was flowing to a section of the Main tile that had been removed by the same. Ran a tile locating cable in both directions from the exposed tiles (both private and district). Limits are shown on attached drawing. Also found that the Main tile has backfall and approximately 5 inches of sediment in it.

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

See attached Tabulated Contractor Time and Materials Sheet. Crop damage sustained during the repair is also included in this tabulation. Please note that CGA staff was not present during all of the tree removal.

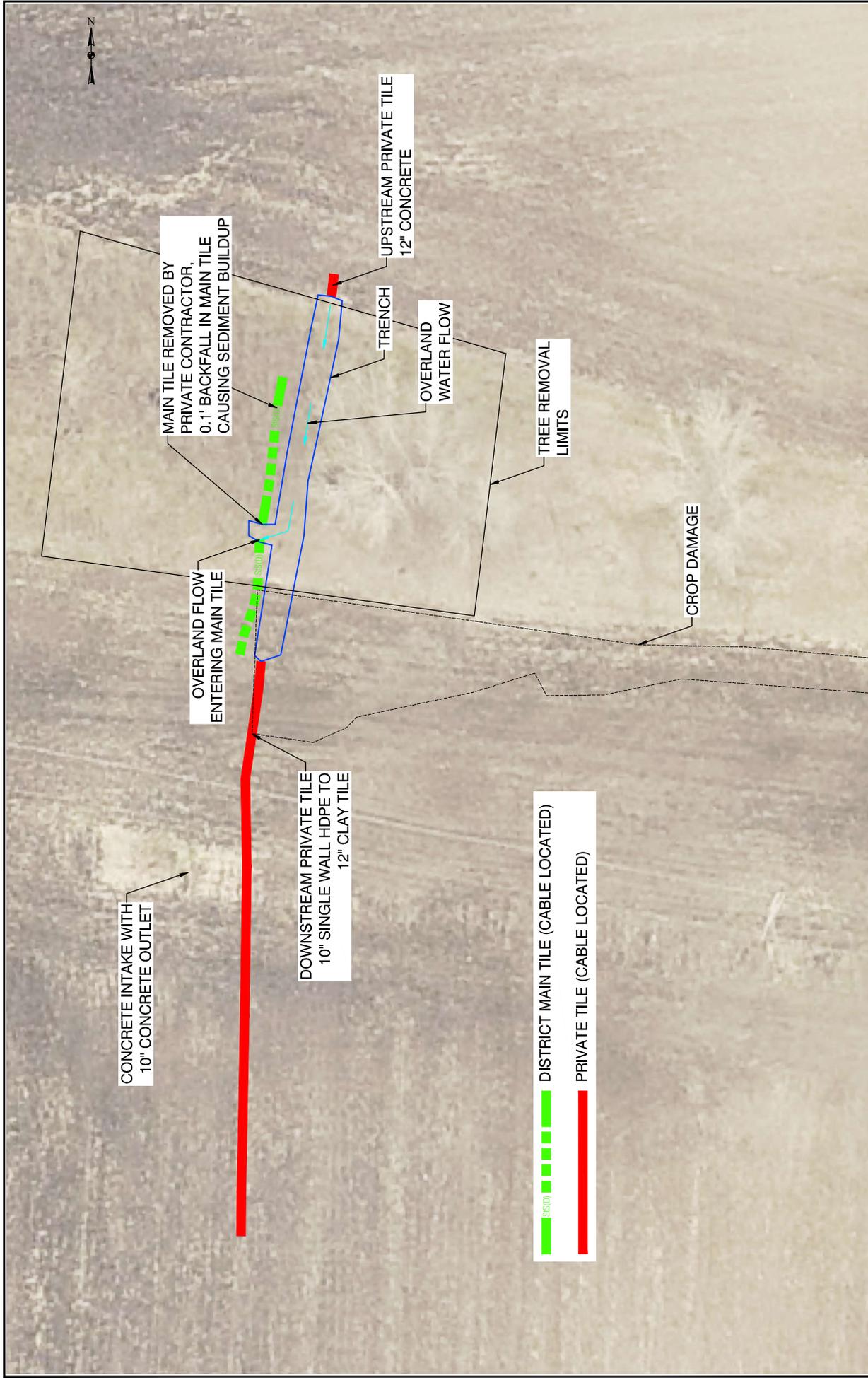
Additional Actions Recommended:

- If desired by the District Trustees, the sediment and backfall in the Main tile could be investigated, as well as potential obstructions where the tile locating cable was stopped. The Main tile also needs to be repaired and backfilled where the landowner's contractor removed the section that was observed to prevent additional soil erosion and siltation of the Main tile
- The landowner should be contacted to facilitate the repair of their private tile in a way that does not affect the integrity or capacity of the existing Main tile.
- Crop damage claims should be paid as submitted by landowners and verified as shown in the attached tabulation.



Tabulated Contractor Time and Materials

Date	Totals	5/21/2020	5/22/2020
Workman (hrs)	24	11	13
Mini Excavator (hrs)	8	3 2/3	4 1/3
Pickup & Dump Trailer (hrs)	8	3 2/3	4 1/3
Crop Damage (ac)	0.1		



MAIN TILE REMOVED BY PRIVATE CONTRACTOR, 0.1' BACKFALL IN MAIN TILE CAUSING SEDIMENT BUILDUP

UPSTREAM PRIVATE TILE 12" CONCRETE

TRENCH

OVERLAND WATER FLOW

TREE REMOVAL LIMITS

CROP DAMAGE

OVERLAND FLOW ENTERING MAIN TILE

DOWNSTREAM PRIVATE TILE 10" SINGLE WALL HDPE TO 12" CLAY TILE

CONCRETE INTAKE WITH 10" CONCRETE OUTLET

 DISTRICT MAIN TILE (CABLE LOCATED)
 PRIVATE TILE (CABLE LOCATED)

		CGA <small>Chapman-Stuber Associates, Inc.</small> <small>1015 West 10th Street</small> <small>Des Moines, IA 50319</small>		<small>DESIGNED: JAS DATE: 1/23/2020</small> <small>DRAWN: JAS DATE: 1/23/2020</small> <small>CHECKED: JAS DATE: 1/23/2020</small> <small>APPROVED: JAS DATE: 1/23/2020</small>		DRAINAGE DISTRICT #109 HARDIN COUNTY, IOWA		TREE REMOVAL MAP		<small>PROJECT NO. 0888</small> <small>SHEET 1 OF 1</small>	
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CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

05/21/2020

PROJECT NUMBER:

HARDIN DD WO# 269

DAYS OF WEEK:

S M T W Th F S

COUNTY, ROUTE, ROAD:

6888 DD109
4675 WEST OF HWY 545
& 412' S SOUTH OF SOUTH ROW
FENCE FOR RAILROAD

SHEET NO.

1 OF 2

LOCATION:

NE 1/4 NE 1/4 16-89-20 HARDIN COUNTY
REMOVE TREES WITHIN 50 FT OF DRAINAGE DISTRICT TILE

MID 50'S TO LOW 60'S CLOUDY
& BREEZY

JOB# 6888 DD109, SURVEY

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

2:00 P.M. ADAM CALLED OFFICE THAT CREW WOULD BE WORKING ON THIS JOB TODAY. OBSERVER LOOKED FOR JOB FILE WITH NO JOB FILE FOR DATA COLLECTOR. OBSERVER PRINTED OFF PLAT MAP.

3:00 P.M. ADAM CALLED THAT EQUIPMENT IS LOADED AND HEADING TO JOB SITE. OBSERVER LOADED UP TILE LOCATOR EQUIPMENT SINCE ADAM SAID HIS EQUIPMENT WAS NOT WORKING PROPERLY

3:25 P.M. OBSERVER LEFT OFFICE AFTER LOADING UP EQUIPMENT.

3:40 P.M. OBSERVER ARRIVED ON SITE BUT CREW WAS NOT ON SITE. OBSERVER BEGAN LOOKING FOR HARDIN COUNTY GPS MONUMENT #8041.

3:50 P.M. 3 MAN CREW ARRIVED ON SITE ADAM, PERRY, & DYLAN WITH TAKEUCHI TB180 FR. MINI EXCAVATOR, PICKUP WITH TRIPLE AXLE DUMP TRAILER, & 2 STIHL CHAINSAWS. OBSERVER MET WITH CREW TO GO OVER JOB WITH THEM AND TO MAKE SURE SOFT TREES WERE REMOVED. 12" CLAY TILE SOUTH & 12" CONCRETE TILE WAS EXPOSED. I MEASURED .50 FOOT WEST & EAST OF TILE FOR TREES REMOVED. 12" ON WEST SIDE & 2-8"φ, 2-6"φ, 10"φ, 12"φ, 13"φ, 2-14"φ, 2-15"φ, 2-18"φ, & 20"φ TREE ON EAST SIDE. STILL UNSURE WHICH TILE (12" CLAY OR 12" CONCRETE) IS DISTRICT TILE. 12" CONCRETE TILE FROM NORTH IS FLOWING SOUTH IN OPEN DITCH (WHERE 12" CONCRETE TILE WAS ALREADY REMOVED) TO 12" CLAY TILE TO SW. 12" CONCRETE TILE (SOUTH OF 12" CLAY TILE) IS STILL IN PLACE BUT FL IS HIGHER THAN 12" CLAY TILE TO SW. 12" CONCRETE TILE SOUTH IS TIED INTO 10" SW HOPE PER TILE FURTHER SOUTH. UNSURE IF IT IS JUST A SHORT REPAIR PIECE OR CONTINUES.

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

Observer's Signature:

Dean Penny

Date Prepared:

05/21/2020

Reviewed by:

Engineer

Date Reviewed

CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

05/21/2020

PROJECT NUMBER: HARDIN DD WO# 269
6888 DD109
COUNTY, ROUTE, ROAD: 467'± WEST OF COUNTY 545
2412'± SOUTH OF SOUTHWAY
LOCATION: NE 1/4 NE 1/4 16-89-20 HARDIN COUNTY
REMOVE TREES WITHIN SOFT OF DRAINAGE DISTRICT TILE
FENCE FOR RAILROAD

DAYS OF WEEK:

S M T W T F S

SHEET NO.

2 OF 2

MID 50S TO LOW 60'S CLOUDY
& BREEZY

JOB# 6888 DD109 SURVEY

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

4:14 P.M. PICTURE # 3589 AND PICTURE # 3590 SEE PICTURE FOR DETAILS.

4:30 P.M. PICTURE # 3591 AND PICTURE # 3592 SEE PICTURE FOR DETAILS.

4:30 P.M. OBSERVER LEFT TO SET UP GPS.

4:55 P.M. OBSERVER HAD GPS BASE SET UP BUT WAS HAVING TROUBLE
GETTING IT TO CONNECT. OBSERVER TRIED SEVERAL THINGS
WITH NO SUCCESS.

6:00 P.M. OBSERVER STOPPED BACK AT SITE TO CHECK ON CREW.
CREW HAD TREES CUT DOWN AND WERE ALREADY HAULING
OUT TREES WITH PICKUP AND DUMP TRAILER.

6:15 P.M. OBSERVER HEADED BACK TO TRY TO SET UP GPS BASE
AGAIN. STILL NO SUCCESS.

6:45 P.M. OBSERVER TORE DOWN GPS BASE AND HEADED BACK TO OFFICE
TO CHECK IF GPS COULD STILL BE SET UP ON EXISTING JOB TO
NARROW DOWN THAT IT IS ONLY A NEW JOB ISSUE.
INFORMED CREW THAT OBSERVER LEAVING SITE FOR DAY
TO TROUBLE SHOOT GPS ON EXISTING JOB.

7:30 P.M. ADAM CALLED OBSERVER THAT CREW LEFT SITE FOR
DAY AND WOULD BE BACK ON SITE AROUND 8:00 A.M. TOMORROW.
OBSERVER ADVISED ADAM THAT I WILL BE ON SITE ONCE
GPS IS FIGURED OUT.

QUANTITIES

ADAM 3 2/3 HOUR

BOBCAT TB180 FR MINI EXCAVATOR 3 2/3 HOURS

DYLAN 3 2/3 HOUR

2 STEEL CHAINSAW 3 2/3 HOUR

PERRY 3 2/3 HOUR

PICKUP AND DUMP TRAILER (3 2/3 HOURS?)
(HAULING AWAY TREES)

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

Observer's Signature:

Dean Perry

Date Prepared:

05/21/2020

Reviewed by:

Engineer

Date Reviewed

PICTURE#3589 IS LOOKING SW SHOWING 2 CLUSTER OF TREES THAT WILL BE REMOVED (WITHIN 50' OF DISTRICT TILE)



PICTURE#3590 IS LOOKING SW AT LONE 12" Ø TREE THAT WILL BE REMOVED (WITHIN 50 FT OF DISTRICT TILE)

PICTURE # 3591 IS LOOKING NORTH ON EAST SIDE OF DISTRICT TILE SHOWING TREES THAT NEED REMOVED



CLUSTER OF TREES WITHIN SOFT

CLUSTER OF TREES WITHIN 50 FT



12" DB TREE WITHIN SOFT OF DISTRICT TILE

CLUSTER OF TREES WITHIN 50 FEET THAT NEED REMOVED



PICTURE # 3592 IS LOOKING NORTH SHOWING TREES NEEDED REMOVED ON WEST AND EAST SIDE OF DISTRICT TILE

CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

05/22/2020

PROJECT NUMBER:

HARDIN DD WO# 269

DAYS OF WEEK:

S M T W T ⑤ S

COUNTY, ROUTE, ROAD:

6888 DD109
467'± WEST OF CO HWY 545
2412'± SOUTH OF SOUTHWAY
FENCE FOR RAILROAD

SHEET NO.

1 OF 3

LOCATION:

NE 1/4 NE 1/4 16-89-20 HARDIN COUNTY
REMOVE TREES WITHIN 50 FT OF DRAINAGE DISTRICT TILE

MID 50S TO LOW 60'S CLOUDY
& BREEZY

JOB# 6888 DD109 SURVEY

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

8:30 A.M. ADAM CALLED OBSERVER THAT CREW IS ONSITE. PERRY,
ADAM, AND DYLAN FOR CREW. BOBCAT TB 180 FR MINI EXCAVATOR,
2 STEEL CHAIN SAWS, & PICKUP AND DUMP TRAIL (HAUL AWAY TREES)
FOR EQUIPMENT. OBSERVER TOLD ADAM THAT GPS WORKED ON
EXISTING JOB AND STILL TRYING TO FIGURE OUT WHAT SETTING
IS WRONG IN DATA COLLECTOR THAT IS CAUSING ISSUE. OBSERVER
WILL CALL ADAM WHEN OBSERVER HAS GPS FIGURED OUT AND LEAVING
ACKLEY.

9:00 A.M. OBSERVER CALLED ADAM THAT GPS IS WORKING AGAIN
AND JUST LEAVING ACKLEY. CREW WAS PUTTING TORDON ON CUT TREE STUMPS.

9:15 A.M. OBSERVER ARRIVED ON SITE AND SET GPS BASE ON HARDIN
COUNTY GPS MONUMENT 8041 GPS #2

9:45 A.M. OBSERVER HAD GPS BASE SET UP AND SHOT HARDIN COUNTY GPS
MONUMENT #8040 GPS #3.

9:55 A.M. OBSERVER ARRIVED BACK AT REMOVAL LOCATION. CREW JUST
FINISHED WITH TORDON ON STUMPS

10:00 A.M. OBSERVER STARTED LOCATING TILE DOWNSTREAM 12" CLAY TILE FROM
GPS #15 TOP 12" CLAY (1.05' TOP TO FL) (4.2'± DEEP) MUCK @ 5" LEVEL 7"
LOCATE CABLE ONLY MADE 26.8 FT AND HIT SOMETHING
AND COULD NOT BE PUSHED ANY FURTHER. MARKED AND SHOT
GS @ TILE LOCATES (GPS #4 TO 7).

10:15 A.M. CREW STARTED TO EXCAVATE AT EXPOSED HDPE TILE
AT SOUTH END OF 12" CONCRETE TILE. 10" HDPE SINGLE WALL
PERFORATED TILE WAS INSERTED INTO 12" CONCRETE TILE.
OBSERVER WENT BACK TO GET DIFFERENT BATTERIES FOR CAMERA
AND WHEN OBSERVER WAS BACK THE 12" CONCRETE TILE WAS

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

Observer's Signature:

Dean Perry

Date Prepared:

05/22/2020

Reviewed by:

Engineer

Date Reviewed

CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

05/22/2020

PROJECT NUMBER:

HARDIN DD WO#269

DAYS OF WEEK:

S | M | T | W | T | F | S

COUNTY, ROUTE, ROAD:

6888 DD109
467'± WEST OF COUNTY HWY 545
2412'± SOUTH OF SOUTH RD

SHEET NO.

2 OF 3

LOCATION:

NE 1/4 NE 1/4 16-89-20 HARDIN COUNTY
REMOVE TREES WITHIN 50 FT OF DRAINAGE DISTRICT TILE
FENCE FOR RAILROAD

MID 50'S TO LOW 60'S CLOUDY
& BREEZY

JOB# 6888 DD109 SURVEY

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

REMOVED UP TO 10" HOPE TILE WHICH OBSERVER ONLY WANTED EXPOSED HOPE/
12" CONCRETE TILE EXPOSED TO RUN LOCATE CABLE DOWN.

10:25 A.M. RAN LOCATOR CABLE DOWNSTREAM FROM GPS# 14
TOP 10" HOPE SW PERFORATED TILE (0.87' TOP TO FL) (2.9'± DEEP) WATER
SITING IN TILE 3" DEEP AND PUSHED LOCATE CABLE 131.76 FT UNTIL IT HIT
SOMETHING & COULD NOT PUSH ANY FURTHER. MARKED AND SHOT .65 @ TILE LOCATES
(GPS# 14, # B TO # 17, # 19)

11:30 A.M. CREW STOPPED FOR LUNCH.

11:32 A.M. PICTURE# 3593, 11:48 PICTURE# 3594 & PICTURE# 3595 SEE PICTURE FOR DETAILS.

12:02 P.M. PICTURE# 3596, 12:04^{PM} PICTURE# 3597, 12:12^{PM} PICTURE# 3598,
12:15 P.M. PICTURE# 3599 SEE PICTURE FOR DETAILS.

12:17 P.M. OBSERVER STARTED SHOOTING CORN DAMAGE #1 (49, 22-32, 21, 33
- 47, 49) 0.052 ACRES

12:21 P.M. PICTURE# 3600 SEE PICTURE FOR DETAILS.

12:23 P.M. PICTURE# 3601, 12:29 P.M. PICTURE# 3602, 12:31 P.M. PICTURE# 3603,
& 12:34 P.M. PICTURE# 3604 SEE PICTURE FOR DETAILS.

12:20 P.M. CREW BACK FROM LUNCH. CREW RAN LOCATOR UPSTREAM
IN 12" CLAY TILE AND ONLY MADE IT 34.1 LF UPSTREAM
UNTIL IT HIT SOMETHING AND CABLE COULD NOT PUSH ANY
FURTHER FROM GPS# 20 (GPS# 20, # 50, # 51, & # 52)

1:06 P.M. PICTURE# 3607 & 1:08 P.M. PICTURE# 3608, PICTURE# 3609, PICTURE# 3610
& PICTURE# 3611 SEE PICTURE FOR DETAILS.

1:11 P.M. PICTURE# 3612, 1:18 P.M. PICTURE# 3614 & PICTURE# 3615 SEE PICTURE FOR DETAILS.

1:40 P.M. PICTURE# 3616 SEE PICTURE FOR DETAILS.

1:40 P.M. CREW LEFT SITE.

2:15 P.M. OBSERVER TORE DOWN GPS BASE AFTER SHOOTING HARDIN COUNTY

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

Observer's Signature: Dean Penny Date Prepared: 05/22/2020

Reviewed by: _____ Engineer _____ Date Reviewed: _____

CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

05/22/2020

PROJECT NUMBER:

HARDIN DDWO#269

DAYS OF WEEK:

S M T W T F S

COUNTY, ROUTE, ROAD:

6888 DD109
467'± WEST OF COMHWY 545
2412'± SOUTH OF SOUTHRW

SHEET NO.

3 OF 3

LOCATION:

NE 1/4 NE 1/4 16-89-20 HARDIN COUNTY
REMOVE TREES WITHIN SOFT OF DRAINAGE DISTRICT TILE

MID 50S TO LOW 60'S CLOUDY
& BREEZY

JOB# 6888 DD109, SURVBY

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

CPS MONUMENT #8039, & SET MAC NAIL IN NORTH

SIDE OF CMP^{IN} FIELD DRIVE IN SE QUADRANT OF COMHWY D-15 & COMHWY 545 N
& DD AVE SOUTH.

QUANTITIES

ADAM 4 1/3 HOURS

OYLAN 4 1/3 HOURS

PERRY 4 1/3 HOURS

BOBCAT TB180FR MINI EXCAVATOR 4 1/3 HOURS

TORDON ?

STIHL CHAIN SAW ?

PICKUP & DUMP TRAILER (HAULING OUT TREES) 4 1/3 HOURS ?

SEE ATTACHED SHEET FOR SKETCH

ISSUES : 12" CONCRETE TILE NEEDS CONNECTED ; 12" CLAY
TILE NEEDS CONNECTED, FIGURE OUT ISSUES WHERE
LOCATOR CABLE STOPPED, WHY DOWNSTREAM TILE
WAS 10" INSTEAD OF 12" AND WHICH TILE IS FOR SURE
DISTRICT TILE.

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

Observer's Signature:

Dean Perry

Date Prepared:

05/22/2020

Reviewed by:

Engineer

Date Reviewed

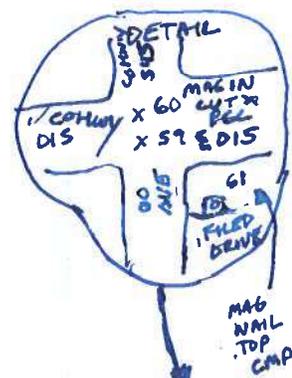
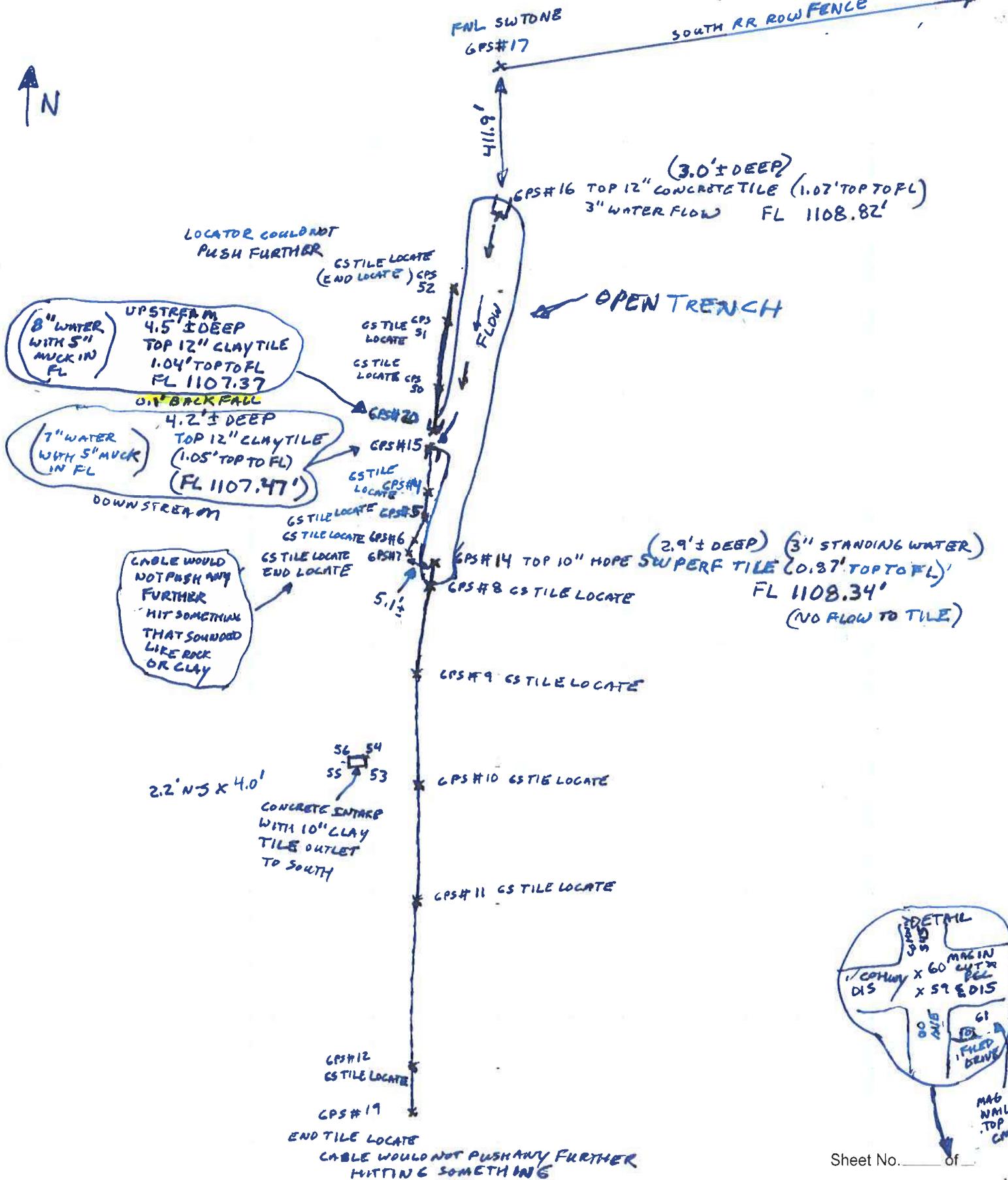


Clapsaddle-Garber Associates, Inc.

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

HARDIN DD W0#269
 JOB# 6882/00109

PN 05/22/2020
 Computed By _____ Date GPS#57
 Checked By _____ Date ECHO HWY 545
 Subject _____ B. E. RR
FNL SW GPS#58



- Layer List Legend
- Quick Links:
- Property Search
 - View Map
 - Drainage District Search
- Layers:
- Address
 - Corporate Limits
 - Political Townships
 - Geographic Townships
 - Sections
 - Subdivision Annotation
 - Subdivisions
 - Lot Annotation
 - Lot Lines
 - Road Dimensions
 - Roads
 - Road ROW
 - Railroad Annotation
 - Railroads
 - Railroad ROW
 - Water
 - Parcel Dimensions
 - Parcels
 - Drainage Tiles
 - Drainage Districts
 - Cartography
 - Landuse
 - Soils
 - Enterprise Zones
 - Conservation Property
 - Structures
 - Garden Winds Turbines
 - Airport Protected
 - Airspace Surfaces
 - Two Mile Boundary
 - School Districts
 - Voting Districts
 - LOMR



LOCATION
OF TREE
REMOVAL
& TILE
NEEDING
REPAIRED

PICTURE #3616 IS LOOKING WEST AT TREE CLUSTER REMOVED ON EAST SIDE OF DISTRICT AND PRIVATE TILE TRENCH THAT NEEDS SOME REPAIRS.



EAST-EAST
TREE CLUSTER
CUT DOWN

WEST-EAST
TREE
CLUSTER
CUT DOWN



TREE BRANCH
STILL
DANGLING
IN TREE
& SOME
MINOR
TREE
BRANCHES
LEFT
ON SITE

05/22/2020
13:40



HOLE IN
HDPE TILE

05/22/2020
11



PICTURE 3593 IS LOOKING SOUTH DOWN STREAM FROM GPS #14 TOP 10" HDPE SW PERFORATED TILE (0.97' TO TOP FL) SHOWING 3" OF STANDING WATER IN FL OF TILE AND NOT SQUATTING MUCH.

PICTURE 3594 IS LOOKING SOUTH DOWNSTREAM FROM GPS#15
TOP 12" CLAY TILE (1.05' TOP TO FL) SHOWING WATER LEVEL
AT 5" WITH ABOUT 3" OF MUCK IN FL & SOME OTHER DEBRIS.



PICTURE 3595 IS LOOKING NORTH UPSTREAM FROM GPS#16 TOP
12" CONCRETE TILE (1.07' TOP TO FL) (3.0' ± OSEP) SHOWING CLEAN FLOW
LINE WITH 3" WATER FLOW.

PICTURE # 3596 IS LOOKING SOUTH AT TRENCH WHERE 12" CONCRETE
TILE WAS PREVIOUSLY REMOVED UP TO 12" CLAY TILE (GPS# 14)
& GPS# 16 12" CONCRETE TILE IS FLOWING INTO TRENCH FROM
NORTH END TO (GPS# 14) 12" CLAY TILE.



N
↓

PICTURE # 3597 IS LOOKING NORTH SHOWING 12" CONCRETE TILE FLOWING INTO TRENCH WHERE 12" CONCRETE TILE WAS ALREADY REMOVED UP TO 12" CLAY TILE. THAT NEEDS REPAIRED.

N ↑



GPS # 16
TOP 12" CONCRETE
TILE (1.07' TOP TO FL)
(3.0' ± DEEP)

GPS # 15
TOP 12" CLAY
(1.05' TOP TO FL)



GPS # 20
TOP 12" CLAY
(1.04' TOP TO FL)

N ↑

PICTURE # 3598 IS LOOKING WEST SHOWING WATER FLOWING FROM TRENCH INTO 12" CLAY TILE FROM LOCATION OF 12" CONCRETE TILE THAT WAS REMOVED, UPSTREAM 12" CLAY TILE (GPS # 20) THAT WAS COVERED BUT NOW UNCOVERED AND FLOWING THAT NEEDS REPAIRED.

PICTURE # 3599 IS LOOKING NORTH AT 6S TILE LOCATES SOUTH OF GPS # 14 10" HDPE SW PERFORATED TILE (SOUTH END OF 12" CONCRETE TILE)

CONCRETE INTAKE BOX



GPS # 12
6S TILE LOCATE

GPS # 19
6S TILE LOCATE
END TILE LOCATE
CABLE WOULD NOT PUSH ANY FURTHER



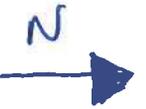
PICTURE # 3600 IS LOOKING NORTH INSIDE 12" CLAY TILE W/STREAM FROM GPS # 20 (1.04' TOR TO FU) SHOWING TILE IN GOOD CONDITION WITH 5" OF MUCK WITH 2" OF WATER ON TOP MIXED WITH SOME MUCK.

PICTURE # 3601 IS LOOKING EAST AT CORN DAMAGE



PICTURE # 3602 IS LOOKING WEST FROM DRIVE ENTRANCE
OFF CO HWY 545 SHOWING CORN DAMAGE

PICTURE # 3603 IS LOOKING WEST AT CORN DAMAGE,



PICTURE # 3604 IS LOOKING SW SHOWING CORN DAMAGE,

PICTURE # 3605 IS LOOKING SLIGHTLY NE AT TRENCH FROM
10" SW PERF TILE INSERTED INTO 12" CONCRETE TILE UPSTREAM.



PICTURE # 3606 IS LOOKING SLIGHTLY NE AT TRENCH THAT
NEEDS TILE REPAIRED

PICTURE #3607 IS LOOKING NORTH AT 12" ϕ TREE REMOVED
THAT WAS WITHIN 50' OF DISTRICT TILE.



↑ N



↓ N

GPS# 52 ENDOFTILE LOCATE

PICTURE #3608 IS LOOKING SOUTH SHOWING END OF TILE LOCATE
@ 34.1 LF FROM GPS# 20 UPSTREAM IN 12" CLAY TILE TILL
CABLE COULD NOT PUSH ANY FURTHER.

PICTURE #3609 IS LOOKING SOUTH AT OPEN TRENCH WITH WATER FLOWING TO 12" CLAY TILE (GPS# 15) FROM 12" CONCRETE TILE (GPS# 16 FROM NORTH. 10" SW HDPE PERF TILE SOUTH (EAST OF 12" CLAY TILE)



10" SW HDPE PERF TILE SOUTH (EAST OF 12" CLAY TILE)



LOCATION OF ORIGINAL 12" CONC TILE



GPS# 15
12" CLAY DOWNSTREAM



GPS# 20
12" CLAY UPSTREAM

PICTURE #3610 IS LOOKING SOUTH AT TRENCH SHOWING WATER FLOWING FROM 12" CONCRETE TILE TO 12" CLAY TILE & NOW 12" CLAY TILE UPSTREAM IS UNCOVERED AND FLOWING.

PICTURE # 3611 IS LOOKING AT SOUTH END OF TRENCH THAT NEEDS REPAIRED



CONCRETE INTAKE WITH 10" CLAY OUTLETING SOUTH

GPS #14
10" HOPE
SW PERF
TILE



GPS #53
SE COR
CONC INTAKE



GPS #55
SW COR
CONC INTAKE

GPS #54
NE COR
CONC INTAKE

GPS #56
NW COR
CONC INTAKE



PICTURE # 3612 IS LOOKING SOUTH AT CONCRETE INTAKE BOX WITH 10" CLAY TILE SOUTH

(EAST-EAST TREE CLUSTER)
 PICTURE #3614 IS LOOKING SOUTH AT TREE CLUSTER CUT DOWN
 & TORDON APPLIED TO STUMP SINCE TREES WERE WITHIN SOFT EAST
 OF DISTRICT TILE.



(WEST-EAST TREE CLUSTER)
 PICTURE #3615 IS LOOKING SOUTH AT TREE CLUSTER CUT DOWN
 AT TORDON APPLIED TO STUMP SINCE TREES WERE WITHIN SOFT
 EAST OF DISTRICT TILE

6888 DD109 2020-5-26 DP

1,3650755.343,5001012.769,1115.480,HC GPS MON 8041
2,3650755.343,5001012.769,1115.480,Autonomous Setup
3,3665638.587,5001160.605,1155.675,HC GPS MON 8040
4,3655731.058,5000505.623,1112.726,GS TILE LOCATE
5,3655726.259,5000504.412,1113.400,GS TILE LOCATE
6,3655720.686,5000502.495,1113.437,GS TILE LOCATE
7,3655716.330,5000501.573,1113.555,GS TILE LOCATE END
8,3655708.389,5000505.872,1112.089,GS TILE LOCATE
9,3655687.730,5000502.840,1111.679,GS TILE LOCATE
10,3655667.553,5000503.205,1111.575,GS TILE LOCATE
11,3655633.147,5000502.682,1111.163,GS TILE LOCATE
12,3655593.328,5000501.984,1111.069,GS TILE LOCATE
14,3655714.649,5000506.442,1109.212,TILE TOP 10" PERF 0.87'TOPTOFL
15,3655742.532,5000506.137,1108.519,TILE TOP 12" CLAY 1.05'TOPTOFL
16,3655798.292,5000522.574,1109.886,TILE TOP12"CONC 1.07'TOPTOFL
17,3656210.180,5000522.609,1115.608,FNL S ROW RR
18,3655803.348,5000523.148,1112.918,GS ABOVE TILE
19,3655583.151,5000501.850,1110.903,GS TILE LOCATE END
20,3655746.061,5000506.730,1108.410,TILE TOP 12" CLAY 1.04'TOPTOFL
21,3655710.269,5000675.418,1116.375,GS CORN DAMAGE 1
22,3655698.188,5000683.953,1116.773,GS CORN DAMAGE 1
23,3655693.562,5000706.146,1117.147,GS CORN DAMAGE 1
24,3655697.391,5000721.997,1117.352,GS CORN DAMAGE 1
25,3655683.004,5000773.552,1117.663,GS CORN DAMAGE 1
26,3655666.658,5000820.463,1117.885,GS CORN DAMAGE 1
27,3655662.552,5000834.894,1118.365,GS CORN DAMAGE 1
28,3655642.601,5000858.782,1118.893,GS CORN DAMAGE 1
29,3655659.031,5000861.443,1118.982,GS CORN DAMAGE 1
30,3655672.203,5000813.864,1117.989,GS CORN DAMAGE 1
31,3655697.454,5000735.098,1117.278,GS CORN DAMAGE 1
32,3655704.505,5000704.305,1116.880,GS CORN DAMAGE 1
33,3655715.480,5000646.040,1115.936,GS CORN DAMAGE 1
34,3655718.031,5000617.374,1115.460,GS CORN DAMAGE 1
35,3655718.501,5000592.754,1114.834,GS CORN DAMAGE 1
36,3655716.933,5000565.774,1113.706,GS CORN DAMAGE 1
37,3655710.721,5000532.271,1112.617,GS CORN DAMAGE 1
38,3655706.594,5000524.022,1112.485,GS CORN DAMAGE 1
39,3655696.134,5000518.332,1112.248,GS CORN DAMAGE 1
40,3655699.446,5000525.926,1112.423,GS CORN DAMAGE 1
41,3655701.954,5000528.381,1112.590,GS CORN DAMAGE 1
42,3655707.631,5000554.976,1113.492,GS CORN DAMAGE 1
43,3655712.008,5000569.077,1113.894,GS CORN DAMAGE 1
44,3655706.855,5000571.807,1113.930,GS CORN DAMAGE 1
45,3655707.020,5000584.941,1114.417,GS CORN DAMAGE 1
46,3655710.692,5000602.678,1115.167,GS CORN DAMAGE 1
47,3655707.020,5000651.568,1116.209,GS CORN DAMAGE 1
49,3655704.078,5000679.647,1116.632,GS CORN DAMAGE 1
50,3655756.367,5000508.473,1112.915,GS TILE LOCATE
51,3655772.718,5000510.117,1112.872,GS TILE LOCATE

6888 DD109 2020-5-26 DP

52,3655779.779,5000511.441,1113.167,GS TILE LOCATE END
53,3655665.374,5000490.530,1110.002,INTAKE CONC SE COR
54,3655667.551,5000490.282,1109.894,INTAKE CONC NE COR
55,3655665.190,5000486.435,1109.979,INTAKE CONC SW COR
56,3655667.379,5000486.462,1109.831,INTAKE CONC NW COR
57,3656361.390,5000975.927,1130.592,CL S45 CL RR
58,3656300.967,5000930.102,1129.129,FNL S RR ROW
59,3653421.593,5000964.214,1115.625,CL D15
60,3653424.519,5000964.285,1115.661,MAG IN CUT X PCC
61,3653370.854,5000987.527,1112.379,MAG IN CMP
62,3665692.316,4985415.258,1153.642,HC GPS MON 8039