

**AGENDA
REGULAR DRAINAGE MEETING
JANUARY 24, 2018**

1. Open Meeting
2. Approve Agenda
3. Approve Minutes Of January 10, 2018 Regular Drainage Meeting

Documents:

[1_10_2018 - DRAINAGE MINUTES.PDF](#)

4. Approve Claims For Payment
Pay Date of Friday, January 26, 2018

Documents:

[01-26-2018 DRAINAGE PUBLICATION LIST BY FUND-VENDOR.3298001.PDF](#)

5. DD 122 & DD 8 - Approve Change Order #1

Documents:

[DD 122 AND DD 8 CHANGE ORDER 1.PDF](#)

6. DD 78 - Approve Claim For Damages #13 For Bob McCollom

Documents:

[DD 78 CLAIM FOR DMGS 13.PDF](#)

7. DD 143 - Acknowledge Receipt Of Completion Report And Set Hearing Date
For Work Order #59 (Golf Course Project)

8. DD 1 - Acknowledge Receipt Of Completion Report And Set Hearing Date

Documents:

[DD 1 COMPLETION REPORT 01-2018.PDF](#)

9. DD 1 - Approve Reclassification Report And Set Hearing Date

Documents:

[DD 1 RECLASSIFICATION REPORT 2018.PDF](#)

10. DD 72 - Approve Reclassification Report And Set Hearing Date

Documents:

[DD 72 RECLASSIFICATION REPORT 2018.PDF](#)

11. DD 72 - Discuss, With Possible Action, Contractor Updates

Documents:

[DD 72 CONTRACTOR UPDATES 1-24-2018.PDF](#)

12. DD 123 - Discuss, With Possible Action, Repair Summary For Work Order #188

Documents:

[DD 123 WO 188 REPAIR SUMMARY 01-2018.PDF](#)

13. DD 77 - Discuss, With Possible Action, Repair Summary For Work Order #193

Documents:

[DD 77 WO 193 REPAIR SUMMARY 01-2018.PDF](#)

14. DD 41 - Discuss, With Possible Action, Repair Summary For Work Order #194

Documents:

[DD 41 WO 194 REPAIR SUMMARY.PDF](#)

15. Discuss, With Possible Action, Regular Drainage Meetings Scheduled For January 31, 2018 & March 14, 2018
16. Other Business
17. Adjourn Meeting

REGULAR DRAINAGE MEETING

1/10/2018 - Minutes

1. Open Meeting

Hardin County Board of Supervisor Vice-Chairperson, Renee McClellan, opened the meeting. Also present was Hardin County Supervisor, Lance Granzow; Resident, Curt Groen; Lee Gallentine and James Sweeney with Clapsaddle-Garber Associates (CGA); Hardin County Engineer, Taylor Roll; Drainage Clerk, Tina Schlemme. Absent: BJ Hoffman.

2. Approve Agenda

Granzow moved, McClellan seconded to approve the agenda as presented. All ayes. Motion carried.

3. Approve Minutes Of January 2, 2018 Regular Drainage Meeting

Granzow moved, McClellan seconded to approve the minutes of the January 2, 2018 regular drainage meeting. All ayes. Motion carried.

4. DD 22 - Discuss, With Possible Action, Repair Summary For Work Order #198

It was discussed that the district boundaries dip south where the tile crosses 180th Street. Therefore, even severing the tile in the south road ditch would be outside the district. Granzow moved, McClellan seconded to sever the tile no less than 40' and up to 100' south of the road right of way. CGA is to consult with the landowner and if they request anything outside that limit, they must sign a statement indicating their request. All ayes. Motion carried.

5. DD 25 - Discuss, With Possible Action, Updates Regarding Work Order #48

It was discussed that the farm manager had indicated concern that the blowout still remains on the main tile and no work is scheduled to begin because of the lack of approval from the railroad. It was mentioned that crop damages would be cheaper to pay than installing a temporary fix just for the tile to be removed and replaced when the project moves forward. Granzow moved, McClellan seconded to table any action until the first meeting in March to allow time for the engineer to work more with the railroad. If nothing seems to be progressing yet at that point, then work on the main tile may need to proceed separately than the lateral tile work. All ayes. Motion carried.

6. DD 98 - Acknowledge Completion Report And Set Hearing Date

Granzow moved, McClellan seconded to acknowledge receipt of the Completion Report on Repair to Existing Main Tile dated January 2, 2018 and to set the hearing date as Wednesday, February 14, 2018 at 9:30 a.m. All ayes. Motion carried.

7. Other Business

DD 22 - Gallentine presented documents from Heather Thomas showing an estimated cost of \$1,110,000 to replace the tile on west side of C Avenue with 24" tile and that on the east of C Avenue with 30" tile. Another estimate of \$1,410,000 was presented for replacing all the tile with larger sizes and the newer tile lying east of C Avenue would be plugged and not replaced. Gallentine asked the Trustees their opinion of adding an option of an open ditch which would allow for enough capacity and cheaper prices per foot. The Trustees agreed to add the open ditch option with an estimate and then another landowner's meeting would be scheduled.

Discussion was had regarding the duties of the drainage clerk and the position changing to strictly full-time drainage. It was determined that a meeting will need scheduled with all interested parties to discuss the duties of the position and how to move forward.

8. Adjourn Meeting

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

Date - 1/19/18
Time - 15:02:10

Drainage Accounting
Publication List by Fund/Vendor

Program - DA2101

DD 1			
Gehrke Inc.	DD 1		22386.38
DD 72			
The Davis Brown Law Firm	DD 72		1375.00
M D Construction, Inc	DD 72		18153.00
DD 77			
Williams Excavation LLC	DD 77		2012.80
DD 78			
Clapsaddle-Garber Assoc	DD 78		2637.50
DD 98			
Clapsaddle-Garber Assoc	DD 98		955.00
DD 133 (Also DD 132-Combined)			
Clapsaddle-Garber Assoc	DD 133 (Also DD 132-Combi		654.30
Grand Total			48173.98
End of Report			

Change Order

No. 1

Date of Issuance: November 13, 2017

Effective Date: January 16, 2018

Project: Repairs to Main Tile DD 122 & Lateral 2 Tile DD 8	Owner: Trustees of Drainage District 122 and 8	Owner's Contract No.:
Contract:		Date of Contract: March 9, 2017
Contractor: Cole Excavating		Engineer's Project No.: 6931 & 6666.1


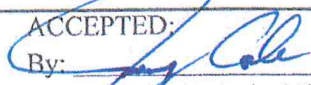
The Contract Documents are modified as follows upon execution of this Change Order:

Description: During construction, Contractor requested to use different materials for the spot repair on the main tile of DD 8. Also, part of the main tile to be repaired on DD 122 was discovered to be 15" instead of 12" after construction had started.

Attachments (list documents supporting change):

Revised list of quantities with prices and e-mails with requests, pricing, and documentation from Contractor.

CHANGE IN CONTRACT PRICE:	CHANGE IN CONTRACT TIMES:
Original Contract Price: \$100,022.00	Original Contract Times: <input checked="" type="checkbox"/> Calendar days Substantial completion (date): 11-30-2017
[Increase] [Decrease] from previously approved Change Orders No. <u>0</u> to No. <u>0</u> : \$ 0.00	[Increase] [Decrease] from previously approved Change Orders No. <u>0</u> to No. <u>0</u> : Substantial completion (days): 0
Contract Price prior to this Change Order: \$100,022.00	Contract Times prior to this Change Order: Substantial completion (date): 11-30-2017
Increase of this Change Order: \$ 3,743.60	Increase of this Change Order: Substantial completion (days): 0
Contract Price incorporating this Change Order: \$103,765.60	Contract Times with all approved Change Orders: Substantial completion (date): 11-30-2017

RECOMMENDED: By:  Engineer (Authorized Signature) Date: <u>1-16-18</u> Approved by Funding Agency (if applicable):	ACCEPTED: By: _____ Owner (Authorized Signature) Date: _____	ACCEPTED: By:  Contractor (Authorized Signature) Date: <u>1-16-18</u> Date: _____
---	---	--

Item No.	Description	Estimated Quantity	Unit	Installed Quantity	Unit Price	Extended Price
<u>DIVISION 122</u>						
1*	12" Ø Polypropylene Tile	360	LF	360	\$ 25.60	\$ 9,216.00
2	Type 2 Concrete Collar	32	EA	32	\$ 350.00	\$ 11,200.00
3*	12" x 12" Polypropylene Tee	0	EA	0	\$ 250.00	\$ -
4	Private Tile Connections	3	EA	3	\$ 200.00	\$ 600.00
5	Permanent Seeding	2	AC	2	\$ 2,800.00	\$ 5,600.00
6	Seeding Warranty	1	LS	1	\$ 150.00	\$ 150.00
7*	Tile Removal	480	LF	480	\$ 4.50	\$ 2,160.00
8	Traffic Control	1	LS	1	\$ 1,500.00	\$ 1,500.00
9*	15" Ø Polypropylene Tile	120	LF	120	\$ 34.03	\$ 4,083.60
10*	15"Ø vs 12"Ø Tile Exchange	1	LS	1	\$ 1,074.00	\$ 1,074.00

DIVISION 8

101*	18" Ø Polypropylene Tile	20	LF	20	\$ 60.00	\$ 1,200.00
102	15" Ø RCP Tile	1000	LF	1000	\$ 36.25	\$ 36,250.00
103	12" Ø RCP Tile	424	LF	424	\$ 31.50	\$ 13,356.00
104	15" X 18" RCP Wye	1	EA	1	\$ 900.00	\$ 900.00
105	12" X 15" RCP Eccentric Reducer	1	EA	1	\$ 375.00	\$ 375.00
106	Type 2 Concrete Collar	7	EA	7	\$ 350.00	\$ 2,450.00
107	Private Tile Connections	9	EA	9	\$ 275.00	\$ 2,475.00
108	12" Ø Hickenbottom Intake	1	EA	1	\$ 900.00	\$ 900.00
109	Grading	1	LOC	1	\$ 1,500.00	\$ 1,500.00
110	Permanent Seeding	0.1	AC	0.1	\$ 10,000.00	\$ 1,000.00
111	Seeding Warranty	1	LS	1	\$ 200.00	\$ 200.00
112	Tile Removal	1444	LF	1444	\$ 4.00	\$ 5,776.00
113	Intake Removal	3	EA	3	\$ 100.00	\$ 300.00
114	Traffic Control	1	LS	1	\$ 1,500.00	\$ 1,500.00

CONTRACT TOTAL \$ 103,765.60



Change Order



COLE EXCAVATING

10471 PACKARD AVENUE
 GREENE, IA 50636
 Phone (641) 823-4700
 Fax (641) 823-4710
 E-Mail – coleexc74@gmail.com



Proposal Submitted To Ryken Engineering		Fax No.	Phone 641-847-3273	Date 11/13/17
Street 739 Park Ave		Job Name Hardin DD No. 122 and Lateral 2 DD 8		
City, State, Zip Code Ackley, IA 50601		Job Location		
Architect/Engineer Lee Gallentine	Date of Plans			Job Phone

We hereby submit specifications and estimates to:

Division 8

Item #101 - Install 18" Polypropylene Tile in place of 18" RCP Tile at no additional cost. Unit price cost of 18" Polypropylene Tile will be @ \$60/LF (Same as RCP). Type 2 Concrete Collars same as original bid item #106.

***This change order does not change any prices under the original contract, and is only a material change for Item #101 for Division 8.**

We Propose hereby to furnish material and labor – complete in accordance with above specifications, for the sum of:

dollars (\$ _____).

Payment to be made as follows:

As Construction Progresses, bills will be sent out for the percentage of work completed, and payment must be received within 10 days.

All material is guaranteed to be as specified. All work to be completed in a workmanlike manner according to standard practices. Any alteration or deviation from above specifications involving extra costs will be executed only upon written orders, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado and other necessary insurance. Our workers are fully covered by Workmen's Compensation Insurance.

Authorized
Signature _____

Note: this proposal may be
withdrawn by us if not accepted within 30 days.

Acceptance of Proposal – The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

Signature _____

Date of Acceptance _____

Signature _____

Lee Gallentine

From: Jeremy Cole <coleexc.jeremy@gmail.com>
Sent: Wednesday, November 22, 2017 7:53 PM
To: Lee Gallentine
Cc: Cole Excavating; B Nettleton
Subject: Fwd: Change Order

Lee,

I am sorry about those last two emails. I apparently kept bumping the wrong button and sending emails I was not finished with!

That sounds good. I just don't want to be in a battle over whether or not we should be paying damages when we could have been done if the inspection were done sooner.

As far as the breakdown goes for the 15" Polypropylene goes:

30% Re-stock Fee & Hauling of returned 12" Polypropylene -	\$ 474.00
Round Trip picking up 15" Polypropylene from Tile Manufacturer -	\$ 600.00
15" Polypropylene Tile Material Cost -	\$1,812.00
Labor installing tile and drilling perforation holes (includes bedding rock, machine time, backfill, etc.) -	\$2,272.00

With a total of \$5,158.00, that leaves us with a unit price cost of \$44.85/LF at 115 LF installed. I know the polypropylene should be cheaper than the RCP and it would be if we hadn't had the re-stock fee, mobilization for picking up the new 15" tile, and additional labor for drilling holes. It also cost us a little down time due to the fact that we were not able to start laying the 12" polypropylene right away (which is figured into the labor). The 12" polypropylene tees were special order and returned as well.

If you have any questions or comments regarding this itemization, feel free to contact me. I hope to hear from you early in the week regarding your thoughts on how the finished product looks. I will move forward with seeding once I get your approval.

Thanks and have a good holiday weekend!

Jeremy Cole

Project Manager

Cole Excavating
10471 Packard Ave.

Greene, IA 50636

Office: [641-823-4700](tel:641-823-4700)

Fax: [641-823-4710](tel:641-823-4710)

Cell: [641-425-1765](tel:641-425-1765)

On Wed, Nov 22, 2017 at 4:07 PM, Lee Gallentine <leeg@rykeneng.com> wrote:

269 370th Street
Joice, IA 50446

Office (641) 797-2850
Fax (641) 797-2852

Brian Nettleton
Excavating Inc.

Fax

To: Jeremy @ Cole Exc.

Fax:

Pages:

Date:

Re:

Stream boat c/o

Message:

Labor going for 15" pipe 4 hrs @ 55.00 = 220.00
Mileage to Exh. Grave + back 150 miles @ 2.50 = 375
Total 595.00

Labor Taking 12" back to clean Lake 2 hrs @ 55.00 = 110.00
Mileage " " " " " " 75 miles @ 2.50 = 187.50
Total 297.50

Labor perforating pipe 3 hrs 1 man
3 hrs @ 55.00 = 165.00

Let me know if you need anything
Else. Thanks, Brian

MIDWEST



**PIPE
SUPPLY,
INC.**

Your Complete Underground Pipe Supplier.

11196 265th Street
Clear Lake, IA 50428-8538
(641) 423-3801 Office (641) 423-3805 Fax

Credit Memo

***COLE EXCAVATING
10471 PACKARD AVENUE
GREENE IA 50636**

Date 11/22/2017

Credit 71595

			P.O. No.
Description	Qty	Rate	Amount
12" HP DW STORM WTIB PERF X 20 FT	120'	7.25	-580.00
12" X 12" N-12 TEE	-1	105.00	-105.00
18" N-12 SPLIT COUPLER	-1	23.49	-23.49
12" N-12 SPLIT COUPLER	-15	7.03	-105.45
3/4" X 21 FT TAR ROPE FOR SEALING AROUND MANHOLES	-9	11.00	-99.00
CHARGE FOR RESTOCKING INVENTORY - 30%	-1	273.88	-273.88
BOL 81452 ETHAN NETTLETON BROUGHT BACK FROM THE HARDIN COUNTY DD 122 PROJECT			
<i>Note: Restock on 12" pipe @ 3.7% = 261.00</i>			

CREDIT REFUND ON ACCOUNT

Subtotal -\$1,186.82

Sales Tax (7.0%) \$0.00

Total -\$1,186.82

Balance Credit -\$273.88

"Where Our Best is the Least We Can Do."

MIDWEST



Your Complete Underground Pipe Supplier.
Your Complete Underground Pipe Supplier

11196 265th Street
Clear Lake, IA 50428-8538
(641) 423-3801 Office (641) 423-3805 Fax

Invoice

*COLE EXCAVATING
10471 PACKARD AVENUE
GREENE IA 50636

Date 11/20/2017

Invoice # 72011

P.O. No.	Terms	Due Date	Rep	Ship Date	Ship Via
	NET 30	12/20/2017	MP	11/20/2017	DIRECT SHIP
Quantity	Item Code	Description		Price Each	Amount
120	1565-20IBPL	15" HP DW STORM SOLID 20'		15.10	1,812.00
		BOL 18103499 ETHAN NETTLETON PICKED UP FOR COLE FOR HARDIN CTY DD 122			

Subtotal \$1,812.00

THANK YOU FOR YOUR BUSINESS! WE
APPRECIATE THE OPPORTUNITY TO SERVE
YOU.

Sales Tax (7.0%) \$0.00

Total \$1,812.00

A finance charge of 1.5% per month (18% annual rate) computed from date of invoice will
be charged on unpaid accounts after 30 days.

"Where Our Best is the Least We Can Do"
Where Our Best is the Least We Can Do



Drainage Claim for Damages

Hardin County

Claim # 13 District # 78 Work Order # 78
Township Jackson Section 35 Twp 88 Rge 20 Qtr Sec SW1/4
Parcel Tax IDs 882035300004

Name Bob McCollom **Bob & Judy McCollom**
Address 21779 ~~21191~~ 730th Ave **21779 730th Avenue**
Colo, IA 50056-8501 09 **Colo, IA 50056 -8509**
Phone (515) 460-2103
Email Address mccollom@netins.net
Landowner (if different) Godfrey & Woolsey Iowa Farms LLC

Claim Type

- Crop Damage
 - Crop Year 2017 Crop Year _____
 - Type of Crop Corn Type of Crop _____
 - # Acres Damaged 1.67 # Acres Damaged _____
 - Yield Per Acre 208 bushels Yield Per Acre _____ bushels
 - Unit Value \$ 3.96 /bushel Unit Value \$ _____ /bushel
- Fence Damage
- Outlet Damage
- Other: _____

Desired Compensation

- Monetary Payment
- Repair of Damages
- Other: _____

Total Amount Claimed

Crop Damages (Acres X Yield X Unit Value) \$ 1,375.55 \$ _____
Other Damages (Fence, Outlet, Etc) \$ _____

Robert C. McCollom 1-8-18
Claimant Signature Date

For Office Use Only

Total Amount Approved	\$ _____
Approval Signature	_____
	Date _____



COMPLETION REPORT ON REPAIRS TO MAIN TILE, OUTLET, AND WATERWAY MAIN TILE OF DRAINAGE DISTRICT 1 HARDIN COUNTY, IOWA

	<p>I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA</p> <p><i>Lee O. Gallentine, P.E.</i> <u>1-23-18</u> LEE O. GALLENTINE, P.E. DATE</p> <p>LICENSE NUMBER: 15745 MY LICENSE RENEWAL DATE IS DECEMBER 31, 2018 PAGES OR SHEETS COVERED BY THIS SEAL: SHOWN ON TABLE OF CONTENTS</p>
--	--



OFFICE LOCATIONS

739 Park Avenue
Ackley, IA. 50601
Phone: 641-847-3273
Fax: 641-847-2303

103 East State Street, Ste 430
Mason City, IA 50401
Phone: 641-423-1451
Fax: 641-423-1659

511 Bank Street
Webster City, IA 50595
Phone: 515-832-1876
Fax: 515-832-1932

**Completion Report on Repairs to
Main Tile, Outlet, and Waterway Main Tile
of Drainage District No. 1
Hardin County, Iowa**

Table of Contents	Pg. 1
Report	
Project Timeline	Pg. 2
Project Deviations	Pg. 3
Final Project Costs	Pg. 4
Pending Items	Pg. 4
Appendices	
As-Built Plans	App. A
Final Pay Estimate	App. B
Lien Waivers	App. C

**Completion Report on Repairs to
Main Tile, Outlet, and Waterway Main Tile
of Drainage District No. 1
Hardin County, Iowa**

PROJECT TIMELINE: The Hardin County Board of Supervisors, acting as District Trustees, requested Ryken Engineering to investigate and report concerning repairs and improvements of the existing main tile of Drainage District No. 1. As a result, Ryken Engineering generated an Engineer's Report dated August 9th, 2016 summarizing past improvements and repairs, investigating the necessity and feasibility of repairs to the existing main tile, and presenting opinion of construction costs associated with said repairs. A hearing concerning said report was conducted. As a result of the hearing, the Trustees authorized Ryken Engineering to proceed with completion of project plans and specifications for said repairs and proceed with a bid letting.

Ryken Engineering completed the authorized plans and specifications and a bid letting date of March 29, 2017 was set. The project was advertised and bids were received from qualified contractors. The following bids for polypropylene tile were received:

- | | |
|--|--------------------|
| 1. McDowell and Sons Contractors, Inc. of Iowa Falls, Iowa | Bid = \$121,380.50 |
| 2. Gehrke, Inc. of Eldora, Iowa | Bid = \$149,749.00 |

The District Trustees identified Gehrke, Inc. as the lowest responsible bidder for the repair to district facilities and awarded the project. The contract was signed on April 27, 2017. Construction activities were started on September 12, 2017. Weather and working conditions for this type of construction were favorable and the contractor worked until the main tile was repaired and the only work remaining was site cleanup and repair of the farmer's fence. This was achieved November 10, 2017 (approximately 2 weeks before the November 30, 2017 contract completion date).

PROJECT DEVIATIONS: - This project followed the authorized plans and specifications fairly well with only the following deviations (for reference, see as-built plans included in Appendix A):

1. During construction it was discovered that galvanized CMP was used at the main tile outlet instead of aluminized CMP as specified in the plans and specifications. This resulted in a decrease of \$200.
2. During construction, it was discovered that more spot repairs (polypropylene tile and concrete collars) needed be performed and an intake removed and replaced. This resulted in an increase of \$18,073.75
3. During construction, additional lengths of existing tile were removed in order to perform the additional spot repairs. This resulted in an increase of \$905.
4. During construction, additional private tile connections were encountered during spot repairs than planned. This resulted in an increase of \$600.
5. A reduced amount of CCTV was performed. This resulted in a decrease of \$20.
6. During construction, it was determined that traffic control was not needed as no repairs were performed in road right of way. This resulted in a decrease of \$500.
7. During construction, it was determined that the open ditch construction and seeding were extended 100' upstream to allow for a smoother transition with the existing ground. This resulted in an increase of \$4,100.
8. During construction, it was determined that the waterway cleanout and seeding were extended 100' to allow for a smoother transition with the existing ground. This resulted in an increase of \$1,195.

FINAL PROJECT COSTS: - The final project costs for construction (for reference, see final pay estimate included in Appendix B) and engineering (not including repair report) are estimated at \$206,938.80 which is approximately \$57,000 above those presented at the above mentioned hearing. These costs may vary depending upon any damage claims brought forth at the completion hearing. Pending no claims, the costs are as detailed below:

Project Bid by Contractor	\$ 149,749.00
Change in CMP coating (Item #1 above)	-\$ 200.00
Increased Bid Quantities (Item #2 above)	+\$ 18,073.75
Increased Material Removal (Item #3 above)	+\$ 905.00
Increased Private Tile Connections (Item #4 above)	+\$ 600.00
Reduced CCTV Inspection (Item #5 above)	- \$ 20.00
Removed Traffic Control (Item #6 above)	- \$ 500.00
Increased Open Ditch Work (Item #7 above)	+\$ 4,100.00
Increased Waterway Work (Item #8 above)	+\$ 1,195.00
<u>Engineering</u>	<u>+\$ 33,036.05</u>
TOTAL PROJECT COST	\$ 206,938.80

The total cost is above those contained in the above mentioned Engineer’s Report. However, it should be noted that the amount of repair also exceeded that presented at the above mentioned hearing. It should be noted that the above costs do not include any administrative costs, legal costs, interest on construction warrants, or damage claims.

PENDING ITEMS: - As of the writing of this report, this project is complete (including punchlist items) in general accordance with the authorized plans and specifications and lien waivers for suppliers and subcontractors have been submitted by the general contractor (for reference see Appendix C). After the completion hearing, final payment needs to be authorized by the Trustees is shown on the final pay estimate. It is my recommendation that the project be accepted. I also recommend that the entire project be walked and reviewed just prior to the expiration of the contract warranty period for any warranty items that may need to be remedied by the contractor. It should be noted that if the Trustees decide to exercise this recommendation, there are no engineering fees included in the above Final Project Costs to cover this service.

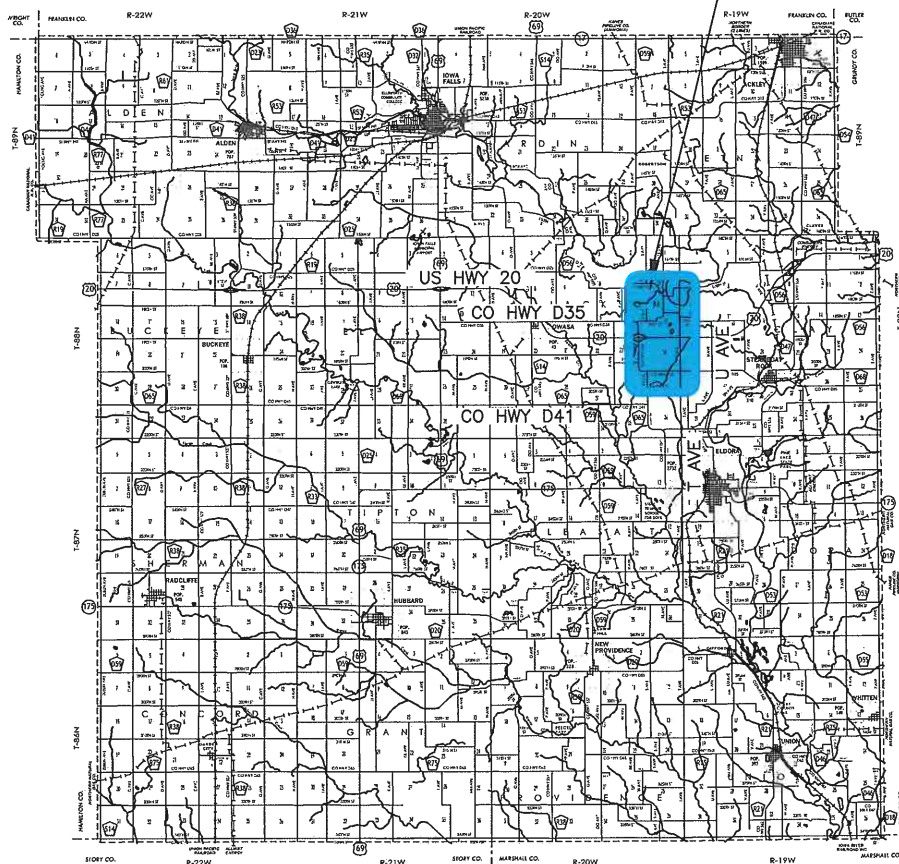
MAIN TILE, OUTLET, AND WATERWAY REPAIRS DRAINAGE DISTRICT 1 HARDIN COUNTY, IOWA 2017 AS BUILT



CALL BEFORE YOU DIG!
1-800-292-8989
www.iowaonecall.com



PROJECT LOCATION

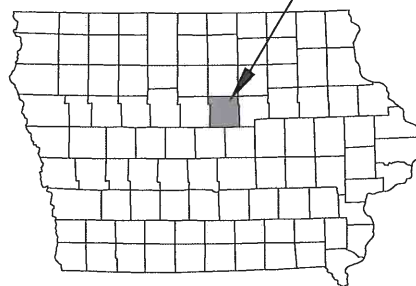


HARDIN COUNTY,
IOWA VICINITY MAP
NOT TO SCALE

NOTES:

1. THE PLANS AND SPECIFICATIONS PREPARED BY RYKEN ENGINEERING SHALL GOVERN. ALL WORK SHALL COMPLY WITH THE DETAILS AND SPECIFICATIONS REFERENCED.
2. ALL ELEVATIONS SHOWN ON THESE PLANS ARE BASED ON 2016 SURVEY. FOR CONVERSION TO OTHER PROJECT DATUMS, SEE "BENCHMARKS" ON PAGE 2.

PROJECT LOCATION



SHEET INDEX

SHEET NUMBER	SHEET TITLE
1	COVER
2	LEGEND NOTES ABBREVIATIONS VISUAL INDEX BENCHMARKS
3	MAIN OPEN DITCH PLAN
4	MAIN OPEN DITCH PROFILE
5	HEADWALL PLAN
6	WATERWAY PLAN & PROFILE
7	MAIN TILE SPOT REPAIRS - PLAN & PROFILE
8	DETAILS - SPOT REPAIRS
9	DETAILS - SHEET PILE HEADWALL
10	DETAILS - SHEET PILE HEADWALL
11	TYPICAL SECTIONS
WATERWAY CROSS SECTIONS	
12	DD 1 WATERWAY STA 48+00 - 51+00
13	DD 1 WATERWAY STA 52+00 - 55+00
14	DD 1 WATERWAY STA 56+00 - 59+00
15	DD 1 WATERWAY STA 60+00 - 63+00
16	DD 1 WATERWAY STA 64+00 - 67+00
17	DD 1 WATERWAY STA 68+00
MAIN OPEN DITCH CROSS SECTIONS	
18	MAIN OPEN DITCH STA 83+00 - 83+50
19	MAIN OPEN DITCH STA 84+00 - 84+50
20	MAIN OPEN DITCH STA 85+00 - 85+50
21	MAIN OPEN DITCH STA 86+00 - 86+50
22	MAIN OPEN DITCH STA 87+00 - 87+50
23	MAIN OPEN DITCH STA 88+00 - 88+50
24	MAIN OPEN DITCH STA 89+00

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

LEE O. GALLENTE, P.E. *PE 1-22-18* DATE

P.E. LICENSE NUMBER: 15745
MY LICENSE RENEWAL DATE IS DECEMBER 31, 2018
PAGES OR SHEETS COVERED BY THIS SEAL: 1, 4, 6, 7, 9, and 10

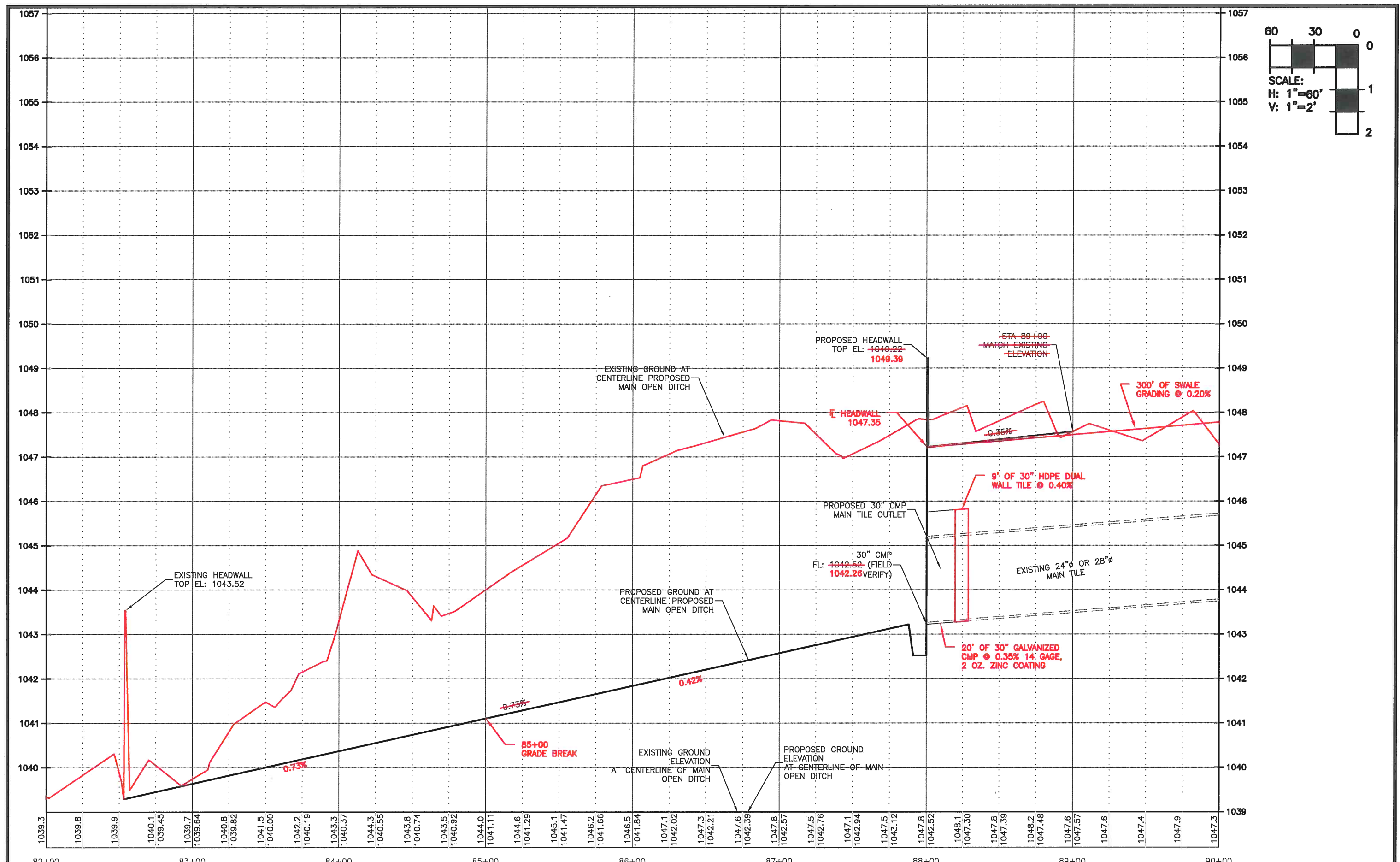
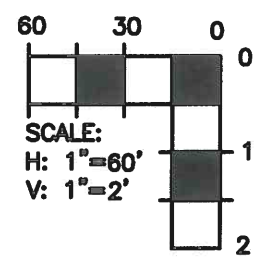
DRAWN BY: ZJS APPROVED BY: LOG REVISIONS:
DATE: 01/20/2017 PROJ. NO.: 6749
FIELD BK:
P:\6749\CADD\CDS\AS BUILT\6749-COVERASBUILT.DWG; 1/8/2018



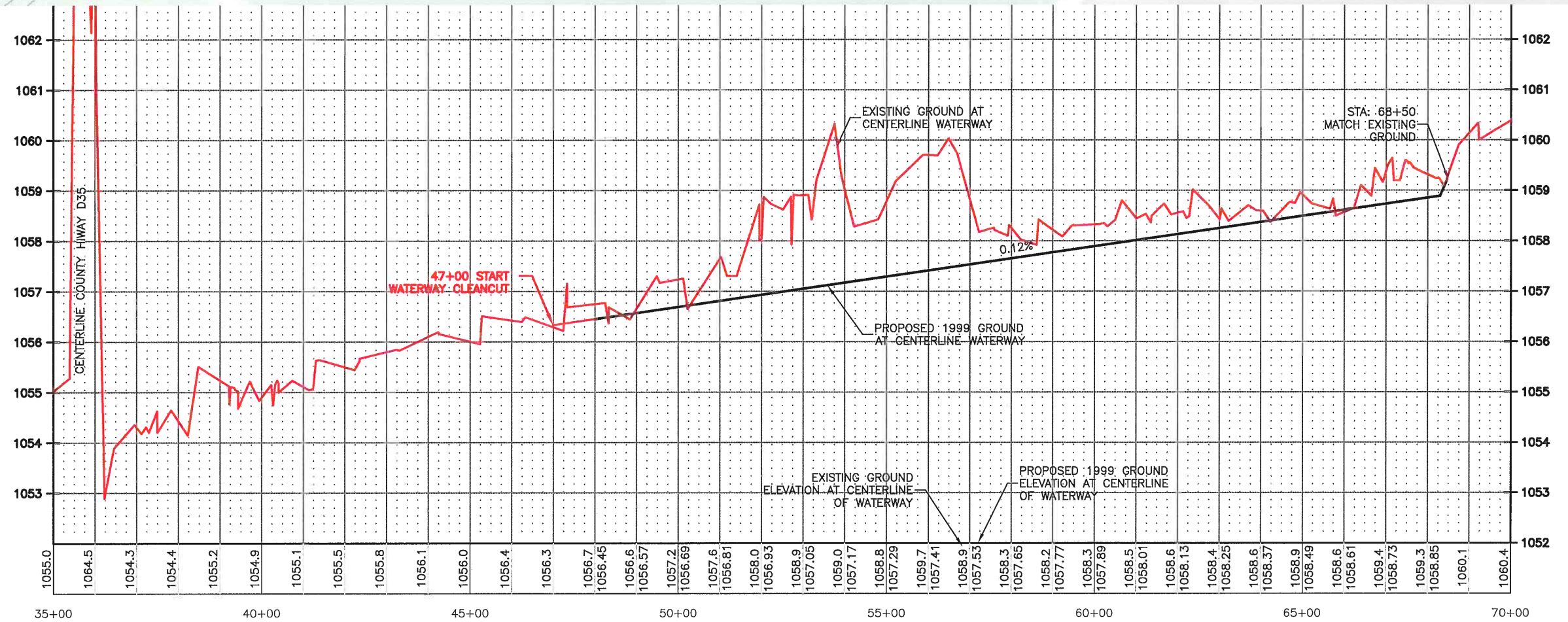
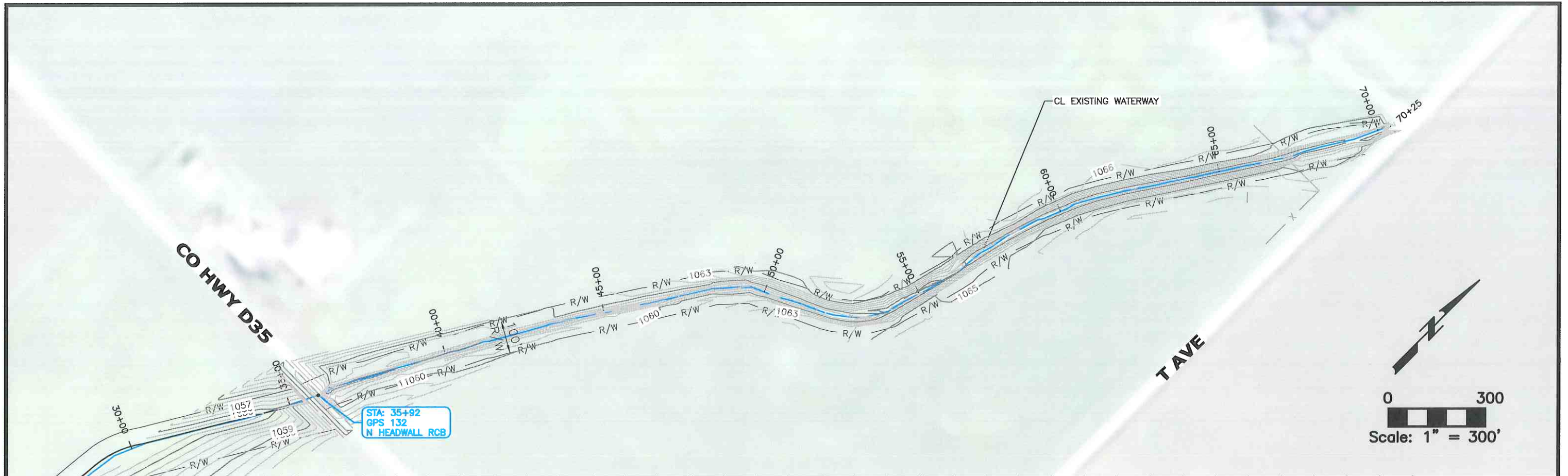
ADDRESS:
739 PARK AVENUE
ACKLEY, IOWA 50601
PH 641-847-3273 FAX 641-847-2303

PROJECT:
MAIN TILE, OUTLET, AND WATERWAY REPAIRS DD 1
HARDIN COUNTY, IOWA
2017

SHT. NAME: AS BUILT COVER SHEET
SHT. NO.: 1 OF 24



DRAWN BY: MAH DATE: 10-21-13 FIELD BK: P:\6749\CADD\CDS\AS BUILT\6749_EXCON ASBUILT.DWG; 1/4/2018	APPROVED BY: LOG PROJ. NO.: 6749	REVISIONS:	RYKEN ENGINEERING & LAND SURVEYING, INC. ACKLEY, MASON CITY & WEBSTER CITY, IOWA	ADDRESS: 739 PARK AVENUE ACKLEY, IOWA 50601 PH 641-847-3273 FAX 641-847-2303	PROJECT: MAIN TILE, OUTLET, AND WATERWAY REPAIRS DD 1 HARDIN COUNTY, IOWA 2017	SHEET NAME: AS BUILT MAIN OPEN DITCH PROFILE	SHEET NO.: 4 OF 24
---	-------------------------------------	------------	---	---	---	---	-----------------------



DRAWN BY: MAH	APPROVED BY: LOG	REVISIONS:
DATE: 10-21-13	PROJ. NO.: 6749	
FIELD BK:		
P:\6749\CADD\CDS\AS BUILT\6749_EXCON ASBUILT.DWG; 1/8/2018		

RYKEN
ENGINEERING & LAND SURVEYING, INC.
ACKLEY, MASON CITY & WEBSTER CITY, IOWA

ADDRESS:
739 PARK AVENUE
ACKLEY, IOWA 50601
PH 641-847-3273 FAX 641-847-2303

PROJECT:
MAIN TILE, OUTLET, AND WATERWAY REPAIRS DD 1
HARDIN COUNTY, IOWA
2017

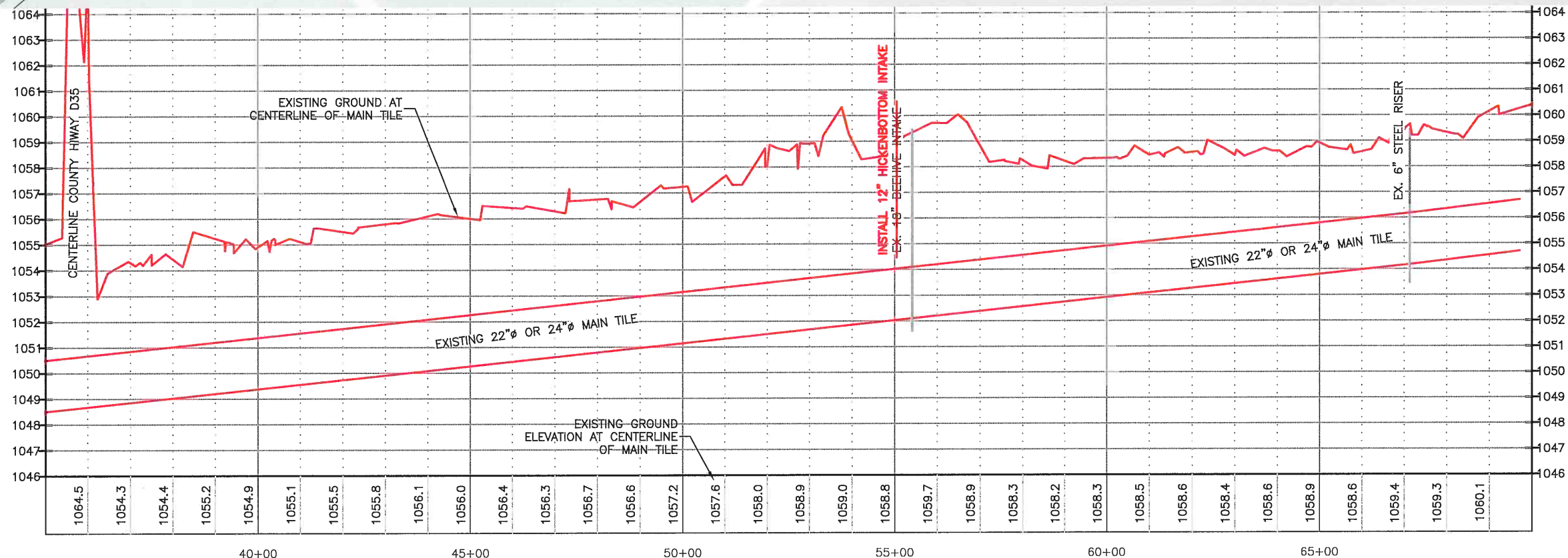
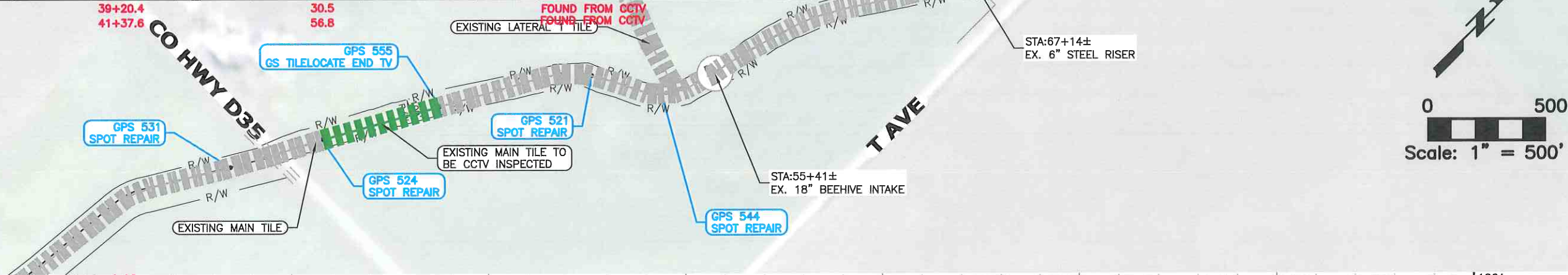
SHT. NAME:
AS BUILT WATERWAY PLAN & PROFILE

REPLACEMENT SCHEDULE

Center of Repair Location	Direction	Start of Repair Location	Direction	End of Repair Location	Direction	Reference Point	Length of Pipe (ft)	Existing Main Size (in) (field verify)	Main Size (in)	Reason for Replacement
197	DOWNSTREAM	192	DOWNSTREAM	202	DOWNSTREAM	GPS 524	10	22" OR 24"	24"	Partially collapsed VCP tile in D 35 right of way.
244	DOWNSTREAM	239	DOWNSTREAM	249	DOWNSTREAM	GPS 524	10	22" OR 24"	24"	Partially collapsed VCP tile and tile connection in D 35 right of way.
33	UPSTREAM	33+89.7	DOWNSTREAM	34+02.6	DOWNSTREAM	GPS 531	12.9	22" OR 24"	24"	Partially collapsed VCP tile.
464	DOWNSTREAM	33+24.9	DOWNSTREAM	33+37.5	DOWNSTREAM	GPS 524	12.7	22" OR 24"	24"	Partially collapsed VCP tile.
822	DOWNSTREAM	29+74.9	DOWNSTREAM	29+96.2	DOWNSTREAM	GPS 524	21.4	22" OR 24"	24"	Partially collapsed VCP tile.
946	DOWNSTREAM	28+42.2	DOWNSTREAM	28+80.5	DOWNSTREAM	GPS 524	18.3	22" OR 24"	24"	Partially collapsed VCP tile.
96	UPSTREAM	49+74.5	DOWNSTREAM	49+83.6	DOWNSTREAM	GPS 521	9.1	22" OR 24"	24"	Partially collapsed VCP tile.
470	DOWNSTREAM	47+94.8	DOWNSTREAM	48+30.5	DOWNSTREAM	GPS 544	35.8	22" OR 24"	24"	Partially collapsed VCP tile.
934	DOWNSTREAM	42+47.0	DOWNSTREAM	43+93.5	DOWNSTREAM	GPS 544	146.6	22" OR 24"	24"	Partially collapsed VCP tile and tile connection.
30	UPSTREAM	67+37.6	UPSTREAM	67+53.8	UPSTREAM	GPS 469	16.2	22" OR 24"	24"	Partially collapsed VCP tile.
150	DOWNSTREAM	65+31.2	DOWNSTREAM	65+83.5	DOWNSTREAM	GPS 468	52.3	22" OR 24"	24"	Partially collapsed VCP tile.
275	DOWNSTREAM	64+04.5	DOWNSTREAM	64+76.9	DOWNSTREAM	GPS 468	72.4	22" OR 24"	24"	Partially collapsed VCP tile.
370	DOWNSTREAM	63+18.8	DOWNSTREAM	63+52.0	DOWNSTREAM	GPS 468	33.3	22" OR 24"	24"	Partially collapsed VCP tile.
540	DOWNSTREAM	61+67.4	DOWNSTREAM	62+45.8	DOWNSTREAM	GPS 468	78.4	22" OR 24"	24"	Partially collapsed VCP tile.
945	DOWNSTREAM	57+56.0	DOWNSTREAM	57+79.3	DOWNSTREAM	GPS 468	23.4	22" OR 24"	24"	Partially collapsed VCP tile.
1025	DOWNSTREAM	56+78.9	DOWNSTREAM	56+94.1	DOWNSTREAM	GPS 468	15.2	22" OR 24"	24"	Partially collapsed VCP tile.
1150	DOWNSTREAM	55+32.4	DOWNSTREAM	56+01.8	DOWNSTREAM	GPS 468	69.4	22" OR 24"	24"	Partially collapsed VCP tile and 2 tile connections.
1225	DOWNSTREAM	54+85.3	DOWNSTREAM	54+95.4	DOWNSTREAM	GPS 468	10.0	22" OR 24"	24"	Partially collapsed VCP tile.
1305	DOWNSTREAM	54+02.9	DOWNSTREAM	54+15.6	DOWNSTREAM	GPS 468	12.7	22" OR 24"	24"	Partially collapsed VCP tile.
0	UPSTREAM	38+41.7	DOWNSTREAM	38+54.6	DOWNSTREAM	GPS 555	12.9	22" OR 24"	24"	Rock in VCP tile & partially collapsed VCP tile.

PRIVATE TILE HOOK UPS

STA.	TEE TYPE AND SIDE	PRIVATE TILE MATERIAL
55+37.7	12" TAP TEE LT.	12" PE TILE
55+76	6" INSERTA TEE RT.	4" PE TILE
61+88.8	8" SADDLE TAP RT.	7" CLAY TILE
43+13.5	6" INSERTA TEE LT.	6" CLAY TILE
43+38.9	8" INSERTA TEE LT.	7" CLAY TILE
43+73.5	6" INSERTA TEE RT.	4" PE TILE



DRAWN BY: MAH
 DATE: 10-21-13
 FIELD EIC: -
 P:\6749\CADD\CDS\AS BUILT\6749_EXCON ASBUILT.DWG; 1/8/2018

RYKEN
 ENGINEERING & LAND SURVEYING, INC.
 ACKLEY, MASON CITY & WEBSTER CITY, IOWA
 ADDRESS: 739 PARK AVENUE
 ACKLEY, IOWA 50601
 PH 641-847-3273 FAX 641-847-2303

PROJECT: MAIN TILE, OUTLET, AND WATERWAY REPAIRS DD 1
 HARDIN COUNTY, IOWA
 2017

SHEET NAME: AS BUILT
 MAIN TILE SPOT REPAIRS - PLAN & PROFILE

SHEET NO.: 7 OF 24

SHEET PILE REQUIREMENTS -- MINIMUM VALUES

Drop	Basin Depth	Full-Depth Pile Length	Side Pile Length	Pile Thickness	Section Modulus	Moment of Inertia
F, ft	D, ft	LA, ft	LB, ft	t, inches	S, in ³ /ft	I, in ⁴ /ft
2	0.3	7.0	5.0	0.209	0.5	0.9
3	0.5	10.0	7.0	0.209	0.5	0.9
4	0.7	14.0	9.0	0.209	2.0	3.3
5	0.8	17.0	11.0	0.250	1.1	0.1
6	1.0	22.0	14.0	0.250	0.2	26.1

STRUCTURE DIMENSIONS

Fall = F =	4 5.2	ft
Weir Notch Height = H =	2	ft
Weir Crest, Channel Width = W =	4 4.2	ft
Center Sheet Pile Length = LA =	14	ft
Side Sheet Pile Length = LB =	9	ft
DS Riprap Length = LR =	18 19.5	ft
Grouted Riprap Length = LG =	12 12.8	ft
Riprap Basin Depth = D =	0.7 0.8	ft
Est. tailwater at design storm = TW =	2.6	ft

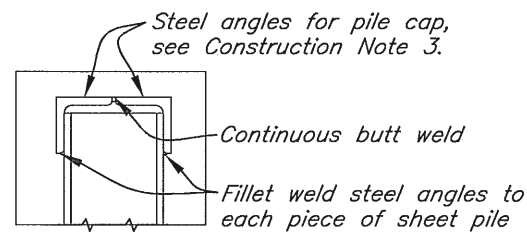
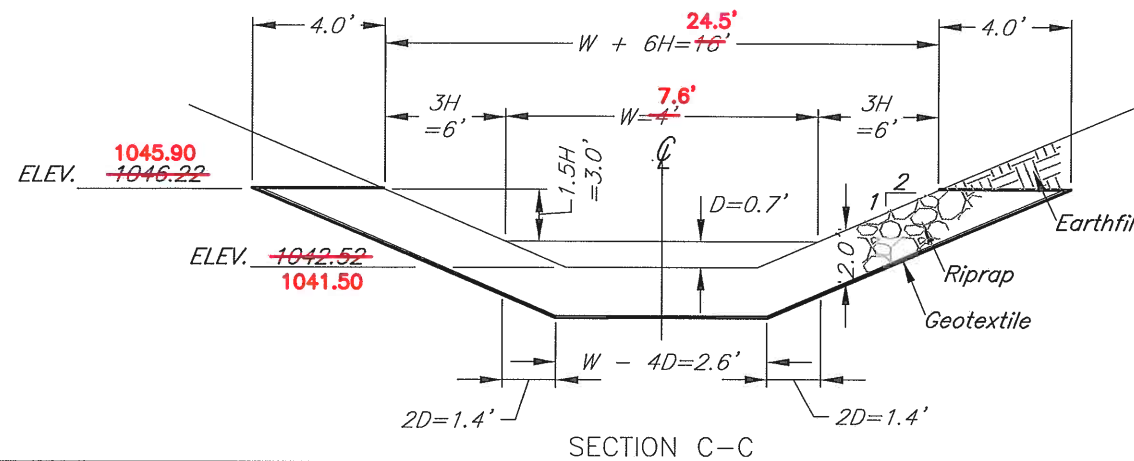
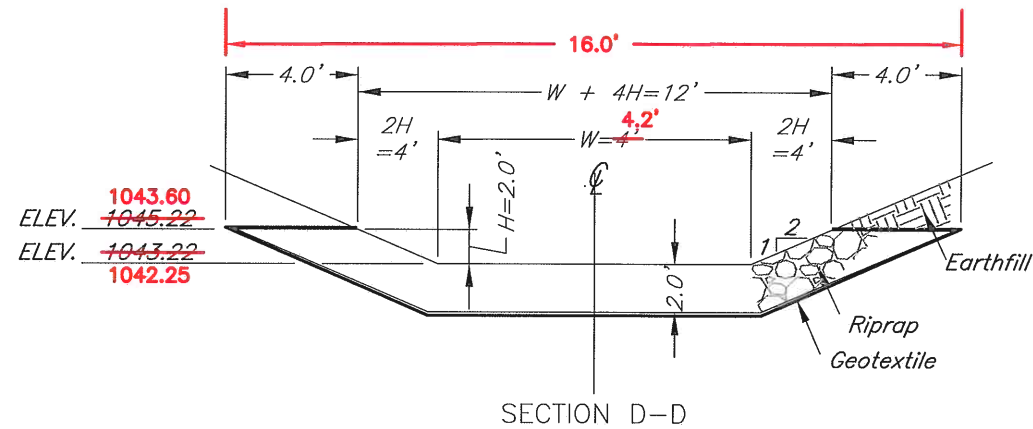
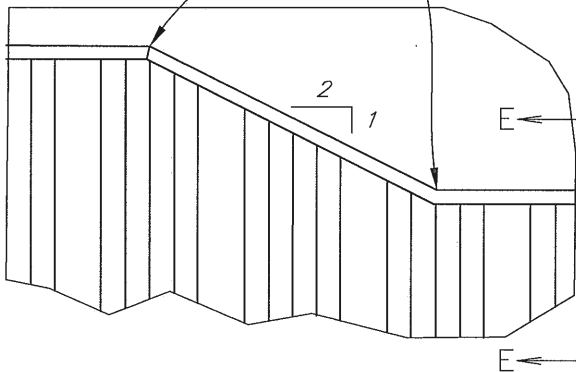
DOWNSTEAM RIPRAP AND GROUT REQUIREMENTS

Drop	Total Riprap Length	Grouted Length
F, ft	LR, ft	LG, ft
2	10	0
3	13	0
4	18	12
5	22	15
6	26	18

QUANTITY SUMMARY

Materials	Quantity	Units
Full depth Sheet Piles, <u>14</u> ft long	224	Sq. Ft.
Side Sheet Piles, <u>9</u> ft long	180	Sq. Ft.
Angle Iron for pile cap	37	Lin. Ft.
Riprap	7.5	Cu. Yd.
Grouted Riprap	14	Cu. Yd.
Geotextile	33	Sq. Yd.

Miter cut and weld pile cap at trapezoidal weir corners



SECTION E-E

NOTES

CONSTRUCTION:

1. All riprap shall be IDOT Class E.
2. Top of sheet pile shall be trimmed as needed to obtain elevations indicated and to remove any damage caused by driving.
3. Shop drawings shall be provided for proposed construction of pile cap.

PAY ESTIMATE NO. 3 (FINAL)
MAIN TILE, OUTLET, AND WATERWAY
DRAINAGE DISTRICT 1
(PROJECT 6749 AND 6749.1)
DATE: January 8, 2018

CONTRACTOR

Gehrke Inc.
 1405 21st Ave.
 PO Box 228
 Eldora, IA 50627

OWNER

Trustees of Drainage District #1
 Hardin County Courthouse
 1215 Edgington Ave., Suite 1
 Eldora, Iowa 50627


ENGINEER

Ryken Engineering
 739 Park Avenue
 Ackley, Iowa 50601

MAIN BID

Item No.	Description	Estimated Quantity	Unit	Installed Quantity	Unit Price	Extended Price
1*	24" Ø Polypropylene Tile	741	LF	741	\$ 86.25	\$ 63,911.25
2*	Type PC-2 Concrete Collar	43	EA	43	\$ 300.00	\$ 12,900.00
3*	Private Tile Connection	6	EA	6	\$ 300.00	\$ 1,800.00
4*	Tile Removal	1391	LF	1391	\$ 5.00	\$ 6,955.00
5^	30" Ø CMP Tile	20	LF	20	\$ 65.00	\$ 1,300.00
6	Sheet Pile Headwall	404	SF	404	\$ 41.00	\$ 16,564.00
7	Riprap	7.5	CY	7.5	\$ 70.00	\$ 525.00
8	Grouted Riprap	14	CY	14	\$ 165.00	\$ 2,310.00
9*	Open Ditch Construction and	8.5	STA	8.5	\$ 1,800.00	\$ 15,300.00
10*	Open Ditch Seeding	8.5	STA	8.5	\$ 250.00	\$ 2,125.00
11*	Waterway Cleanout	21.5	STA	21.5	\$ 1,025.00	\$ 22,037.50
12*	Waterway Seeding	21.5	STA	21.5	\$ 170.00	\$ 3,655.00
13	Seeding Warranty	1	LS	1	\$ 2,500.00	\$ 2,500.00
14*	Traffic Control	0	LS	0	\$ 500.00	\$ -
15*	CCTV Existing Tile	510	LF	510	\$ 2.00	\$ 1,020.00
16	Tree Removal	1	LS	1	\$ 20,000.00	\$ 20,000.00
17*	12" Hickenbottom Intake	1	EA	1	\$ 1,000.00	\$ 1,000.00

I have reviewed the work claimed to be completed by the Contractor as reflected above and recommend payment of **\$ 17,390.27** to the Contractor.


 Lee Gallentine, Project Engineer

TOTAL WORK COMPLETED TO DATE	\$ 173,902.75
10% RETENTION	\$ -
AMOUNT DUE LESS RETENTION	\$ 173,902.75
PREVIOUSLY PAID	\$ 156,512.48
AMOUNT DUE AT THIS TIME	\$ 17,390.27

^ - Approved as part of Change Order #1

* - Approved as part of Change Order #2



WAIVER OF LIEN

State of Iowa

Date: 11/29/17

Quick Supply,

I/We, the undersigned, have been employed by Gehrke Inc. P.O. Box 228, Eldora, Iowa 50627 to furnish labor and/or materials as described below for the construction, repair or reconstruction of the property or improvements to the property known as DD# 1, in Hardin County, State of Iowa.

Description of work or materials provided: Geotextile

Amount \$ 300.00 to date shown above. Final X Partial

For and in consideration of my/our employment to furnish said labor and/or materials. I/We do hereby waive and release any and all my/our rights, or claim of rights, to file and establish a mechanics lien against the above mentioned property, and improvements to the property, given to me/us under the provisions of the statutes and laws of the State of Iowa, relating to mechanic's liens on account of labor or materials, or both furnished, or which may be furnished by me/us for, and on, the above mentioned property and improvements to the same.

Executed at Des Moines, Iowa, this 6th day of December 2017.

Angie Rooney
Signature

Accountant
Title

WAIVER OF LIEN

State of Iowa

Date: 11/29/17

Williams Excavation,

I/We, the undersigned, have been employed by Gehrke Inc. P.O. Box 228, Eldora, Iowa 50627 to furnish labor and/or materials as described below for the construction, repair or reconstruction of the property or improvements to the property known as DD# 1, in Hardin County, State of Iowa.

Description of work or materials provided: CCTV

Amount \$ 850.00 to date shown above. Final X Partial

For and in consideration of my/our employment to furnish said labor and/or materials. I/We do hereby waive and release any and all my/our rights, or claim of rights, to file and establish a mechanics lien against the above mentioned property, and improvements to the property, given to me/us under the provisions of the statutes and laws of the State of Iowa, relating to mechanic's liens on account of labor or materials, or both furnished, or which may be furnished by me/us for, and on, the above mentioned property and improvements to the same.

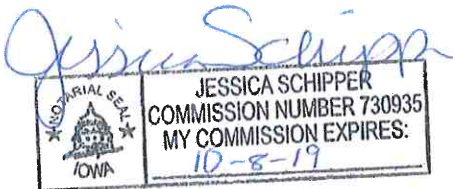
Executed at Green Belt Bank & Trust, Iowa, this 6th day of December 2017.

Paul C. Will

Signature

OWNER

Title



WAIVER OF LIEN

State of Iowa

Date: 11/29/17

Lakeside Construction,

I/We, the undersigned, have been employed by Gehrke Inc. P.O. Box 228, Eldora, Iowa 50627 to furnish labor and/or materials as described below for the construction, repair or reconstruction of the property or improvements to the property known as DD# 1, in Hardin County, State of Iowa.

Description of work or materials provided: Seeding

Amount \$ 4570.00 to date shown above. Final X Partial

For and in consideration of my/our employment to furnish said labor and/or materials. I/We do hereby waive and release any and all my/our rights, or claim of rights, to file and establish a mechanics lien against the above mentioned property, and improvements to the property, given to me/us under the provisions of the statutes and laws of the State of Iowa, relating to mechanic's liens on account of labor or materials, or both furnished, or which may be furnished by me/us for, and on, the above mentioned property and improvements to the same.

Executed at Forest city, Iowa, this 1 day of Dec 2017.

Gary Hink
Signature

President
Title

WAIVER OF LIEN

State of Iowa

Date: 11/29/17

Midwest Pipe Supply,

I/We, the undersigned, have been employed by Gehrke Inc. P.O. Box 228, Eldora, Iowa 50627 to furnish labor and/or materials as described below for the construction, repair or reconstruction of the property or improvements to the property known as DD# 1, in Hardin County, State of Iowa.

Description of work or materials provided: Pipe & Fittings

Amount \$ 628.00 to date shown above. Final X Partial

For and in consideration of my/our employment to furnish said labor and/or materials. I/We do hereby waive and release any and all my/our rights, or claim of rights, to file and establish a mechanics lien against the above mentioned property, and improvements to the property, given to me/us under the provisions of the statutes and laws of the State of Iowa, relating to mechanic's liens on account of labor or materials, or both furnished, or which may be furnished by me/us for, and on, the above mentioned property and improvements to the same.

Executed at Clear Lake, Iowa, this 1 day of December 2017.

Windy A. Pace
Signature

Secretary/office
Title

WAIVER OF LIEN

State of Iowa

Date: 11/29/17

Gehrke Quarries,

I/We, the undersigned, have been employed by Gehrke Inc. P.O. Box 228, Eldora, Iowa 50627 to furnish labor and/or materials as described below for the construction, repair or reconstruction of the property or improvements to the property known as DD# 1, in Hardin County, State of Iowa.

Description of work or materials provided: Rock

Amount \$ 6588.53 to date shown above. Final X Partial

For and in consideration of my/our employment to furnish said labor and/or materials. I/We do hereby waive and release any and all my/our rights, or claim of rights, to file and establish a mechanics lien against the above mentioned property, and improvements to the property, given to me/us under the provisions of the statutes and laws of the State of Iowa, relating to mechanic's liens on account of labor or materials, or both furnished, or which may be furnished by me/us for, and on, the above mentioned property and improvements to the same.

Executed at Eldora, Iowa, this 29th day of November 2017.


Signature

Secretary
Title

WAIVER OF LIEN

State of Iowa

Date: 11/29/17

Contractor Solutions,

I/We, the undersigned, have been employed by Gehrke Inc. P.O. Box 228, Eldora, Iowa 50627 to furnish labor and/or materials as described below for the construction, repair or reconstruction of the property or improvements to the property known as DD# 1, in Hardin County, State of Iowa.

Description of work or materials provided: Sheeting/Angle Iron

Amount \$ 5275.60 to date shown above. Final X Partial

For and in consideration of my/our employment to furnish said labor and/or materials. I/We do hereby waive and release any and all my/our rights, or claim of rights, to file and establish a mechanics lien against the above mentioned property, and improvements to the property, given to me/us under the provisions of the statutes and laws of the State of Iowa, relating to mechanic's liens on account of labor or materials, or both furnished, or which may be furnished by me/us for, and on, the above mentioned property and improvements to the same.

Executed at Des Moines, Iowa, this 4th day of December 2017.

Godi Denny
Signature

Accounting
Title

WAIVER OF LIEN

State of Iowa

Date: 11/29/17

Concrete Inc.,

I/We, the undersigned, have been employed by Gehrke Inc. P.O. Box 228, Eldora, Iowa 50627 to furnish labor and/or materials as described below for the construction, repair or reconstruction of the property or improvements to the property known as DD# 1, in Hardin County, State of Iowa.

Description of work or materials provided: Concrete

Amount \$ 6051.97 to date shown above. Final X Partial

For and in consideration of my/our employment to furnish said labor and/or materials. I/We do hereby waive and release any and all my/our rights, or claim of rights, to file and establish a mechanics lien against the above mentioned property, and improvements to the property, given to me/us under the provisions of the statutes and laws of the State of Iowa, relating to mechanic's liens on account of labor or materials, or both furnished, or which may be furnished by me/us for, and on, the above mentioned property and improvements to the same.

Executed at Marshalltown, Iowa, this 1st day of Dec 2017.


Signature

Office Mgr.
Title

WAIVER OF LIEN

State of Iowa

Date: 11/29/17

Brown Supply Co.,

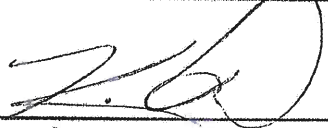
I/We, the undersigned, have been employed by Gehrke Inc. P.O. Box 228, Eldora, Iowa 50627 to furnish labor and/or materials as described below for the construction, repair or reconstruction of the property or improvements to the property known as DD# 1, in Hardin County, State of Iowa.

Description of work or materials provided: Pipe & Fittings

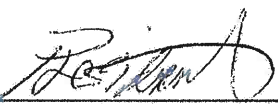
Amount \$ 15,515.82 to date shown above. Final X Partial

For and in consideration of my/our employment to furnish said labor and/or materials. I/We do hereby waive and release any and all my/our rights, or claim of rights, to file and establish a mechanics lien against the above mentioned property, and improvements to the property, given to me/us under the provisions of the statutes and laws of the State of Iowa, relating to mechanic's liens on account of labor or materials, or both furnished, or which may be furnished by me/us for, and on, the above mentioned property and improvements to the same.

Executed at Ames, Iowa, this 26th day of November 2017.



Signature

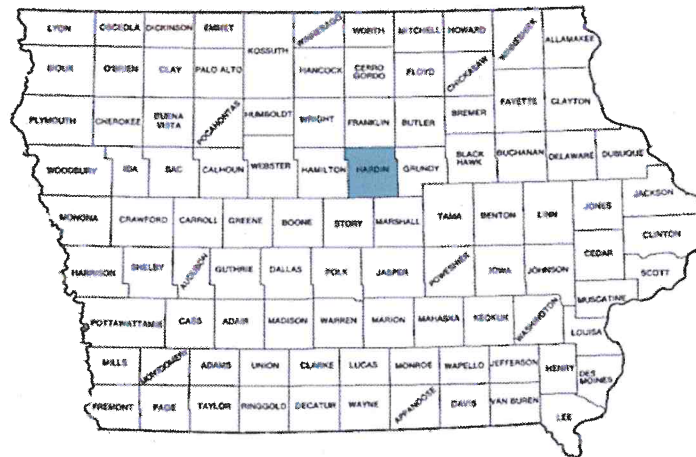


Title

HARDIN COUNTY, IOWA

2017

RECLASSIFICATION COMMISSION REPORT FOR MAIN OF DRAINAGE DISTRICT NO. 1 HARDIN COUNTY, IOWA



OFFICE LOCATIONS

739 Park Avenue
Ackley, IA. 50601
Phone: 641-847-3273
Fax: 641-847-2303

103 East State Street, Ste 430
Mason City, IA 50401
Phone: 641-423-1451
Fax: 641-423-1659

511 Bank Street
Webster City, IA 50595
Phone: 515-832-1876
Fax: 515-832-1932

Engineering and Land Surveying Since 1959

www.CGAconsultants.com

**Reclassification Commission Report
for Main of Drainage District No. 1
Hardin County, Iowa**

Table of Contents	Pg. 1
Report	
Introduction	Pg. 2
Background Information	Pg. 3
Evaluations	Pgs. 4-5
Exceptions	Pg. 5
Conclusion	Pg. 5
Appendices	
Certificates of Oath of Commissioners	App. A
Reclassification Sheets	App. B

**Reclassification Commission Report
for Main of Drainage District No. 1
Hardin County, Iowa**

- 1.0 INTRODUCTION - The District Trustees appointed a Reclassification Commission to reclassify the lands relative to the Main within the drainage boundaries of Drainage District No. 1. For reference, the Certificates of Oath of Commissioners are included in Appendix A. This action by the District Trustees was a result of comments received from landowners in the watershed expressing interest in updated and more accurate assessments within the district. This report will summarize the background information gathered and the evaluation process used by the Commissioners to reclassify said lands and also present the resulting reclassification.

2.0 BACKGROUND INFORMATION - In addition to reviewing lands within the district, the Reclassification Commission also looked at the following supporting documents supplied by Clapsaddle Garber Associates:

- Existing Classification for District No. 1 from the Hardin County Drainage Clerk
- Soil Surveys from USDA website
- Maps of District Boundaries and Facilities from the Hardin County Drainage Clerk
- Aerial/Tract Maps from the Hardin County GIS website
- Recorded Boundary Surveys from the Hardin County Recorder's Office

Using the above information, the Reclassification Commission gathered the following background information:

- 2.1 Tract Verification - This step involved verification that each tract number from the existing classification was within the district boundaries and were appropriately sized (i.e. 40 acres or less according to recognized or legal divisions). For those that weren't appropriately sized, additional tract numbers were created.
- 2.2 Acreage Verification - This step involved verification of the acreages contained within the existing classification for District No. 1. For the tract numbers that previously had acreages stated and were totally contained within the District No. 1 watershed, the acreage was compared to that available from the GIS website or recorded boundary surveys and corrected as necessary.
- 2.3 Acreage Generation - This step involved generation of the acreages for all the remaining tract numbers (i.e. those without acreages previously stated in the existing classification, those created in the Tract Verification process above or those that were not totally contained within the District No. 1 watershed). As stated above, for lands whose tract numbers were totally contained within the District No. 1 boundaries, the acreage from the existing classification for Drainage District No. 1, the GIS website, or recorded surveys was used. For lands whose tract numbers were partially contained within the District boundaries, the acreage was measured from a composite overlay of the maps of District boundaries with the linework from the GIS website.
- 2.4 Soils Type Determination - This step involved differentiation of the soil types based on their properties (i.e. very poorly drained, poorly drained, well drained, and excessively well drained soil), and the percentage of each within each tract number. This was measured from a composite overlay of the soil surveys with linework from the GIS website.
- 2.5 Proximity Determination - This step involved determination of the proximity or distance to the district facilities (i.e. main tile or main open ditch). All distances were measured from the approximate center of each tract number along the shortest straight-line route to the district facilities. Each tract number was measured either to the main tile or the main open ditch, whichever was closest. This was measured from a composite overlay of the maps of district facilities with the linework from the GIS website.

3.0 EVALUATIONS - Using the above background information, the Reclassification Commission evaluated and determined benefits using the following method:

3.1 Soil Factor - This factor was calculated as an indication of the "need" for the district facilities based upon the natural soil characteristics for each tract number. It was the weighted total of the soil types after placing the following percentage values upon each soil type:

- Very Poorly Drained = 85%
- Poorly Drained = 55%
- Well Drained = 10%
- Excessively Drained = 0%

These percentages were based upon the Reclassification Commission's determination that the Excessively Drained soils typically did not need the district facilities to be productive, Well Drained soils typically needed very little of the district facilities to be productive, and the Poorly Drained and Very Poorly Drained soils typically relied heavily on the district facilities to be productive.

3.2 District Facility Proximity Factor - This factor was calculated as an indication of "availability" of the district facilities (tile or open ditch) based upon the distance each tract number was from said district facilities. Since there was a large range in the distances measured (30± feet to 5100± feet), this factor was necessary to compare the tract numbers relative to each other. Therefore, the tract number which had the farthest measured distance received a District Facility Proximity Factor of 10 and the tract number which had the closest measured distance received a District Facility Proximity Factor of 100. All other tract numbers received a District Facility Proximity Factor calculated in proportion to this range based upon their measured distance.

3.3 Combined Factor - This factor was the composite of the above two factors (i.e. Soil Factor and District Facility Proximity Factor). The Combined Factor was calculated as follows:

$$\text{District Facility Proximity Factor} \times \text{Soil Factor}$$

Once the Combined Factor was determined, it was used as an indication of benefit (i.e. the tract number with the highest Combined Factor was the closest to the district facilities and had the soils in most need of the district facilities).

3.4 % Benefit - This is the benefit for each tract number using the Combined Factor based on a scale of 100 (i.e. the highest Combined Factor is 100 and all other Combined Factors are calculated in ratio to that).

3.5 Units Assessed - This combines the amount of benefit along with the land area that is benefitted. For each tract number, this is calculated as:

$$\% \text{ Benefit} \times \text{Number of Acres} \times 100$$

3.6 % Units Assessed - This is the percentage of units assessed for each tract number as a portion of the total units assessed for the entire district. Unlike the % Benefit which was a percentage comparing each tract number to the most benefitted tract number, the % Units Assessed compares each tract number to the total of the district.

3.7 Percent Levy - This is an indication of the levy amount necessary to pay for a project. For this report, it is at 100%, but will be adjusted as needed in the future by the Drainage Clerk to pay for future bills.

3.8 Assessment for Project (entire tract basis) - This is the amount that each tract number must pay in total to cover 100% of the levy. It is important to note that it has been calculated using a sample cost of \$150,000. For each tract number, this is calculated as:

$$\% \text{ Units Assessed} \times \$150,000$$

3.9 Assessment for Project (per acre basis) - This is the amount that each tract number must pay per acre to cover 100% of the levy. Although this was not used in an active role by the Reclassification Commission, some landowners find it to be valuable information. It is important to note that it is calculated using a sample cost of \$150,000. For each tract number, this is calculated:

$$\text{Assessment for Project (entire tract basis)} / \text{Number of Acres}$$

4.0 EXCEPTIONS: - With any process, there are inevitably exceptions and this reclassification was no different. While the above method was used for the vast majority of the tract numbers, the following are exceptions to the above process:

For tract numbers which are highly irregular in shape (i.e. long narrow pieces of land) or do not have accurate soil maps available, Proximity, Soil, and Surface Factors were not calculated. Instead, the average Combined Factor for all the other tract numbers was used. The only tract numbers to which this applies are roadways and are highlighted pink on the reclassification sheets contained in Appendix B (i.e. tract numbers 1, 13, and 39).

5.0 CONCLUSION: - Using all the above, the Reclassification Commission generated reclassification sheets for the Main for the entire district. For reference, copies are included in Appendix B. It is recommended moving forward that the District Trustees, should take action to accomplish the following:

- Approve the Reclassification Commission Report.
- Hold the required hearing.
- Adopt the Reclassification Commission Report as the basis for all current and future repairs and improvements to the Main.


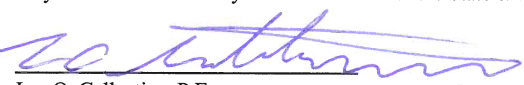
CERTIFICATE

Lee Gallentine, a Professional Engineer of the State of Iowa, hereby certify:

That I, along with the other reclassification commissioners for Drainage District No. 1, have examined and inspected lands within the Drainage District, have reviewed original maps of the Drainage District, aerial maps of the lands within the Drainage District, and soil maps showing soil types for the lands within the Drainage District.

That I, along with the other reclassification commissioners for Hardin County Drainage District No. 1, completed the reclassification of the lands within the Drainage District relative to the Main. Said reclassification has fixed the percentages of benefits in tracts according to the recognized and legal divisions of 40 acres or less using a graduated scale of benefits, numbered according to the benefit to be received, with the lands receiving the greatest benefit marked on a scale of 100 and those benefited in a less degree marked with such percentage of one hundred as the benefit received is in proportion to.

That I, along with the other reclassification commissioners for Hardin County Drainage District No. 1, performed said reclassification in accordance with Chapter 468, Code of Iowa, to the best of my ability, skill, and judgment. The attached list is the final determination of reclassification and assessment for each tract of land in the Drainage District for all repairs and future improvements to the facilities in the Drainage District. That this report is a true and correct transcript of said reclassification of lands and apportionments of benefits made by said reclassification commission.

	<p>I hereby certify that this land surveying document was prepared and the related survey work was performed by me or under my direct personal supervision and that I am a duly licensed Land Surveyor under the laws of the State of Iowa.</p> <p> Lee O. Gallentine, P.E.</p> <p>DATE: <u>1-17-18</u> License Number: 15745</p> <p>My License Renewal Date is December 31, 2018 Page or sheets covered by this seal: <u>As Shown on Table of Contents</u></p>
---	--

CERTIFICATE

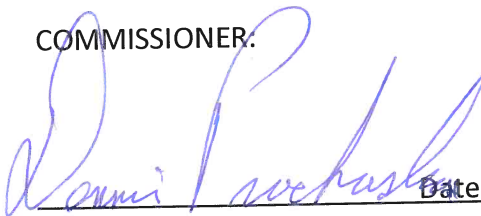
Dennis Prochaska, a resident freeholder of Hardin County, Iowa, hereby certify:

That I, along with the other reclassification commissioners for Drainage District No. 1, have examined and inspected lands within the Drainage District, have reviewed original maps of the Drainage District, aerial maps of the lands within the Drainage District, and soil maps showing soil types for the lands within the Drainage District.

That I, along with the other reclassification commissioners for Hardin County Drainage District No. 1, completed the reclassification of the lands within the Drainage District relative to the Main. Said reclassification has fixed the percentages of benefits in tracts according to the recognized and legal divisions of 40 acres or less using a graduated scale of benefits, numbered according to the benefit to be received, with the lands receiving the greatest benefit marked on a scale of 100 and those benefited in a less degree marked with such percentage of one hundred as the benefit received is in proportion to.

That I, along with the other reclassification commissioners for Hardin County Drainage District No. 1, performed said reclassification in accordance with Chapter 468, Code of Iowa, to the best of my ability, skill, and judgment. The attached list is the final determination of reclassification and assessment for each tract of land in the Drainage District for all repairs and future improvements to the facilities in the Drainage District. That this report is a true and correct transcript of said reclassification of lands and apportionments of benefits made by said reclassification commission.

COMMISSIONER:


Date: 1/11/18

Dennis Prochaska
22849 170th Street
Iowa Falls, IA 50126

CERTIFICATE

Chuck Walters, a resident freeholder of Hardin County, Iowa, hereby certify:

That I, along with the other reclassification commissioners for Drainage District No. 1, have examined and inspected lands within the Drainage District, have reviewed original maps of the Drainage District, aerial maps of the lands within the Drainage District, and soil maps showing soil types for the lands within the Drainage District.

That I, along with the other reclassification commissioners for Hardin County Drainage District No. 1, completed the reclassification of the lands within the Drainage District relative to the Main. Said reclassification has fixed the percentages of benefits in tracts according to the recognized and legal divisions of 40 acres or less using a graduated scale of benefits, numbered according to the benefit to be received, with the lands receiving the greatest benefit marked on a scale of 100 and those benefited in a less degree marked with such percentage of one hundred as the benefit received is in proportion to.

That I, along with the other reclassification commissioners for Hardin County Drainage District No. 1, performed said reclassification in accordance with Chapter 468, Code of Iowa, to the best of my ability, skill, and judgment. The attached list is the final determination of reclassification and assessment for each tract of land in the Drainage District for all repairs and future improvements to the facilities in the Drainage District. That this report is a true and correct transcript of said reclassification of lands and apportionments of benefits made by said reclassification commission.

COMMISSIONER:



Date: 1-11-18

Chuck Walters
34122 230th Street
Eldora, IA 50627

Tract	Taxing District	Parcel	Entity	Sec-Twp-Rng	Legal	Acres	% Benefit	Units Assessed	% Units Assessed	Percent of Levy	Assessment for Project (entire tract basis)	Assessment for Project (per acre basis)
1	0	----10	DED Iowa Dept of Transportation		PRIMARY HWY IN DD	70.00	31.53%	2207.14	2.332%	100	\$3,497.96	\$49.97
2	200	88-20-13-400-002	QCD Wiechmann, Kaylissa A	013-088-020	NE SE EX E32RDS N20RDS	14.28	29.21%	417.06	0.441%	100	\$660.97	\$46.29
3	200	88-20-24-300-001	DED Bright, Dean	024-088-020	NW SW	35.03	26.32%	921.89	0.974%	100	\$1,461.04	\$41.71
4	200	88-20-24-300-003	Bright, Dean	024-088-020	SW SW	38.64	22.07%	852.62	0.901%	100	\$1,351.26	\$34.97
5	200	88-20-23-400-005	DED Bright, Dean	023-088-020	SE SE	29.26	12.48%	365.31	0.386%	100	\$578.95	\$19.79
6	200	88-20-23-400-002	DED Bright, Dean	023-088-020	NE SE	0.05	5.16%	0.26	0.000%	100	\$0.41	\$8.18
7	210	88-20-26-200-005	Trampe, Sandra K	026-088-020	SE NE	18.95	21.54%	408.10	0.431%	100	\$646.78	\$34.13
8	210	88-20-26-200-002	Trampe, Sandra K	026-088-020	NE NE	36.85	16.39%	603.87	0.638%	100	\$957.04	\$25.97
9	210	88-20-26-200-004	Trampe, Sandra K	026-088-020	E 1/2 W 1/2 NE	12.49	9.87%	123.33	0.130%	100	\$195.46	\$15.65
10	200	88-20-24-300-002	DED Butler, Charles M	024-088-020	NE SW	40.00	29.62%	1184.90	1.252%	100	\$1,877.87	\$46.95
11	200	88-20-24-300-004	COD Butler, Charles M	024-088-020	SE SW	38.64	37.52%	1449.96	1.532%	100	\$2,297.95	\$59.47
12	210	88-20-25-100-001	DED Butler, Charles M	025-088-020	N 3/8THS W1/2 NW	27.36	30.16%	825.19	0.872%	100	\$1,307.79	\$47.80
12.1	210	88-20-25-100-001	DED Butler, Charles M	025-088-020	N 3/8THS E1/2 NW	28.45	42.85%	1219.18	1.288%	101	\$1,932.21	\$67.92
13	0	----2	DED Clay Township Roads		ROADS IN DISTRICT	20.00	31.53%	630.61	0.666%	100	\$999.42	\$49.97
14	240	88-19-19-100-002	Hake, Arlyn Daleske - LE	019-088-019	SW FRL NW	32.56	63.05%	2052.95	2.169%	100	\$3,253.60	\$99.93
15	200	88-20-24-200-003	Hake, Arlyn Daleske - LE	024-088-020	SW NE	40.00	28.22%	1128.76	1.193%	100	\$1,788.89	\$44.72
16	200	88-20-24-200-005	Hake, Arlyn Daleske - LE	024-088-020	SE NE EX 7.06A TR	31.94	34.15%	1090.74	1.152%	100	\$1,728.64	\$54.12
16.1	200	88-20-24-200-006	Gast, Terry G & Gast, Mary J	024-088-020	S436' E738' SE NE	7.06	35.98%	253.99	0.268%	100	\$402.53	\$57.02
17	200	88-20-24-100-004	Hake, Arlyn Daleske - LE	024-088-020	SE NW	40.00	21.86%	874.33	0.924%	100	\$1,385.68	\$34.64
18	240	88-19-19-100-003	Hake, Arlyn Daleske - LE	019-088-019	SE NW	40.00	45.37%	1814.78	1.917%	100	\$2,876.12	\$71.90
19	240	88-19-19-300-001	Hake, Arlyn Daleske - LE	019-088-019	W1/2 FRL N53A SW FRL	23.39	14.51%	339.40	0.359%	100	\$537.89	\$23.00
19.1	240	88-19-19-300-001	Hake, Arlyn Daleske - LE	019-088-019	E1/2 FRL N53A SW FRL	28.87	22.37%	645.90	0.682%	101	\$1,023.64	\$35.46
20	200	88-20-13-400-006	WDE Bakker, Rachel E Living Trust	013-088-020	N1/2 SW SE	12.81	31.57%	404.46	0.427%	100	\$641.01	\$50.04

Tract	Taxing District	Parcel	Entity	Sec-Twp-Rng	Legal	Acres	% Benefit	Units Assessed	% Units Assessed	Percent of Levy	Assessment for Project (entire tract basis)	Assessment for Project (per acre basis)
20.1	200	88-20-13-400-007	WDE Bakker, Rachel E Living Trust	013-088-020	N1/2 SE SE	19.55	41.39%	809.12	0.855%	100	\$1,282.33	\$65.59
21	200	88-20-13-400-009	Schuneman, Dwight A & Schuneman, Jean A	013-088-020	E1/2 NW SE	3.82	29.00%	110.77	0.117%	100	\$175.56	\$45.96
22	200	88-20-13-400-008	WDE Bakker, Jason L	013-088-020	S1/2 S1/2 SE EX HWY TR	25.31	25.84%	654.04	0.691%	100	\$1,036.54	\$40.95
23	240	88-19-17-100-009	QCD Clikeman, Bret D & Clikeman, Wendy L W	017-088-019	COM CTR SEC W723FT N366FT E20FT POB E181.5FT N462FT W 510FT S462FT E328.5' POB	5.36	40.08%	214.82	0.227%	100	\$340.45	\$63.52
24	200	88-20-24-100-001	TDE Fuller, Robert D - Trust - 1/2 & Fuller, Arleen V - Trust - 1/2	024-088-020	NW NW EX HWY TRACT	17.86	8.72%	155.79	0.165%	100	\$246.90	\$13.82
25	240	88-19-18-400-005	Gast, Terry & Gast, Mary	018-088-019	NW SE EX 2.77A TR	36.23	72.06%	2610.67	2.758%	100	\$4,137.48	\$114.20
25.1	240	88-19-18-400-006	Riss, Nancy M - Trust	018-088-019	COM E1/4 COR W1652.7' POB W411' S326.5' E411'N326.5'POB	2.77	44.71%	123.85	0.131%	100	\$196.28	\$70.86
26	240	88-19-18-400-003	Gast, Terry & Gast, Mary	018-088-019	SW SE EX HWY TR	33.99	50.18%	1705.47	1.802%	100	\$2,702.89	\$79.52
27	240	88-19-19-200-004	Gast, LaVerne R & Gast, Joan C	019-088-019	SE NE	39.00	19.39%	756.16	0.799%	100	\$1,198.39	\$30.73
28	240	88-19-19-200-003	Gast, LaVerne R & Gast, Joan C	019-088-019	SW NE	40.00	24.46%	978.37	1.034%	100	\$1,550.56	\$38.76
28.1	240	88-19-20-300-001	Gast, LaVerne R & Gast, Joan C	020-088-019	NW SW	6.28	2.17%	13.61	0.014%	100	\$21.57	\$3.44
28.2	240	88-19-20-300-002	QCD Gast, LaVerne R & Gast, Joan C	020-088-019	NE SW	3.08	8.85%	27.25	0.029%	100	\$43.18	\$14.02
29	240	88-19-18-300-005	Kramer, Marvin L & Kramer, Lora J	018-088-019	SE SW EX HWY TR	33.75	46.96%	1584.89	1.675%	100	\$2,511.79	\$74.42
30	240	88-19-19-100-004	Kramer, Lora Jane	019-088-019	NE NW EX HWY TR	38.00	67.52%	2565.65	2.711%	100	\$4,066.14	\$107.00
31	240	88-19-18-300-004	Kramer, Marvin L & Kramer, Lora J	018-088-019	SW FRL SW EX TRACTS	25.06	34.48%	863.97	0.913%	100	\$1,369.25	\$54.64
32	240	88-19-20-100-003	Havens, Ronald E & Havens, Joan M	020-088-019	BEG W1/4COR NE 365' N400' SW 365' S400' TO BEG	3.05	3.82%	11.64	0.012%	100	\$18.45	\$6.05
33	240	88-19-19-200-002	Hess, Douglas R & Bakker, Patricia Sue	019-088-019	NE NE EX HWY TR	36.61	34.34%	1257.04	1.328%	100	\$1,992.20	\$54.42
34	240	88-19-19-200-001	Hess, Douglas R & Bakker, Patricia Sue	019-088-019	NW NE EX HWY TR	37.58	29.75%	1118.18	1.181%	100	\$1,772.14	\$47.16
35	201	88-20-25-200-001	Hess, Douglas R & Bakker, Patricia Sue	025-088-020	NW NE	38.67	54.63%	2112.49	2.232%	100	\$3,347.95	\$86.58
36	201	88-20-25-200-002	Hess, Douglas R & Bakker, Patricia Sue	025-088-020	NE NE EX E333'	28.88	50.50%	1458.33	1.541%	100	\$2,311.21	\$80.03
37	201	88-20-25-200-004	Hess, Douglas R & Bakker, Patricia Sue	025-088-020	SE NE EX E333'	20.17	46.32%	934.23	0.987%	100	\$1,480.60	\$73.41
38	201	88-20-25-200-003	Hess, Douglas R & Bakker, Patricia Sue	025-088-020	SW NE	39.92	62.56%	2497.27	2.639%	100	\$3,957.76	\$99.14
39	0	----7	DED Jackson Township Roads		ROADS IN DISTRICT	30.00	31.53%	945.92	0.999%	100	\$1,499.13	\$49.97



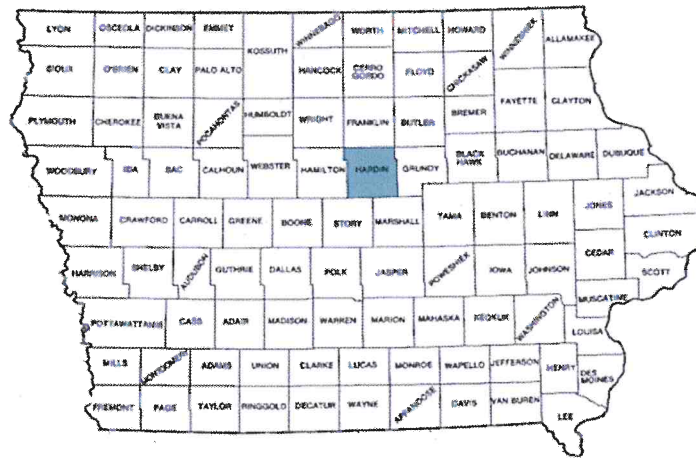
Tract	Taxing District	Parcel	Entity	Sec-Twp-Rng	Legal	Acres	% Benefit	Units Assessed	% Units Assessed	Percent of Levy	Assessment for Project (entire tract basis)	Assessment for Project (per acre basis)
40	240	88-19-17-300-001	Kramer, Kenneth C & Janice R - Trust - 1/2 & Kramer, Janice R - 1/2	017-088-019	NW SW	38.00	58.98%	2241.17	2.368%	100	\$3,551.88	\$93.47
41	240	88-19-17-300-003	Kramer, Kenneth C & Janice R - Trust - 1/2 & Kramer, Janice R - 1/2	017-088-019	SW SW EX HWY TR	33.26	23.91%	795.08	0.840%	100	\$1,260.08	\$37.89
42	240	88-19-18-300-003	Kramer, Marvin L	018-088-019	COMM 751' N OF SW COR E288.5' N250.4' W288.5' S250.4' TO BEG.	1.47	11.43%	16.79	0.018%	100	\$26.62	\$18.11
43	240	88-19-19-100-001	Kramer, Marvin L	019-088-019	NW FRL NW EX HWY TR	29.23	100.00%	2923.00	3.088%	100	\$4,632.48	\$158.48
44	240	88-19-18-100-006	Kramer, Mildred	018-088-019	NE SE NW & SE NE NW & S93.6FT E 1/4 N 1/4 NW	18.99	33.74%	640.77	0.677%	100	\$1,015.51	\$53.48
45	240	88-19-18-400-002	Kramer, Mildred	018-088-019	NE SE	38.00	67.65%	2570.79	2.716%	100	\$4,074.28	\$107.22
46	240	88-19-18-400-004	Kramer, Mildred	018-088-019	SE SE EX HWY TR	33.33	40.84%	1361.29	1.438%	100	\$2,157.42	\$64.73
47	240	88-19-18-200-002	Rickert, Linda D - Trust	018-088-019	NW NE EX TRACT	31.46	25.06%	788.27	0.833%	100	\$1,249.28	\$39.71
47.1	240	88-19-18-200-003	Kies, Jonathan D & Kies, Jessica C	018-088-019	S661' W516' N1/2 NE	7.54	20.14%	151.84	0.160%	100	\$240.65	\$31.92
48	240	88-19-18-200-006	Rickert, Linda D - Trust	018-088-019	NE NE	39.83	25.10%	999.62	1.056%	100	\$1,584.24	\$39.78
49	201	88-20-25-400-001	Lawler, Gail M - 1/2 & Lawler, Gail M - LE - 1/2	025-088-020	NW SE	20.18	56.02%	1130.46	1.194%	100	\$1,791.59	\$88.78
50	200	88-20-24-400-003	Luiken, Arnold D & Luiken, Linda M	024-088-020	SW SE	38.64	42.12%	1627.69	1.720%	100	\$2,579.62	\$66.76
51	200	88-20-24-400-001	Luiken, Arnold - 2/3 & Luiken, Arnold & Linda - 1/3	024-088-020	NW SE	40.00	44.87%	1794.82	1.896%	100	\$2,844.49	\$71.11
52	200	88-20-24-400-002	Luiken, Margaret E	024-088-020	E1/2 NE SE	19.00	34.56%	656.68	0.694%	100	\$1,040.74	\$54.78
52.1	200	88-20-24-400-005	Luiken, Arnold & Luiken, Linda	024-088-020	W1/2 NE SE	20.00	33.52%	670.38	0.708%	100	\$1,062.44	\$53.12
53	200	88-20-24-400-004	Luiken, Margaret E	024-088-020	SE SE	37.64	31.97%	1203.32	1.271%	100	\$1,907.07	\$50.67
54	240	88-19-17-300-004	Northco, Inc	017-088-019	SE SW EX HWY TR	32.15	26.69%	858.20	0.907%	100	\$1,360.10	\$42.30
55	240	88-19-17-400-001	Northco, Inc	017-088-019	NW SE	28.03	21.76%	610.03	0.645%	100	\$966.79	\$34.49
56	200	88-20-23-400-004	TDE Bright, Dean	023-088-020	E 1/2 SW SE	6.65	7.07%	47.02	0.050%	100	\$74.52	\$11.21
57	240	88-19-18-100-005	Price, Stanley Charles & Price, Daniel L	018-088-019	PART OF NE NE NW	6.45	8.69%	56.08	0.059%	100	\$88.87	\$13.78
57.1	240	88-19-18-100-004	Price, Stanley Charles & Price, Daniel L	018-088-019	N1/3 W1/2 NE NE NW	1.14	5.53%	6.30	0.007%	100	\$9.99	\$8.76
58	210	88-20-25-300-004	Reece, Kennerly	025-088-020	SE SW	9.05	22.47%	203.37	0.215%	100	\$322.30	\$35.61
59	210	88-20-25-300-006	Reece, Kennerly	025-088-020	NW SW EX TR IN NW COR	37.15	27.34%	1015.73	1.073%	100	\$1,609.77	\$43.33

Tract	Taxing District	Parcel	Entity	Sec-Twp-Rng	Legal	Acres	% Benefit	Units Assessed	% Units Assessed	Percent of Levy	Assessment for Project (entire tract basis)	Assessment for Project (per acre basis)
59.1	210	88-20-25-300-005	TDE Eggleston, Steven R & Eggleston, Janice L	025-088-020	BEG W1/4 COR N65' E204' S415.32' W194.8' N347' BEG	1.46	12.39%	18.10	0.019%	100	\$28.68	\$19.64
60	210	88-20-25-100-005	Reece, Kennerly	025-088-020	S 1/4 NW EX .23A TR IN SW COR	38.56	45.74%	1763.62	1.863%	100	\$2,795.04	\$72.49
61	210	88-20-25-300-002	Reece, Kennerly	025-088-020	NE SW	40.00	53.69%	2147.68	2.269%	100	\$3,403.72	\$85.09
62	210	88-20-25-100-002	Reece, Kennerly	025-088-020	N 3/5 S 5/8 W1/2 NW	28.88	21.85%	631.12	0.667%	100	\$1,000.22	\$34.63
62.1	210	88-20-25-100-002	Reece, Kennerly	025-088-020	N 3/5 S 5/8 E1/2 NW	29.87	48.64%	1452.86	1.535%	101	\$2,302.55	\$77.09
63	200	88-20-13-300-005	Roll, Michael J & Roll, Frank J	013-088-020	SE SW EX HWY TR	9.62	10.97%	105.58	0.112%	102	\$167.32	\$17.39
64	200	88-20-24-100-002	Roll, Michael J & Roll, Frank J	024-088-020	NE NW EX HWY TR	36.53	20.03%	731.77	0.773%	103	\$1,159.74	\$31.75
65	200	88-20-24-200-001	Roll, Michael J & Roll, Frank J	024-088-020	NW NE EX HWY TR	37.14	24.02%	891.94	0.942%	104	\$1,413.58	\$38.06
66	200	88-20-24-200-002	Roll, Michael J & Roll, Frank J	024-088-020	NE NE EX HWY TR	36.06	41.39%	1492.38	1.577%	105	\$2,365.18	\$65.59
67	200	88-20-24-100-003	Schuneman, Margaret - LE	024-088-020	SW NW	16.91	20.22%	341.90	0.361%	106	\$541.86	\$32.04
68	240	88-19-17-200-004	Schuneman, Margaret - LE	017-088-019	SW NE	10.73	14.49%	155.51	0.164%	107	\$246.46	\$22.97
69	240	88-19-18-100-007	Smith, Dennise K	018-088-019	S 1/2 SE NW	14.73	35.73%	526.23	0.556%	108	\$833.99	\$56.62
70	240	88-19-18-300-002	Smith, Dennise K	018-088-019	NE SW	40.00	31.85%	1273.82	1.346%	109	\$2,018.80	\$50.47
71	240	88-19-19-300-002	QCD Gast, LaVerne R & Gast, Joan C	019-088-019	S20.30A N 1/2 SW FRL	19.14	23.06%	441.46	0.466%	110	\$699.64	\$36.55
71.1	240	88-19-19-300-004	Gast, LaVerne R & Gast, Joan C	019-088-019	SE SW	19.53	43.34%	846.37	0.894%	111	\$1,341.35	\$68.68
71.2	240	88-19-19-300-003	TDE Gast, LaVerne R & Gast, Joan C	019-088-019	SW FRL SW	31.38	27.76%	871.07	0.920%	112	\$1,380.51	\$43.99
71.3	240	88-19-19-400-002	TDE Gast, LaVerne R & Gast, Joan C	019-088-019	NE SE	13.77	15.01%	206.66	0.218%	113	\$327.51	\$23.78
71.4	240	88-19-19-400-001	QCD Gast, LaVerne R & Gast, Joan C	019-088-019	NW SE	24.76	33.66%	833.53	0.881%	114	\$1,321.01	\$53.35
72	240	88-19-17-100-003	SWS Farms, LLP	017-088-019	W1/2 SW NW	19.50	35.98%	701.70	0.741%	115	\$1,112.09	\$57.03
73	240	88-19-18-200-004	SWS Farms, LLP	018-088-019	SW NE	38.20	48.77%	1863.00	1.968%	116	\$2,952.56	\$77.29
74	240	88-19-18-200-007	SWS Farms, LLP	018-088-019	SE NE	39.00	34.32%	1338.41	1.414%	117	\$2,121.16	\$54.39
75	201	88-20-25-200-005	Taylor Trust No 2015; Hansmann, Paul N & Laura R & Rogers, Jack E & Karol A;Mahl, Robert V & Jean L	025-088-020	E333' E1/2 NE1/4	10.88	28.52%	310.29	0.328%	118	\$491.77	\$45.20
76	240	88-19-17-300-002	Taylor Trust No 2015; Hansmann, Paul N & Laura R & Rogers, Jack E & Karol A;Mahl, Robert V & Jean L	017-088-019	NE SW	39.00	36.77%	1433.89	1.515%	119	\$2,272.48	\$58.27

Tract	Taxing District	Parcel	Entity	Sec-Twp-Rng	Legal	Acres	% Benefit	Units Assessed	% Units Assessed	Percent of Levy	Assessment for Project (entire tract basis)	Assessment for Project (per acre basis)
77	240	88-19-17-100-002	Taylor Trust No 2015; Hansmann, Paul N & Laura R & Rogers, Jack E & Karol A;Mahl, Robert V & Jean L	017-088-019	NE NW	3.73	30.29%	112.98	0.119%	120	\$179.05	\$48.00
78	240	88-19-17-100-004	Taylor Trust No 2015; Hansmann, Paul N & Laura R & Rogers, Jack E & Karol A;Mahl, Robert V & Jean L	017-088-019	E1/2 SW NW	19.50	54.70%	1066.59	1.127%	121	\$1,690.37	\$86.69
79	240	88-19-17-100-010	Taylor Trust No 2015; Hansmann, Paul N & Laura R & Rogers, Jack E & Karol A;Mahl, Robert V & Jean L	017-088-019	SE NW EX TRACTS	33.21	46.25%	1535.93	1.623%	122	\$2,434.19	\$73.30
80	240	88-19-17-100-001	Taylor Trust No 2015; Hansmann, Paul N & Laura R & Rogers, Jack E & Karol A;Mahl, Robert V & Jean L	017-088-019	NW NW	23.61	27.92%	659.17	0.696%	123	\$1,044.68	\$44.25
80.1	240	88-19-30-100-001	Taylor Trust No 2015; Hansmann, Paul N & Laura R & Rogers, Jack E & Karol A;Mahl, Robert V & Jean L	030-088-019	NW FRL NW	31.34	61.97%	1942.09	2.052%	124	\$3,077.90	\$98.21
81	240	88-19-20-100-001	Vande Voort, Dorothy L - 38.16% & Vande Voort, Dorothy L - LE - 61.84%	020-088-019	NW NW EX HWY TR	36.45	29.27%	1066.81	1.127%	125	\$1,690.72	\$46.38
81.2	240	88-19-20-100-002	Vande Voort, Dorothy L - 38.16% & Vande Voort, Dorothy L - LE - 61.84%	020-088-019	NE NW EX HWY TR	35.98	18.85%	678.37	0.717%	126	\$1,075.11	\$29.88
81.3	240	88-19-20-100-005	Vande Voort, Dorothy L - 38.16% & Vande Voort, Dorothy L - LE - 61.84%	020-088-019	SE NW	35.84	11.13%	399.01	0.422%	127	\$632.36	\$17.64
82	240	88-19-20-100-004	Vande Voort, Dorothy L - 38.16% & Vande Voort, Dorothy L - LE - 61.84%	020-088-019	SW NW EX 3.35A TRACT	35.65	18.90%	673.78	0.712%	128	\$1,067.83	\$29.95
83	200	88-20-13-300-004	Perisho, Betty	013-088-20	SW SW EX HWY TR	8.11	2.30%	18.64	0.020%	129	\$29.54	\$3.64
84	240	88-19-18-300-001	Keninger, Mark	018-088-019	NW FRL SW	24.46	17.20%	420.76	0.445%	130	\$666.83	\$27.26
85	240	88-19-18-100-009	Keninger, Mark	018-088-019	W FRL 1/2 NW S OF 185TH ST	0.10	10.19%	1.02	0.001%	131	\$1.61	\$16.15
					Averages			910.07				\$49.97
					Totals	2682.39			100.000%		\$150,000.00	



RECLASSIFICATION COMMISSION REPORT FOR MAIN OF DRAINAGE DISTRICT NO. 72 HARDIN COUNTY, IOWA



OFFICE LOCATIONS

739 Park Avenue
Ackley, IA. 50601
Phone: 641-847-3273
Fax: 641-847-2303

103 East State Street, Ste 430
Mason City, IA 50401
Phone: 641-423-1451
Fax: 641-423-1659

511 Bank Street
Webster City, IA 50595
Phone: 515-832-1876
Fax: 515-832-1932

**Reclassification Commission Report
for Main of Drainage District No. 72
Hardin County, Iowa**

Table of Contents	Pg. 1
Report	
Introduction	Pg. 2
Background Information	Pg. 3
Evaluations	Pgs. 4-5
Exceptions	Pg. 5
Conclusion	Pg. 5
Appendices	
Certificates of Oath of Commissioners	App. A
Reclassification Sheets	App. B
Tile Maps (Tract Numbers 25, 26, 27, 36, 37, 38, and 39)	App. C

Reclassification Commission Report for Main of Drainage District No. 72 Hardin County, Iowa

- 1.0 INTRODUCTION - The District Trustees appointed a Reclassification Commission to reclassify the lands relative to the Main within the drainage boundaries of Drainage District No. 72. For reference, the Certificates of Oath of Commissioners are included in Appendix A. This action by the District Trustees was a result of comments received from landowners in the watershed expressing interest in updated and more accurate assessments within the district. This report will summarize the background information gathered and the evaluation process used by the Commissioners to reclassify said lands as well as present the resulting reclassification.

2.0 BACKGROUND INFORMATION - In addition to reviewing lands within the district, the Reclassification Commission also looked at the following supporting documents supplied by Clapsaddle Garber Associates:

- Existing Classification for District No. 72 from the Hardin County Drainage Clerk
- Soil Surveys from USDA website
- Maps of District Boundaries and Facilities from the Hardin County Drainage Clerk
- Aerial/Tract Maps from the Hardin County GIS website
- Recorded Boundary Surveys from the Hardin County Recorder's Office

Using the above information, the Reclassification Commission gathered the following background information:

- 2.1 Tract Verification - This step involved verification that each tract number from the existing classification was within the district boundaries and were appropriately sized (i.e. 40 acres or less according to recognized or legal divisions). For those that weren't appropriately sized, additional tract numbers were created.
- 2.2 Acreage Verification - This step involved verification of the acreages contained within the existing classification for District No. 72. For the tract numbers that previously had acreages stated and were totally contained within the District No. 72 watershed, the acreage was compared to that available from the GIS website or recorded boundary surveys and corrected as necessary.
- 2.3 Acreage Generation - This step involved generation of the acreages for all the remaining tract numbers (i.e. those without acreages previously stated in the existing classification, those created in the Tract Verification process above or those that were not totally contained within the District No. 72 watershed). As stated above, for lands whose tract numbers were totally contained within the District No. 72 boundaries, the acreage from the existing classification for Drainage District No. 72, the GIS website, or recorded surveys (including original GLO surveys) was used. For lands whose tract numbers were partially contained within the District boundaries, the acreage was measured from a composite overlay of the maps of District boundaries with the linework from the GIS website.
- 2.4 Soils Type Determination - This step involved differentiation of the soil types based on their properties (i.e. very poorly drained, poorly drained, well drained, and excessively well drained soil), and the percentage of each within each tract number. This was measured from a composite overlay of the soil surveys with linework from the GIS website.
- 2.5 Proximity Determination - This step involved determination of the proximity or distance to the district facilities (i.e. main tile). All distances were measured from the approximate center of each tract number along the shortest straight-line route to the district facilities. Each tract number was measured to the main tile from a composite overlay of the maps of district facilities with the linework from the GIS website.

3.0 EVALUATIONS - Using the above background information, the Reclassification Commission evaluated and determined benefits using the following method:

3.1 Soil Factor - This factor was calculated as an indication of the "need" for the district facilities based upon the natural soil characteristics for each tract number. It was the weighted total of the soil types after placing the following percentage values upon each soil type:

- Very Poorly Drained = 85%
- Poorly Drained = 55%
- Well Drained = 10%
- Excessively Well Drained = 0%

These percentages were based upon the Reclassification Commission's determination that the Excessively Drained soils typically did not need the district facilities to be productive, Well Drained soils typically needed very little of the district facilities to be productive, and the Poorly Drained and Very Poorly Drained soils typically relied heavily on the district facilities to be productive.

3.2 District Facility Proximity Factor - This factor was calculated as an indication of "availability" of the district facilities (tile) based upon the distance each tract number was from said district facilities. Since there was a large range in the distances measured (15± feet to 3350± feet), this factor was necessary to compare the tract numbers relative to each other. Therefore, the tract number which had the farthest measured distance received a District Facility Proximity Factor of 10 and the tract number which had the closest measured distance received a District Facility Proximity Factor of 100. All other tract numbers received a District Facility Proximity Factor calculated in proportion to this range based upon their measured distance.

3.3 Combined Factor - This factor was the composite of the above two factors (i.e. Soil Factor and District Facility Proximity Factor). The Combined Factor was calculated as follows:

$$\text{District Facility Proximity Factor} \times \text{Soil Factor}$$

Once the Combined Factor was determined, it was used as an indication of benefit (i.e. the tract number with the highest Combined Factor was the closest to the district facilities and had the soils in most need of the district facilities).

3.4 % Benefit - This is the benefit for each tract number using the Combined Factor based on a scale of 100 (i.e. the highest Combined Factor is 100 and all other Combined Factors are calculated in ratio to such).

3.5 Units Assessed - This combines the amount of benefit along with the land area that is benefitted. For each tract number, this is calculated as:

$$\% \text{ Benefit} \times \text{Number of Acres} \times 100$$

3.6 % Units Assessed - This is the percentage of units assessed for each tract number as a portion of the total units assessed for the entire district. Unlike the % Benefit which was a percentage comparing each tract number to the most benefitted tract number, the % Units Assessed compares each tract number to the total of the district.

- 3.7 Percent Levy - This is an indication of the levy amount necessary to pay for a project. For this report, it is at 100%, but will be adjusted as needed in the future by the Drainage Clerk to pay for future bills.
- 3.8 Assessment for Project (entire tract basis) - This is the amount that each tract number must pay in total to cover 100% of the levy. It is important to note that it has been calculated using a sample cost of \$425,000. For each tract number, this is calculated as:

$$\% \text{ Units Assessed} \times \$425,000$$

- 3.9 Assessment for Project (per acre basis) - This is the amount that each tract number must pay per acre to cover 100% of the levy. Although this was not used in an active role by the Reclassification Commission, some landowners find it to be valuable information. It is important to note that it is calculated using a sample cost of \$425,000. For each tract number, this is calculated:

$$\text{Assessment for Project (entire tract basis)} / \text{Number of Acres}$$

- 4.0 EXCEPTIONS: - With any process, there are inevitably exceptions and this reclassification was no different. While the above method was used for the vast majority of the tract numbers, the following are exceptions to the above process:

- 4.1 For tract numbers which are highly irregular in shape (i.e. long narrow pieces of land) or do not have accurate soil maps available, Proximity, Soil, and Surface Factors were not calculated. Instead, the average Combined Factor for all the other tract numbers was used. The only tract numbers to which this applies are roadways and are highlighted pink on the reclassification sheets contained in Appendix B (i.e. tract numbers 35 and 51).
- 4.2 Tile maps were provided to the Reclassification Commission which showed that parts of tract numbers 25, 26, 27, 36, 37, 38, and 39 had installed tile which flows across the north district boundary and outlets outside of the district boundary instead of outletting into the district facilities. Although said parts of these tracts do not employ the district facilities for subsurface drainage, the Reclassification Commission felt that this was a landowner's choice. In addition, it is the Reclassification Commission's understanding that Iowa Code does not allow for subsurface drainage across district boundaries except through district facilities. Therefore, these tract were reclassified the same as all other tracts. For reference, copies of the tile maps are included in Appendix C.

- 5.0 CONCLUSION: - Using all the above, the Reclassification Commission generated reclassification sheets for the Main for the entire district. For reference, copies are included in Appendix B. It is recommended moving forward that the District Trustees, should take action to accomplish the following:

- Approve the Reclassification Commission Report.
- Hold the required hearing.
- Adopt the Reclassification Commission Report as the basis for all current and future repairs and improvements to the Main.


CERTIFICATE

Lee Gallentine, a Professional Engineer of the State of Iowa, hereby certify:

That I, along with the other reclassification commissioners for Drainage District No. 72, have examined and inspected lands within the Drainage District, have reviewed original maps of the Drainage District, aerial maps of the lands within the Drainage District, and soil maps showing soil types for the lands within the Drainage District.

That I, along with the other reclassification commissioners for Hardin County Drainage District No. 72, completed the reclassification of the lands within the Drainage District relative to the Main. Said reclassification has fixed the percentages of benefits in tracts according to the recognized and legal divisions of 40 acres or less using a graduated scale of benefits, numbered according to the benefit to be received, with the lands receiving the greatest benefit marked on a scale of 100 and those benefited in a less degree marked with such percentage of one hundred as the benefit received is in proportion to.

That I, along with the other reclassification commissioners for Hardin County Drainage District No. 72, performed said reclassification in accordance with Chapter 468, Code of Iowa, to the best of my ability, skill, and judgment. The attached list is the final determination of reclassification and assessment for each tract of land in the Drainage District for all repairs and future improvements to the facilities in the Drainage District. That this report is a true and correct transcript of said reclassification of lands and apportionments of benefits made by said reclassification commission.

	<p>I hereby certify that this land surveying document was prepared and the related survey work was performed by me or under my direct personal supervision and that I am a duly licensed Land Surveyor under the laws of the State of Iowa.</p> <p><i>Lee O. Gallentine, P.E.</i> Lee O. Gallentine, P.E..</p> <p>DATE: <u>1-17-18</u> License Number: 15745</p> <p>My License Renewal Date is December 31, 2018 Page or sheets covered by this seal: <u>As Shown on Table of Contents</u></p>
---	--

CERTIFICATE

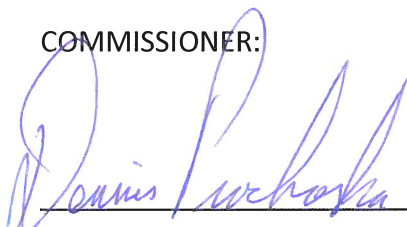
Dennis Prochaska, a resident freeholder of Hardin County, Iowa, hereby certify:

That I, along with the other reclassification commissioners for Drainage District No. 72, have examined and inspected lands within the Drainage District, have reviewed original maps of the Drainage District, aerial maps of the lands within the Drainage District, and soil maps showing soil types for the lands within the Drainage District.

That I, along with the other reclassification commissioners for Hardin County Drainage District No. 72, completed the reclassification of the lands within the Drainage District relative to the Main. Said reclassification has fixed the percentages of benefits in tracts according to the recognized and legal divisions of 40 acres or less using a graduated scale of benefits, numbered according to the benefit to be received, with the lands receiving the greatest benefit marked on a scale of 100 and those benefited in a less degree marked with such percentage of one hundred as the benefit received is in proportion to.

That I, along with the other reclassification commissioners for Hardin County Drainage District No. 72, performed said reclassification in accordance with Chapter 468, Code of Iowa, to the best of my ability, skill, and judgment. The attached list is the final determination of reclassification and assessment for each tract of land in the Drainage District for all repairs and future improvements to the facilities in the Drainage District. That this report is a true and correct transcript of said reclassification of lands and apportionments of benefits made by said reclassification commission.

COMMISSIONER:

 Date: 7/11/18

Dennis Prochaska
22849 170th Street
Iowa Falls, IA 50126

CERTIFICATE

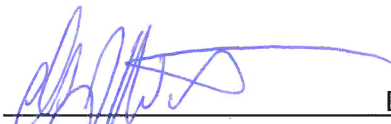
Chuck Walters, a resident freeholder of Hardin County, Iowa, hereby certify:

That I, along with the other reclassification commissioners for Drainage District No. 72, have examined and inspected lands within the Drainage District, have reviewed original maps of the Drainage District, aerial maps of the lands within the Drainage District, and soil maps showing soil types for the lands within the Drainage District.

That I, along with the other reclassification commissioners for Hardin County Drainage District No. 72, completed the reclassification of the lands within the Drainage District relative to the Main. Said reclassification has fixed the percentages of benefits in tracts according to the recognized and legal divisions of 40 acres or less using a graduated scale of benefits, numbered according to the benefit to be received, with the lands receiving the greatest benefit marked on a scale of 100 and those benefited in a less degree marked with such percentage of one hundred as the benefit received is in proportion to.

That I, along with the other reclassification commissioners for Hardin County Drainage District No. 72, performed said reclassification in accordance with Chapter 468, Code of Iowa, to the best of my ability, skill, and judgment. The attached list is the final determination of reclassification and assessment for each tract of land in the Drainage District for all repairs and future improvements to the facilities in the Drainage District. That this report is a true and correct transcript of said reclassification of lands and apportionments of benefits made by said reclassification commission.

COMMISSIONER:



Date: 1-11-18

Chuck Walters
34122 230th Street
Eldora, IA 50627

Tract	Taxing District	Parcel	Entity	Sec-Twp-Rng	Legal	Acres	% Benefit	Units Assessed	% Units Assessed	Percent of Levy	Assessment for Project (entire tract basis)	Assessment for Project (per acre basis)
1	500	86-20-30-200-001	Dutton, Dorothy & Rodney W & Rumbaugh, Janice & Henry R	30-86-20	NW NE	7.18	22.99%	165.00	0.222%	100	\$944.83	\$131.65
2	500	86-20-20-100-001	Brandt, Merlyn & Arlene - Trust Whitehead, Dolores	20-86-20	NW NW	22.83	19.05%	434.90	0.586%	100	\$2,490.27	\$109.08
3	500	86-20-20-100-003	Brandt, Merlyn & Arlene - Trust Whitehead, Dolores	20-86-20	SW NW	39.00	64.81%	2527.40	3.405%	100	\$14,472.20	\$371.08
4	500	86-20-19-400-001	Mannetter, Luke R & Mannetter, Cheryl R	19-86-20	NW SE	39.00	100.00%	3900.00	5.255%	100	\$22,331.85	\$572.61
5	500	86-20-19-300-003	Mannetter, Luke R & Mannetter, Cheryl R	19-86-20	NE FRL SW	38.86	78.07%	3033.72	4.087%	100	\$17,371.42	\$447.05
5.1	500	86-20-19-300-004	PLA Enterprises, LLC	19-86-20	PARCEL A IN N1/2 FRLSW (COM W1/4 COR S305' POB S250'E370'N250' W370' POB)	1.59	25.07%	39.81	0.054%	100	\$227.94	\$143.57
5.2	500	86-20-19-300-003	Mannetter, Luke R & Mannetter, Cheryl R	19-86-20	FRL NW FRL SW	7.09	60.44%	428.58	0.577%	100	\$2,454.08	\$346.07
6	500	86-20-19-300-002	Mannetter, Luke R & Mannetter, Cheryl R	19-86-20	SE FRL SW	28.76	38.75%	1114.23	1.501%	100	\$6,380.21	\$221.86
6.1	500	86-20-19-300-002	Mannetter, Luke R & Mannetter, Cheryl R	19-86-20	FRL SW FRL SW	11.80	57.17%	674.82	0.909%	100	\$3,864.12	\$327.34
7	500	86-20-22-300-003	Dreier, Joyce E	22-86-20	SW SW	23.21	33.24%	771.53	1.039%	100	\$4,417.84	\$190.33
8	500	86-20-28-100-003	Clampitt, Leslie A & Clampitt, Kay L	28-86-20	NE NW	0.69	20.05%	13.75	0.019%	100	\$78.74	\$114.78
9	500	86-20-21-400-001	Clampitt, Leslie A & Clampitt, Kay L	21-86-20	N 4/7 NW SE	22.86	38.57%	881.57	1.188%	100	\$5,047.98	\$220.85
10	500	86-20-21-300-003	Clampitt, Leslie A & Clampitt, Kay L	21-86-20	N 4/7 E3/4 NE SW	16.57	66.49%	1101.81	1.484%	100	\$6,309.10	\$380.72
11	500	86-20-21-200-009	Clampitt, Leslie A & Clampitt, Kay L	21-86-20	SW NE	17.84	10.68%	190.53	0.257%	100	\$1,090.99	\$61.16
12	500	86-20-21-100-009	Clampitt, Leslie A & Clampitt, Kay L	21-86-20	E 3/8 S 3/4 NW	26.93	17.77%	478.52	0.645%	100	\$2,740.08	\$101.76
13	500	86-20-28-200-004	Clampitt, Leslie A & Clampitt, Kay L	28-86-20	N 5/8THS E 1/2 NE	12.27	48.89%	599.62	0.808%	100	\$3,433.48	\$279.92
14	500	86-20-28-200-001	Clampitt, Leslie A & Clampitt, Kay L	28-86-20	NW NE	16.88	45.39%	766.05	1.032%	100	\$4,386.49	\$259.91
15	460	86-21-24-400-004	PR Cook Farms, LLC & Cook, PR Farms, LLC	24-86-21	SE SE	3.46	49.13%	170.05	0.229%	100	\$973.75	\$281.31
16	460	86-21-24-400-002	PR Cook Farms, LLC & Cook, PR Farms, LLC	24-86-21	NE SE	0.55	17.26%	9.42	0.013%	100	\$53.96	\$98.81
17	500	86-20-21-400-003	Cummins, George Gibson & Granger, Jean Kathleen	21-86-20	SW SE	38.77	62.55%	2425.09	3.267%	100	\$13,886.32	\$358.16
18	500	86-20-21-300-007	Cummins, George Gibson & Granger, Jean Kathleen	21-86-20	E 3/4 SE SW	25.16	59.89%	1507.02	2.030%	100	\$8,629.35	\$342.94
19	500	86-20-21-300-004	Cummins, George Gibson & Granger, Jean Kathleen	21-86-20	S 3/7 E 3/4 NE SW	12.43	84.01%	1044.09	1.407%	100	\$5,978.57	\$481.03



Tract	Taxing District	Parcel	Entity	Sec-Twp-Rng	Legal	Acres	% Benefit	Units Assessed	% Units Assessed	Percent of Levy	Assessment for Project (entire tract basis)	Assessment for Project (per acre basis)
20	500	86-20-21-400-002	Cummins, George Gibson & Granger, Jean Kathleen	21-86-20	S 3/7 NW SE	17.14	59.47%	1019.42	1.373%	100	\$5,837.30	\$340.51
21	500	86-20-21-400-005	Cummins, George Gibson & Granger, Jean Kathleen	21-86-20	SE SE	35.98	59.82%	2152.32	2.900%	100	\$12,324.45	\$342.53
22	500	86-20-21-400-004	Cummins, George Gibson & Granger, Jean Kathleen	21-86-20	NE SE	23.32	20.46%	477.15	0.643%	100	\$2,732.24	\$117.15
23	500	86-20-20-400-002	Lehmeier, Inc	20-86-20	NE SE	40.00	68.85%	2753.86	3.710%	100	\$15,768.93	\$394.22
24	500	86-20-20-200-005	Lehmeier, Inc	20-86-20	SE NE	40.00	54.28%	2171.03	2.925%	100	\$12,431.58	\$310.79
25	500	86-20-20-200-003	Lehmeier, Inc	20-86-20	NE NE EX W 475FT OF N 159.1FT	29.47	29.58%	871.57	1.174%	100	\$4,990.73	\$169.37
26	500	86-20-20-200-001	Lehmeier, Inc	20-86-20	NW NE	40.00	45.20%	1807.87	2.436%	100	\$10,352.08	\$258.80
27	500	86-20-20-200-004	Lehmeier, Inc	20-86-20	SW NE	40.00	47.50%	1900.17	2.560%	100	\$10,880.61	\$272.02
28	500	86-20-20-400-001	Lehmeier, Inc	20-86-20	NW SE	40.00	58.45%	2338.13	3.150%	100	\$13,388.41	\$334.71
29	500	86-20-20-400-003	Lehmeier, Inc	20-86-20	SW SE EX TRACT 406.9FT BY 350.6FT & EX PARCEL "A"	33.13	50.05%	1658.17	2.234%	100	\$9,494.86	\$286.61
29.1	500	86-20-20-400-008	D & D Automotive, LLC	20-86-20	PARCEL A IN SW SE (COM SE COR W2169.3' POB W234.2' N372' E234.2' S16.1' S355.9' POB)	0.26	8.23%	2.13	0.003%	100	\$12.18	\$47.10
30	500	86-20-20-200-002	Ferneau, James & Ferneau, Shelley	20-86-20	TRACT IN NE NE SEC 20 & SE SE SEC 17 (COM NE COR W792.8' NW42.4' POB NW482.6' NW28.4' S331.6')	0.39	5.25%	2.04	0.003%	100	\$11.69	\$30.04
32	500	86-20-29-100-001	Brown, Paul & Brown, Andrea	29-86-20	NW NW	2.77	50.05%	138.72	0.187%	100	\$794.31	\$286.62
33	500	86-20-20-400-004	Pacakas Gast, LLC	20-86-20	COM 1758.5FT W OF SECOR N350.6FT W406FTS355.9FT E410.8FT TO BEG	2.43	9.97%	24.26	0.033%	100	\$138.93	\$57.10
34	500	86-20-27-100-001	Hammer, David L - Trust	27-86-20	NW NW & N1/4 SW NW	2.77	52.84%	146.36	0.197%	100	\$838.08	\$302.57
35	0	----15	Hardin County Roads	--	ROADS IN DISTRICT	19.35	43.01%	832.20	1.121%	100	\$4,765.28	\$246.29
36	500	86-20-20-100-004	Lehmeier, Inc	20-86-20	SE NW	40.00	70.32%	2812.90	3.790%	100	\$16,107.02	\$402.68
37	500	86-20-20-100-002	Lehmeier, Inc	20-86-20	NE NW	40.00	40.98%	1639.15	2.208%	100	\$9,385.95	\$234.65
38	500	86-20-17-300-009	Lehmeier, Inc	17-86-20	SE SW S OF ROAD	9.51	10.87%	103.41	0.139%	100	\$592.15	\$62.24
39	500	86-20-17-400-011	Geisler, Matthew Michael & Geisler, Jamie Rae	17-86-20	PARCEL B IN SW SE (BEG S1/4COR E799.84E307.1' N290.9' NW39.38' NW544.9' NW530.24' S410.	8.39	21.34%	179.01	0.241%	100	\$1,025.01	\$122.17
39.1	500	86-20-17-400-005	Nisky, Stephen J	17-86-20	E1/6 S1/2 SW SE	0.61	8.54%	5.21	0.007%	100	\$29.81	\$48.90
40	500	86-20-29-100-003	Martin, John M	29-86-20	NE NW EXC TRACT	0.83	1.99%	1.65	0.002%	100	\$9.46	\$11.41



Tract	Taxing District	Parcel	Entity	Sec-Twp-Rng	Legal	Acres	% Benefit	Units Assessed	% Units Assessed	Percent of Levy	Assessment for Project (entire tract basis)	Assessment for Project (per acre basis)
41	500	86-20-21-100-003	Marsh, H E - Trust - Etal	21-86-20	S27A SW NW	28.00	75.41%	2111.52	2.845%	100	\$12,090.80	\$431.81
41.1	500	86-20-21-100-002	Marsh, Iona - Trust & Marsh, H E - Trust	21-86-20	N12A SW NW	12.00	51.25%	615.04	0.829%	100	\$3,521.80	\$293.48
42	500	86-20-21-300-001	Marsh, H E - Trust - Etal	21-86-20	NW SW	40.00	63.02%	2520.96	3.397%	100	\$14,435.30	\$360.88
43	500	86-20-21-100-006	Marsh, H E - Trust - Etal	21-86-20	S7A W10A SE NW	6.30	68.66%	432.56	0.583%	100	\$2,476.86	\$393.15
44	500	86-20-21-300-002	Marsh, H E - Trust - Etal	21-86-20	W10A NE SW	9.00	63.01%	567.11	0.764%	100	\$3,247.34	\$360.82
45	500	86-20-21-100-010	Marsh, Iona - Trust & Marsh, H E - Trust	21-86-20	NW NW EX N500' W871.2'	15.86	14.34%	227.44	0.306%	100	\$1,302.36	\$82.14
46	500	86-20-21-100-005	Marsh, Iona - Trust & Marsh, H E - Trust	21-86-20	N3A W10A SE NW	2.70	11.14%	30.08	0.041%	100	\$172.23	\$63.79
47	500	86-20-29-200-001	Martin, John M	29-86-20	NW NE	23.40	19.73%	461.59	0.622%	100	\$2,643.11	\$112.97
48	500	86-20-20-300-002	Al-Op Wilson LLC	20-86-20	NE SW	40.00	72.45%	2898.13	3.905%	100	\$16,595.05	\$414.88
49	500	86-20-20-300-001	Al-Op Wilson LLC	20-86-20	NW SW	39.00	59.40%	2316.61	3.121%	100	\$13,265.19	\$340.13
50	500	86-20-29-200-002	McDonald, Lloyd T - Trust & McDonald, Martha E - Trust	29-86-20	NE NE	6.79	14.92%	101.28	0.136%	100	\$579.93	\$85.42
51	0	----27	Providence Township Roads	--	ROADS IN DISTRICT	22.43	43.01%	964.62	1.300%	100	\$5,523.50	\$246.29
52	500	86-20-30-200-002	Ruddick, Maurice E - Trust	30-86-20	NE NE	12.17	29.85%	363.17	0.489%	100	\$2,079.58	\$170.91
53	500	86-20-20-300-003	Al-Op Wilson LLC	20-86-20	W20A SW SW	17.89	54.20%	969.46	1.306%	100	\$5,551.26	\$310.34
54	500	86-20-19-200-003	Brandt, Merlyn & Arlene - Trust	19-86-20	SW NE EX PART PARCEL "A"	15.79	24.94%	393.77	0.531%	100	\$2,254.80	\$142.81
55	500	86-20-19-100-002	Brandt, Merlyn & Arlene - Trust	19-86-20	S FRL 1/2 NW EX PARCEL "A"	2.19	73.07%	160.29	0.216%	100	\$917.84	\$418.38
55.1	500	86-20-19-100-003	Mannetter, Luke & Mannetter, Cheryl	19-86-20	PARCEL A IN N1/2 (BEG CTR SEC W603' N425' E694' S424.9' W91' POB)	1.00	16.65%	16.70	0.022%	100	\$95.62	\$95.33
56	500	86-20-19-200-004	Brandt, Merlyn & Arlene - Trust	19-86-20	SE NE	34.67	25.88%	897.15	1.209%	100	\$5,137.16	\$148.18
57	500	86-20-19-200-002	Brandt, Merlyn & Arlene - Trust	19-86-20	NE NE	1.20	14.89%	17.85	0.024%	100	\$102.20	\$85.27
58	500	86-20-19-400-004	Whitehead, Dolores Jean	19-86-20	SE SE EX TRACTS	30.52	71.19%	2172.59	2.927%	100	\$12,440.49	\$407.62
58.1	500	86-20-19-400-005	Panthen, David E & Panthen, Rochelle	19-86-20	PARCEL A IN SE SE (COM SE COR W438' POB W466' N390' E466S390' POB)	3.69	29.87%	110.21	0.148%	100	\$631.06	\$171.02
58.2	500	86-20-19-400-006	Whitehead, Dolores Jean	19-86-20	PARCEL B IN SE SE (BEG SE COR W438' N390'E438'S390' POB)	3.21	52.27%	167.80	0.226%	100	\$960.82	\$299.32



Tract	Taxing District	Parcel	Entity	Sec-Twp-Rng	Legal	Acres	% Benefit	Units Assessed	% Units Assessed	Percent of Levy	Assessment for Project (entire tract basis)	Assessment for Project (per acre basis)
59	500	86-20-19-400-002	Whitehead, Dolores Jean	19-86-20	NE SE	38.00	83.11%	3158.06	4.255%	100	\$18,083.41	\$475.88
60	500	86-20-19-400-003	Whitehead, Dolores Jean	19-86-20	SW SE	38.64	45.88%	1772.57	2.388%	100	\$10,149.92	\$262.70
61	500	86-20-21-300-005	Williams, Alice M	21-86-20	SW SW EX TR	27.18	48.19%	1309.91	1.765%	100	\$7,500.68	\$275.93
61.1	500	86-20-21-300-005	Williams, Alice M	21-86-20	W1/4 SE SW EX TR	4.30	38.83%	166.78	0.225%	100	\$955.03	\$222.32
62	500	86-20-20-400-006	Williams, Alice M	20-86-20	NE SE SE	10.00	53.15%	531.47	0.716%	100	\$3,043.24	\$304.32
63	500	86-20-20-400-007	Williams, Alice M	20-86-20	SE SE SE	9.02	38.85%	350.51	0.472%	100	\$2,007.07	\$222.47
64	500	86-20-20-400-005	Williams, Alice M	20-86-20	W1/2 SE SE	19.32	56.56%	1092.59	1.472%	100	\$6,256.30	\$323.86
65	500	86-20-21-300-006	Williams, Alice M	21-86-20	COM SW COR E1650' N221' POB W496'N478'E496'S478' POB	2.92	34.34%	100.29	0.135%	100	\$574.28	\$196.62
66	500	86-20-20-300-006	AI-Op Wilson LLC	20-86-20	E30A SE SW	21.03	36.51%	767.72	1.034%	100	\$4,396.04	\$209.07
67	500	86-20-20-300-005	AI-Op Wilson LLC	20-86-20	W10A SE SW	8.62	41.22%	355.38	0.479%	100	\$2,034.93	\$236.00
68	500	86-20-20-300-004	AI-Op Wilson LLC	20-86-20	E20A SW SW	16.08	48.88%	785.90	1.059%	100	\$4,500.17	\$279.91
					Averages			963.91				\$246.29
					Totals	1442.96			100.000%		\$425,000.00	



Tina Schlemme

From: Lee Gallentine <LGallentine@cgaconsultants.com>
Sent: Thursday, January 18, 2018 2:45 PM
To: mattdeschamp@yahoo.com
Cc: Tina Schlemme
Subject: RE: DD 72

Matt,
Please see my responses below in <red>.

Just let me know if you have any other questions.

Tina,
I believe that my responses highlighted in yellow below require District Trustee attention.

Lee Gallentine, P. L.S. & P.E.
Professional Land Surveyor and Professional Engineer

Clapsaddle-Garber Associates, Inc

739 Park Avenue, Ackley, IA 50601

P: 641.847.3273 | F: 641.847.2303

103 State Street, Suite 430, Mason City, IA 50401

P: 641.423.1451 | F: 641.423.1659

511 Bank Street, Webster City, IA 50595

P: 515.832.1876 | F: 515.832.1932

From: Matt DeSchamp [mailto:mattdeschamp@yahoo.com]
Sent: Wednesday, January 17, 2018 4:21 PM
To: Lee Gallentine <LGallentine@cgaconsultants.com>; Tina Schlemme Work <tschlemme@hardincountyia.gov>; Mike Marquess <mike.marquess@hinshawmarshalltownattorneys.com>
Subject: DD 72

Lee,

I would like to address few things regarding the tiling project:

1. Time Extension – As you know, we have successfully installed approximately 3,000 feet of tile but have been halted by the ground freezing. We anticipate restarting installation of the remaining tile in early to mid March, but of course that is dependent on the weather and the ground thawing. We will not install tile in froxen ground. Because of these factors we request an extension of time on the project, which the drainage district has indicated previously it will give. Specifically, we request until May 15, 2018 to have the tile installed. Because the testing requires that we wait thirty days between installation and testing, we may not be able to test the remaining tile until June 15 and later. This may cause some issue with the farming of the field, and I would like to address this with drainage district. <First, it is my understanding that the contract completion date is a substantial completion date and not a total completion date. If all that is left to be done is testing, then it is my opinion that the project is substantially complete. Second, your change order request for a time extension has been noted, but I still feel that it is premature to approve it as it is unknown what date the ground will thaw. Once we know this, then I will consider your change order request.>

2. Certification of Existing Tile – As mentioned previously, we have successfully installed approximately 3000 feet of tile so far. We conducted the mandrel and video testing of this portion and it has all passed with flying colors. <We have copies of the videos, but have not viewed them yet.> I would like a formal certification or acknowledgement from the drainage district that this initial section is acceptable and in compliance with the contract. <I am not aware any portion of the project documents that allows the Owner to perform this, but I will pass this request along to the Drainage Clerk for the District Trustees to consider.> Additionally, I do not want to have to retest this portion when the rest of the tiling is installed in light of the necessary time extension running up against farming. <It is my understanding of the project documents that only one successful test is required for each pipe length.>

3. Increased Piping Price – Since we have addressed the issue of sand pockets and the additional rock verbally, I would like to confirm in writing that the additional price in piping that was approved by the drainage district regarding that issue has been approved. <I cannot find where the District Trustees or myself approved the change order request. Please send me information as to when this occurred.>

I plan to attend the January 31, 2018 drainage district meeting and would like to address these matters with the district at that time. <I will not be at the meeting on the 31st as I have a continuing education seminar all day in Ankeny. Obviously it is a public meeting, so feel free to attend though. I would recommend that you request to be placed on the agenda if you want any actions taken by the District Trustees.> Please let me know any questions or concerns you have. We continue to look forward to completing this

Matt Deschamp

M D Construction Inc
1322 Hwy E27
Garwin, IA 50632

Office 641-499-2136
Fax. 641-499-2078
Cell. 641-751-2725

Drainage District:

#123

Repair Summary:

- Landowner reported tile sinkhole/blowout and 2 depressions on the Main tile located in the NW¼ of Section 34, Township 88 North, Range 22 West.
- Visually inspected area and found two depressions with a planter stuck in one at 350'± east of E Avenue. Also found collapsed 36" VCP Main tile at 840'± east of E Avenue. The District Trustees authorized CCTV inspection of existing main tile to determine its overall condition.
- Using the location of the 36" VCP Main tile collapse (700'± downstream of downstream end of 2015 replacement) as the insertion point for CCTV camera.
 - Televised downstream and key issues found (all defects are tabulated in attached sheet):
 - 3 locations with partial or imminent collapse for a total length of 80'±
 - 22 joint offsets
 - Televised upstream and key issues found (all defects are tabulated in attached sheet):
 - 1 location with partial or imminent collapse for a total length of 40'±
 - 7 joint offsets
- Temporarily repaired insertion point with 30" dual wall HPDE tile and fabric wrapped joints.

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

See attached Tabulated Contractor Time and Materials Sheet.

Additional Actions Recommended:

The Main VCP tile is cracked for much of the extent of the CCTV inspection. It is our opinion that most of the cracked tile is not deformed enough to indicate imminent failure. However, there are 4 locations that pipe failure appears to be imminent and the temporary repair at the insertion point needs replaced (5 locations for 140'± total). Based on this, it is our recommendation that spot repairs on the Main tile be performed with Class IV or V RCP where collapse is imminent or has occurred. It is our opinion that the total construction cost of these repairs would be \$20,000 to \$25,000 (assuming that no additional tile will need replaced after the tile is uncovered). This cost is low enough that neither a hearing nor an engineer's report would be required for said repairs.





Drainage Work Order Request For Repair

Hardin County

Date 10/11/2017 Project # _____ Work Order # 193
 District # 77 Lateral _____ Main _____ Fund # 51106
 Township Alden Section 7 Twp 89 Rge 22 Qtr Sec SW1/4

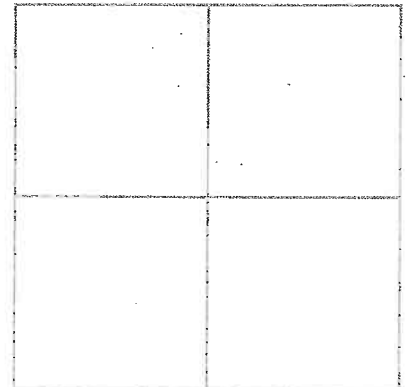
Repair Requested By Jim Heiden
 Address H. 515-854-2403 Phone (515) 689-0357

Landowner Doris Heiden Trust
 Address _____ Phone _____

Request Taken By Tina Schlemme

Available for Repair Now? Yes No Date Available _____

Problem Description Blowout just east of where replaced tile a few years ago. Has flagged. Crops are out. Will need to enter at 1/2 mile line at hog site drive. Located just east of Young Ave.



Repair labor, materials and equipment _____

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

Repaired By: _____

Date: _____

Please send statement for services to:

Hardin County Auditor's Office
 Attn: Tina Schlemme
 1215 Edgington Ave, Suite 1
 Eldora, IA 50627

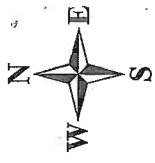
Phone (641) 939-8111
 Fax (641) 939-8245

For Office Use Only

Approved: _____ Date: _____



Hardin County Auditor's Office



Date: 10/11/2017



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

Drainage District:

#77

Repair Summary:

- Landowner in the SW¼ Section 7, Township 89 North, Range 22 West reported a blowout/sinkhole in field upstream of 2015 replacement.
- Visual observation found collapsed 15" VCP Main tile with 2'± of cover at 250'± upstream of upstream end of 2015 replacement. VCP tile upstream and downstream of blowout/sinkhole is cracked. Also found blowout/sinkhole on private tile downstream of blowout/sinkhole over Main tile.
- Performed CCTV inspection in upstream and downstream of Main tile from blowout/sinkhole. Defects are tabulated in attached sheet.

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

See attached Tabulated Contractor Time and Materials Sheet.

Additional Actions Recommended:

The Main VCP tile is cracked for much of the extent of the CCTV inspection. It is not clear if this is due to the lack of soil cover or age, but there is evidence of previous repairs (rusty CMP) beside the 2015 repair. It is our opinion that most of the cracked tile is not deformed enough to indicate imminent failure. Based on this, it is recommendation that spot repairs on the Main tile be performed with Class IV or V RCP tile where collapse is imminent or rusty CMP is present. The locations are as follows:

- Upstream from 130' to 190'
- Upstream from 440' to 460'
- Upstream from 540' to 585'
- Downstream from 0' to 100'

Based on this, it is our opinion that the total construction cost of repair would \$20,000 to \$25,000 (assuming that no additional tile will need replaced after the tile is uncovered). This cost is low enough that neither a hearing or an engineer's report would be required for a repair.

If the District Trustees wish to proceed with full replacement for the full extent of the CCTV inspection instead, it is our opinion that the total construction cost would be well over \$50,000. This cost is high enough that a hearing and an engineer's report would be required for a repair.



Tabulated Contractor Time and Materials

Date	Totals	12/7/2017
Workman (hrs)	4.5	4.5
Mini Excavator (hrs)	1.5	1.5
CCTV Truck (hrs)	1.5	1.5
CCTV Inspection (ft)	1139	1139

Tabulated Defects

	Total	GPS #523 UPSTREAM	GPS #523 DOWNSTREAM
Total Length Televised (ft)	1139	896	243
Date:		12/7/2017	12/7/2017
Top crack (ft)	888	721	167
Side crack (ft)	213	123	90
Bottom crack (ft)	572	572	0
Partial or imminent collapse (#)	14	4	10
Full collapse (#)	0	0	0
Debris (ft)	94	94	0
Offset Joint (#)	24	20	4
Soil/voids visible in offset joint (#)	16	13	3
Single Wall HDPE (ft)	0	0	0
Dual Wall HDPE (ft)	3	0	3
CMP (rusty) (ft)	14	0	14
Holes (non-fixed) (#)	1	1	0

CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

11 / 7 / 17

DAYS OF WEEK:

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

SHEET NO.

1 OF 1

PROJECT NUMBER: 6535-1

COUNTY, ROUTE, ROAD: DD 77

LOCATION: E. OF YOUNG AVE

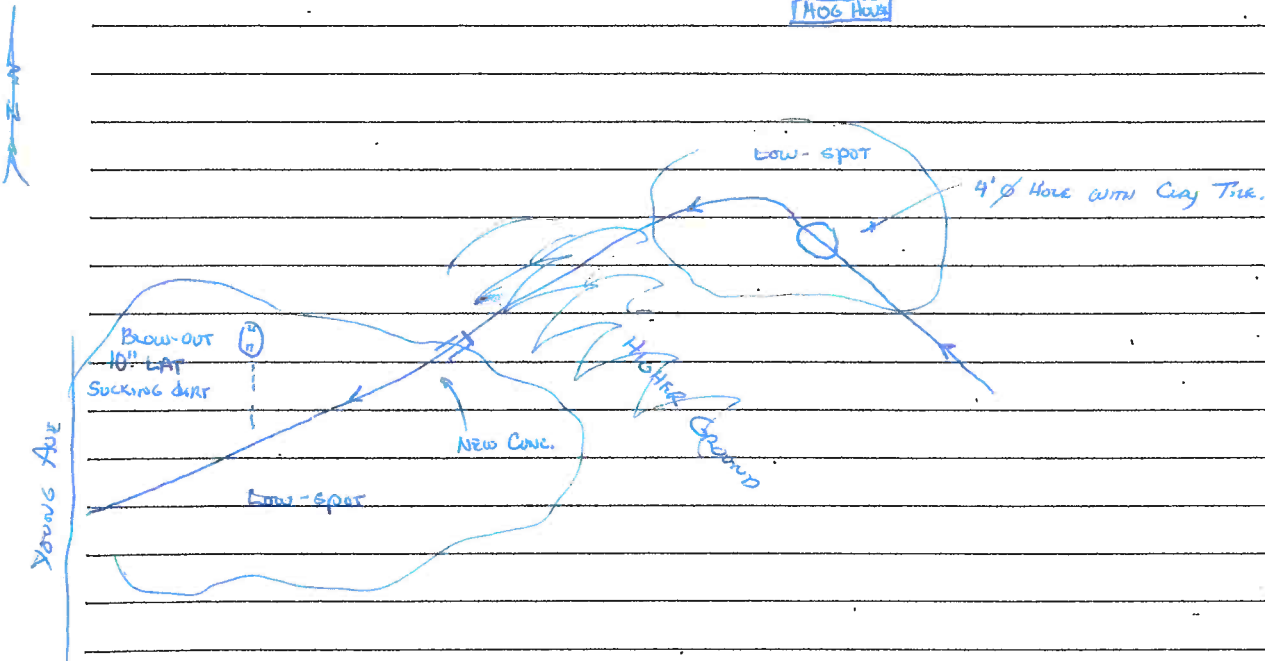
DESCRIPTION OF WORK AND MATERIAL USED FOR EACH OPERATION, INCLUDING CONTRACTOR/SUB NAME, ITEM NO. AND LOCATION

Cloudy, 31°, Windy From N.

Drove in From Hog Site Drive S.E. To Blow-out

Found 15" ± Partially Compacted Tire with < 2' cover ±. This Blow-out is in next low-spot upstream from Repair done last year by McDouglas.

Tire in Blow-out is running NW-SE. Blow-out is due south of Hog Site Bldg.



Took Pic. upstream + downstream in Blow-out. Can see multiple bad cracks.

Should do Temp Fix with investigation for Repair

Farmer also needs Repair on 10" LAT. Sucking dirt into main, < 1' of cover

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

Observer's Signature: [Signature]

Date Prepared: 11/7/17

Reviewed by: _____

Engineer

Date Reviewed _____

Looking North



LOOKING DUE NORTH



LOOKING UPSTREAM TO S.E.



DD 77 LOOKING DOWNSTREAM



DD 77 LOOKING UPSTREAM



CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE: 12-7-17

DAYS OF WEEK:

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

SHEET NO. 1 OF

PROJECT NUMBER: 6535.1
COUNTY, ROUTE, ROAD: Young Ave.
LOCATION: Drainage District #77 Hardin Co 7-89-22

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

Arrived at job site at 9:00 a.m. and set G.P.S. on Hardin County G.P.S. Monument # 8001.

9:30 a.m. = Arrived at televising site on DD # 77.

Contractor had 16" clay tile exposed and camera in tile.

160.8' clay tile is oval shaped with continuous cracks top and bottom. Pipe appears clean, contractor is televising upstream (East).

440.0' = pipe is oval shaped with top and bottom cracks.

453.1' = lateral right.

474.1' = lateral left.

896.1 = Pipe size change, 16" to 10" or 12". Camera cannot pass, end upstream survey. Continuous top and bottom cracks continue in smaller pipe as far as camera can see.

Tile locate shots = # 500 → # 523.

10:30 a.m. = started televising downstream. Continuous cracks, top and bottom with oval shaped pipe. Mud and constrictions in downstream FE.

25.0' = Pipe broken and beginning to collapse.

41.3' = Material change VCP to CMP

48.3' = lateral right (televising downstream - West).

55.3 = Material change CMP to VCP. VCP is broken and beginning to collapse

63.2 = Top pipe collapsing.

114.1 = end continuous cracks

119.0 = Lateral Right. Plastic lateral is oval shaped.

243.1 = Material change to PCC tile - End televising.

Contractor will make a temporary repair to tile where camera entered.

10:58 = shot G.P.S. Mon # 8002 and left to tear down G.P.S.

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

Observer's Signature: James Van Horn

Date Prepared: 12-7-17

Reviewed by: _____

Engineer

Date Reviewed _____

Start date/time: 12/7/2017 8:48 AM
Project name: 12/7/17 DD 77
Operator: Paul
Address: HARDIN COUNTY - DORIS HEIDEN TR
UST WORK ORDER #193 BLOM OUT ST
RAIGHT SOUTH OF HOG BUILDING

Upstream node:

Downstream node:
Direction: Against the flow
Surface condition: Farm field
Pipe height: 16 in.
Pipe width:
Pipe shape: Circular
Pipe material: Clay
Weather: Dry

12/7/2017
134 1 ft.
9:32 34 AM

12/7/2017
131 4 ft.
9:32 47 AM

12/7/2017
140 2 ft.
9:34:56 AM

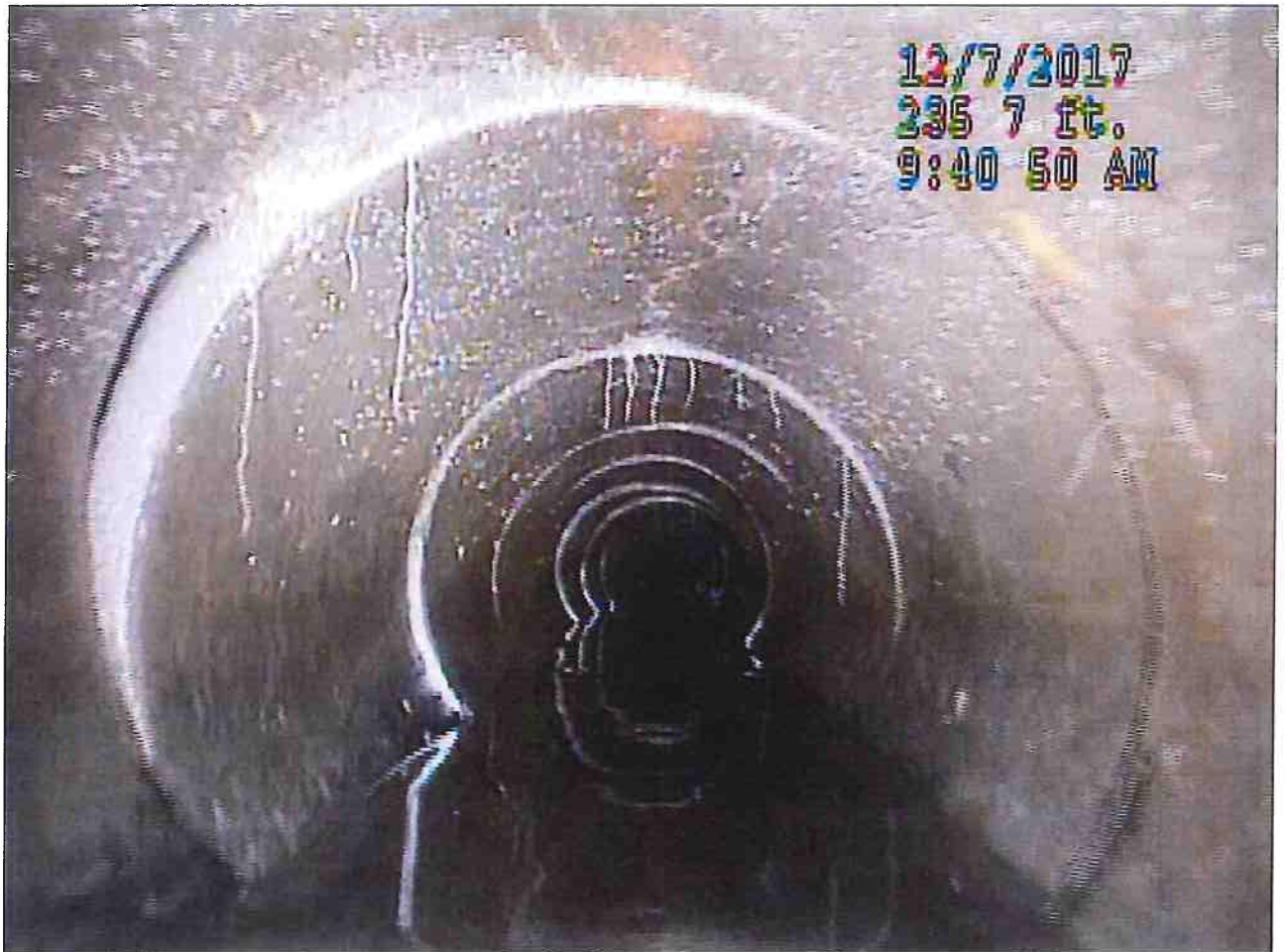


12/7/2017
163 0 ft.
9:35 53 AM



LIGHTS POW

12/7/2017
173 5 ft.
9:37:41 AM





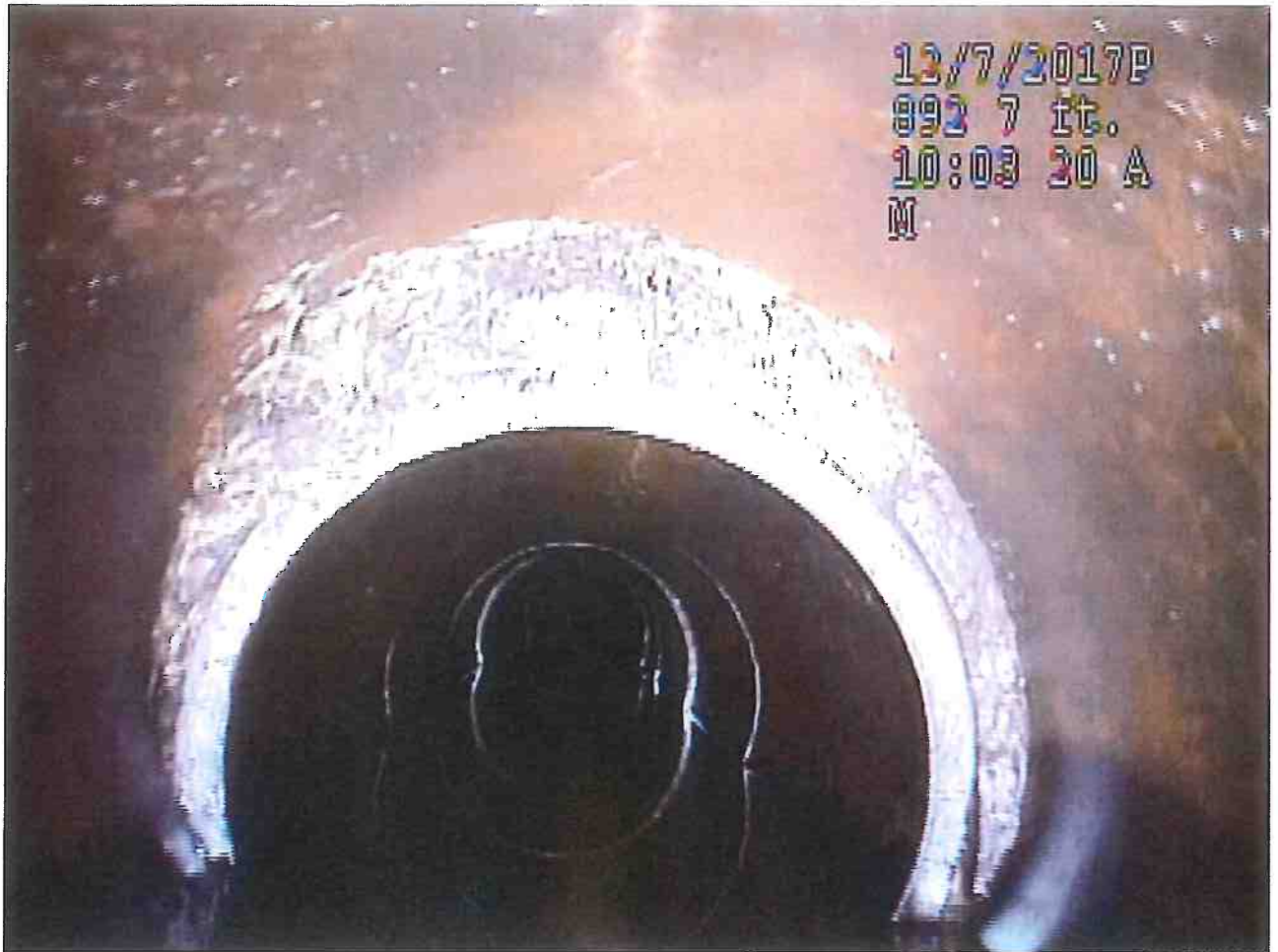








12/7/2017P
893 7 ft.
10:03 30 A
M





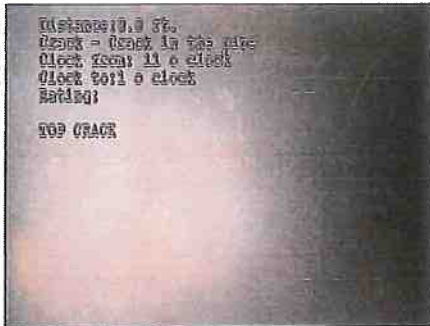
Williams Excavation &
 Directional Boring
 102 Industrial Dr.
 Ackley, IA
 Phone: 641-485-3925

Main Inspections Small Photos

Mainline ID: 12/7/17 DD 77	City: HARDIN COUNTY - DORIS HEIDEN TRUST WORK ORDER #193	Address: BLOW OUT STRAIGHT SOUTH OF HOG BUILDING	Project name: 12/7/17 DD 77
Start date/time: 12/7/2017 8:48 AM	Asset length: 895.5 ft.	Weather: Dry	Operator: Paul
Upstream node:	Depth US:	Downstream node:	Depth DS:
Pipe shape: Circular	Pipe material: Clay	Pipe height: 16.0 in.	Pipe width:
Comments: 0+00 IS GPS #523			TRAVELING DOWNSTREAM

Observations

Distance	Dir.	Length	From/To Code	Modifier/Severity	Rating	Comments
0.0 ft.	U	69.0 ft.	11 / 1	Crack, TOP (START) - PIPE EGG SHAPED		TOP CRACK



0+33 JOINT OFFSET, DEBRIS (START) - PIPE ROUND

Observations

Distance	Dire	Length	From/To	Code	Modifier/Severity	Rating	Comments
34.1 ft.	U	51.8 ft.	6 /	Debris			CONTINUOUS DEBRIS IN FLOWLINE



0+53 DEBRIS (END) - PIPE ROUND
 0+65 TOP CRACK (END) - PIPE ROUND
 0+73 TOP CRACK (ONE TILE) - PIPE ROUND
 1+24 SOIL VISIBLE IN OFFSET JOINT, TOP CRACK (START) - PIPE ROUND

131.4 ft.	U		12 /	Crack	FOLDING IN SLIGHTLY - PIPE V SHAPED		TOP CRACK
-----------	---	--	------	-------	-------------------------------------	--	-----------



134.8 ft.	U	760.7 ft.	11 / 1	Crack	SIDE (ONE TILE) - PIPE EGG SHAPED		CONTINUOUS TOP CRACK
-----------	---	-----------	--------	-------	-----------------------------------	--	----------------------



Observations

Distance	Dire Length	From/To Code	Modifier/Severity	Rating	Comments
----------	-------------	--------------	-------------------	--------	----------

162.0 ft.	U	9 / 3	Broken, COLLAPSE IMMINENT, TILE FOLDING IN, SIDE CRACKS (START), TILE SAGGING (START) - PIPE V SHAPED		BROKEN AND SQUATTING DOWN
-----------	---	-------	---	--	---------------------------



1+72 COLLAPSE LIKELY - PIPE V SHAPED
 1+85 SOIL VISIBLE IN OFFSET JOINT - PIPE V SHAPED
 1+88 TILE SAGGING & SIDE CRACKS (END) - PIPE EGG SHAPED

206.7 ft.	U	688.8 ft.	5 / 7 Crack, BOTTOM CRACK (START) - PIPE ROUND		CONTINUOUS BOTTOM CRACK
-----------	---	-----------	--	--	-------------------------



CONTINUOUS BOTTOM CRACK

237.4 ft.	U	8 / 11	Joint Offset, SOIL VISIBLE IN OFFSET - PIPE ROUND		WIDE JOINT ROOTS SHOWING
-----------	---	--------	---	--	--------------------------

2+57 JOINT OFFSET - PIPE ROUND
 2+70 CRACKS (END) - PIPE ROUND

440.5 ft.	U	11 / 1	Broken, TILE SAGGING, SIDE CRACKS (START) - PIPE EGG SHAPED		BROKEN ALL FOUR QUADRANTS - SQUATTING DOWN
-----------	---	--------	---	--	--






2+82 TOP & BOTTOM CRACK (TWO TILE) - PIPE ROUND
 2+93 TOP & BOTTOM CRACK (START) - PIPE ROUND
 3+09 CRACKS (END) - PIPE ROUND
 3+18 TOP & BOTTOM CRACK (START) - PIPE ROUND
 3+24 CRACKS (END) - PIPE ROUND
 3+33 TOP & BOTTOM CRACK (ONE TILE) - PIPE ROUND
 3+38 TOP & BOTTOM CRACK (THREE TILE) - PIPE ROUND
 3+49 TOP & BOTTOM CRACK (ONE TILE) - PIPE ROUND
 3+74 TOP & BOTTOM CRACK (START) - PIPE ROUND
 3+82 CRACKS (END) - PIPE ROUND
 3+97 TOP & BOTTOM CRACK (START) - PIPE ROUND




Main Inspections Small Photos

Page 3 of 13


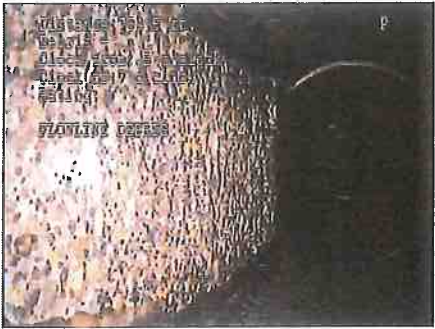

Observations

Distance	Dire Length	From/To Code	Modifier/Severity	Rating	Comments
453.9 ft.	U	1 / 2	Lateral, VCP NON-INTRUDING - PIPE EGG SHAPED		LATERAL RIGHT
					
474.1 ft.	U	9 / 11	Lateral, VCP NON-INTRUDING - PIPE EGG SHAPED		LAT LEFT
					
<p>4+80 SIDE CRACKS (END) - PIPE ROUND 5+12 CRACKS (END) - PIPE ROUND 5+22 TOP & BOTTOM CRACKS (START) - PIPE ROUND 5+41 SIDE CRACKS (START) - PIPE EGG SHAPED 5+47 SOIL VISIBLE IN OFFSET JOINT - PIPE EGG SHAPED 5+52 VOID VISIBLE IN OFFSET JOINT, TILE SAGGING - PIPE EGG SHAPED</p>					
556.8 ft.	U	11 /	Broken, TILE FOLDING - PIPE V SHAPED		BROKEN AND FALLING IN.
					
<p>5+64 SOIL VISIBLE IN TILE BREAK, SIDE CRACKS (END) - PIPE EGG SHAPED 5+71 JOINT OFFSET - PIPE ROUND</p>					



Observations

Distance	Dire Length	From/To Code	Modifier/Severity	Rating	Comments
581.4 ft.	U	9 / 3	Joint Offset		SOIL VISIBLE IN JOINT, DEBRIS (3') - PIPE EGG SHAPED OFFSET
					
581.6 ft.	U	4 / 6	Infiltration		SAND INFILTRATING INTO PIPE FROM WIDE OFFSET JOINT
					
625.9 ft.	U	5 / 7	Debris (6')		FLOWLINE DEBRIS
					

Observations

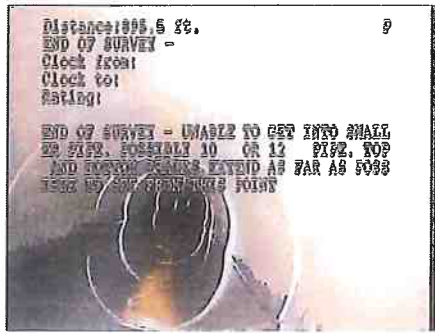
Distance	Dire Length	From/To	Code	Modifier/Severity	Rating	Comments
674.5 ft.	U	5 / 7	Debris	SMALL PILE - PIPE ROUND		FLOWLINE DEBRIS
						
				<p>7+21 DIRECTIONAL CHANGE - PIPE ROUND 7+58 DIRECTIONAL CHANGE - PIPE ROUND 7+65 MULTIPLE CRACKS, SOIL VISIBLE IN OFFSET JOINT - PIPE EGG SHAPED</p>		
784.5 ft.	U	5 / 7	Debris	SMALL PILE (6') - PIPE ROUND		FLOWLINE DEBRIS
						
				<p>7+98 SOIL VISIBLE IN OFFSET JOINT 8+12 OFFSET JOINT (VERTICAL) - PIPE ROUND</p>		
818.4 ft.	U	5 / 7	Debris (5')	PIPE ROUND		FLOWLINE DEBRIS
						
				<p>8+23 JOINT OFFSET (HORIZONTAL) - PIPE ROUND 8+39 JOINT OFFSET (VERTICAL) - PIPE ROUND</p>		

Observations

Distance	Dire Length	From/To Code	Modifier/Severity	Rating	Comments
845.5 ft.	U	5 / 7	Debris (10') - PIPE ROUND		FLOWLINE DEBRIS
					
859.1 ft.	U	36.4 ft.	5 / 7	Debris (START) - PIPE ROUND	CONTINUOUS FLOWLINE DEBRIS
					
893.1 ft.	U	/	Pipe Size		SIZE CHANGE

Observations

Distance	Dire Length	From/To Code	Modifier/Severity	Rating	Comments
895.5 ft.	U	/	END OF SURVEY		END OF SURVEY - UNABLE TO GET INTO SMALLER PIPE. POSSIBLY 10" OR 12" PIPE. TOP AND BOTTOM CRACKS EXTEND AS FAR AS POSSIBLE TO SEE FROM THIS POINT



Inspection's photos

Start date/time: 12/7/2017 10:30 AM
Project name: 12/7/17 DD 77
Operator: Paul
Address: HARDIN COUNTY - DORIS BEIDEN TR
OST MORK ORDER #193 BLOW OUT ST
RAIGHT SOUTH OF HOG BUILDING CP
S #523
Upstream node:

Downstream node:
Direction: With the flow
Surface condition: Farm field
Pipe height: 16 in.
Pipe width:
Pipe shape: Circular
Pipe material: Clay
Weather: Dry





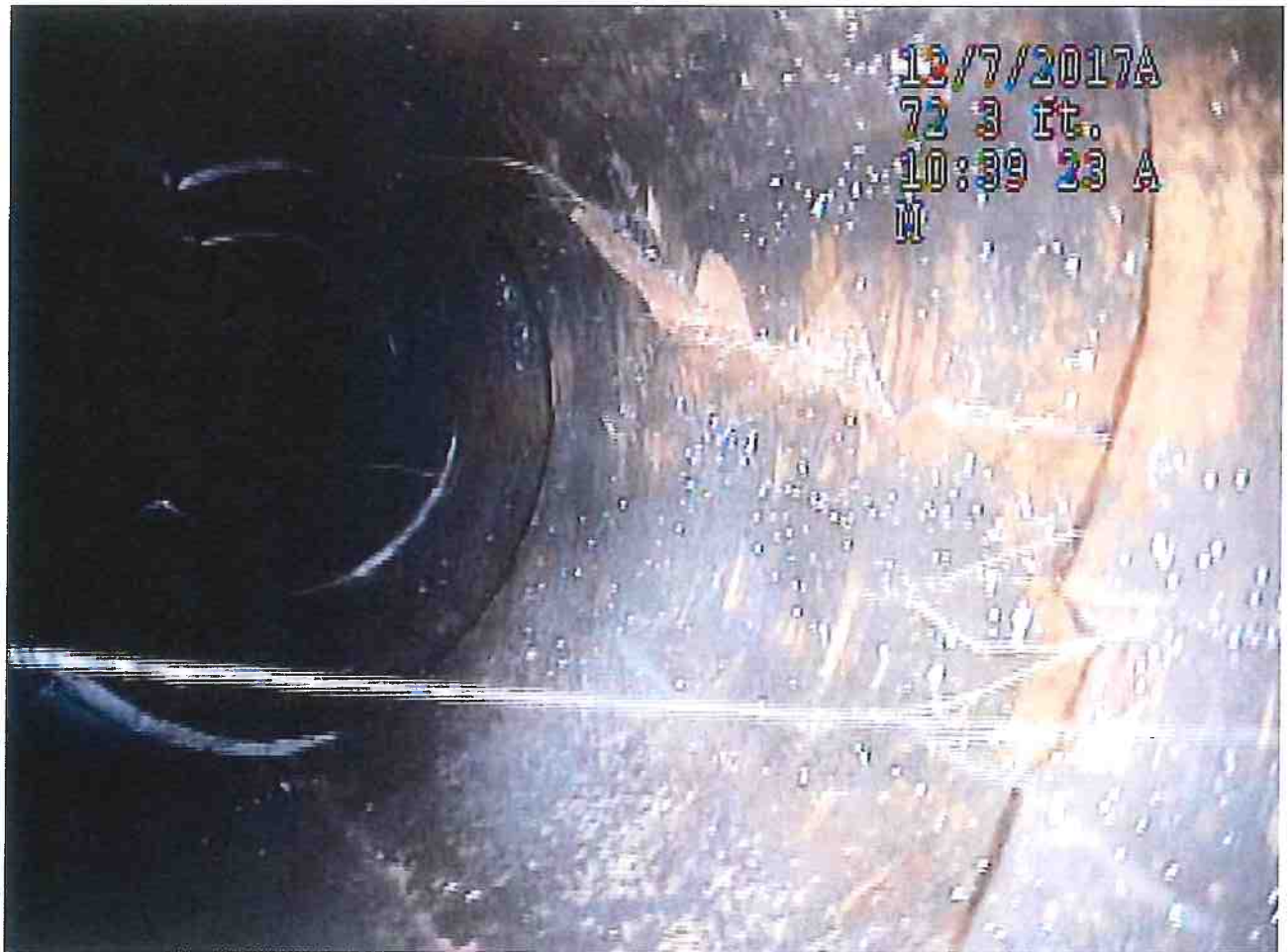




12/7/2017P
47.7 ft.
10:34:57 A
M



12/7/2017A
55.0 ft.
10:37:08 A
M





12/7/2017P
119 0 ft.
10:41 00 A
M



12/7/2017A
240 6 ft.
10:44 56 A
M

Auto payout

Main Inspections Small Photos

Mainline ID: 12/7/17 DD 77	City: HARDIN COUNTY - DORIS HEIDEN TRUST WORK ORDER #193	Address: BLOW OUT STRAIGHT SOUTH OF HOG BUILDING GPS #523	Project name: 12/7/17 DD 77
Start date/time: 12/7/2017 10:30 AM	Asset length: 243.1 ft.	Weather: Dry	Operator: Paul
Upstream node:	Depth US:	Downstream node:	Depth DS:
Pipe shape: Circular	Pipe material: Clay	Pipe height: 16.0 in.	Pipe width:
Comments: 0+00 IS GPS #523			TRAVELING DOWNSTREAM

Observations

Distance	Dir.	Length	From/To Code	Modifier/Severity	Rating	Comments
0.0 ft.	D	114.1 ft.	12 / 11	Crack, TOP & SIDE (START), TILE SAGGING (START) - PIPE EGG SHAPED		CRACKED AT ALL 4 QUADRANTS






0+15 TOP FOLDING IN, COLLAPSE LIKELY - PIPE V SHAPED

19.7 ft.	D		10 / 2	Broken		MULTIPLE BROKEN TILES AHEAD
----------	---	--	--------	--------	--	-----------------------------



0+23 TOP FOLDING IN, COLLAPSE LIKELY (4 TILE IN A ROW) - PIPE V SHAPED
0+32 TILE SAGGING (END), SOIL VISIBLE IN OFFSET JOINT - PIPE V SHAPED
0+37 DIRECTIONAL CHANGE - PIPE ROUND

Observations

Distance	Dire Length	From/To Code	Modifier/Severity	Rating	Comments
41.3 ft. 0+42	D	/	Pipe Type, VCP -> CMP (RUSTY) - PIPE ROUND		VCP TO CMP
					
48.3 ft.	D	3 /	Lateral, CMP INTRUDING - PIPE ROUND		LAT RIGHT
					
55.3 ft. 0+56	D	/	Pipe Type, RUSTY CMP -> VCP, TILE COLLAPSE IMMINENT, TOP & SIDE CRACKS (START) - PIPE V SHAPED		CMP TO VCP
					

Observations

Distance	Dire Length	From/To Code	Modifier/Severity	Rating	Comments
63.2 ft.	D	8 / 2	Broken, TILE FOLDING IN, COLLAPSE IMMINENT - PIPE V SHAPED		BADLY BROKEN AND FALLING INTO FLOW.... WILL BE A NICE BLOWOUT WHEN IT GROWS UP....



0+73 TILE FOLDING IN, COLLAPSE IMMINENT - PIPE V SHAPED
0+84 JOINT OFFSET, TILE BOTTOM HEAVING - PIPE EGG SHAPED
1+04 CRACKS (END) - PIPE ROUND

119.0 ft.	D	3 /	Lateral, SINGLE WALL HDPE INTRUDING - PIPE ROUND		LAT RIGHT
-----------	---	-----	--	--	-----------






1+25 JOINT OFFSET - PIPE ROUND

163.4 ft.	D	20.4 ft.	11 / 1	Crack, TOP (START) - PIPE EGG SHAPED	CONTINUOUS TOP CRACK
-----------	---	----------	--------	--------------------------------------	----------------------

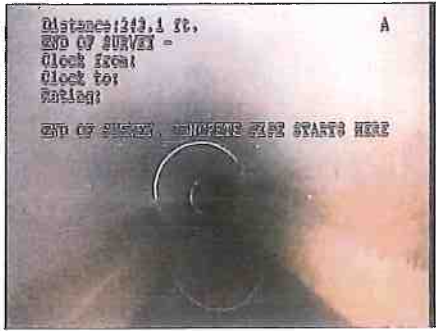


Observations

Distance	Dire Length	From/To Code	Modifier/Severity	Rating	Comments
240.6 ft.	D	/	Pipe Type		VCP TO PE VCP -> DUAL WALL HDPE, JOINT OFFSET - PIPE ROUND
					
243.1 ft.	D	/	Pipe Type		PE TO VCP
					
243.1 ft.	D	/	Pipe Type		PE TO RCP DUAL WALL HDPE -> RCP - PIPE ROUND
					

Observations

Distance	Dire Length	From/To Code	Modifier/Severity	Rating	Comments
243.1 ft.	D	/	END OF SURVEY		END OF SURVEY. CONCRETE PIPE STARTS HERE



Inspection's photos

6535 DD77 12-7-17 jvh

- 1,3657022.794,4921355.574,1135.304,FL 15"CMP OUTLET
- 2,3657023.789,4921352.861,1132.544,FL OPEN DITCH
- 3,3657232.051,4921812.611,1137.236,FL 16" CLAY
- 4,3657232.257,4921812.999,1138.630, TOP PIPE 16" CLAY
- 5,3657232.553,4921814.042,1140.055,GS
- 6,3657219.829,4921778.170,1138.449, TOP CMP 15" REPAIR
- 7,3657213.310,4921771.734,1139.432,GS
- 8,3657181.720,4921700.848,1139.239,GS
- 9,3657147.625,4921626.173,1139.152,GS
- 10,3657111.278,4921546.765,1140.219,GS
- 11,3657075.054,4921468.712,1140.698,GS
- 12,3657053.489,4921422.159,1141.021,GS RW
- 13,3657050.269,4921412.575,1138.863,FL DITCH BEEHIVEINTK -2.2FL
- 14,3657043.442,4921400.788,1143.146,EOG
- 15,3657030.580,4921374.462,1143.421,EOG
- 16,3657181.679,4921637.371,1139.094,BLOW OUT2'
- 17,3657219.823,4921643.412,1137.576,FL 10" TILE
- 18,3657245.114,4921647.626,1137.695,FL 10" TILE
- 19,3657246.938,4921845.919,1140.673,GS
- 20,3657274.280,4921903.805,1141.190,GS
- 21,3657233.532,4921816.605,1137.309,FL 16" TILE
- 22,3657233.540,4921816.785,1138.663, TOP18" HDPE REPAIR
- 23,3657182.054,4921637.178,1138.374, TOP12" HDPE REPAIR 2' LONG
- 24,3657189.717,4921638.454,1138.402, TOP10" CONCTILE
- 25,3657216.908,4921642.949,1138.617, TOP10" CLAYTILE
- 26,3657221.296,4921643.631,1138.691, TOP10" CLAYTILE
- 27,3657246.942,4921647.937,1138.721, TOP10" CLAYTILE
- 28,3657236.571,4921646.283,1138.564, TOP10" CLAYTILE
- 29,3657234.352,4921645.748,1139.562,GS
- 30,3657256.310,4921649.706,1139.514,GS
- 31,3666236.219,4921419.809,1152.598,8001 GPS ALUMDISK
- 32,3657011.439,4921355.081,1135.627, TOP NEW CMP18"
- 33,3657028.920,4921391.178,1135.786, TOP NEW CMP18"
- 34,3657031.988,4921398.075,1135.921, TOP NEW RCP
- 35,3655814.741,4921345.480,1140.864, MAG TOP CMP N SIDE 180TH
- 36,3657053.110,4921441.543,1136.096, TOP NEW 18" RCP
- 37,3657071.737,4921477.217,1136.130, TOP NEW 18" RCP
- 38,3657086.308,4921505.878,1136.220, TOP NEW 18" RCP END DAY
- 39,3657090.605,4921521.825,1137.600, FL 8" PLASTIC TILE LAT
- 40,3657090.209,4921513.683,1136.260, TOP RCP@JOINT
- 41,3657093.993,4921520.814,1136.216, TOP RCP@JOINT
- 42,3657097.802,4921527.821,1136.249, TOP RCP@JOINT
- 43,3650575.358,4938722.629,1146.611, TOP 21" TILE@JOINT
- 44,3650585.080,4938726.245,1147.008, TOP 21" TILE@JOINT
- 45,3650584.079,4938725.824,1145.097, FL 21" TILE@JOINT
- 46,3650559.432,4938701.834,1152.913, BRASS PLUG HDWL
- 47,3657127.400,4921584.814,1136.332, TOP RCP@JOINT
- 48,3657131.150,4921591.883,1136.312, TOP RCP@JOINT
- 49,3657134.532,4921599.232,1136.367, TOP RCP@JOINT
- 50,3657137.924,4921606.410,1136.411, TOP RCP@JOINT
- 51,3657164.386,4921656.027,1136.510, TOP RCP @JOINT
- 52,3657167.863,4921663.174,1136.469, TOP RCP @JOINT
- 53,3657171.530,4921670.360,1136.479, TOP RCP @JOINT
- 54,3657174.946,4921677.532,1136.512, TOP RCP @JOINT
- 55,3657178.394,4921684.896,1136.477, TOP RCP @JOINT
- 56,3657181.424,4921691.301,1136.569, TOP RCP @JOINT
- 57,3657187.036,4921690.159,1137.646, FL 4" PLAST LAT N
- 58,3657235.723,4921821.272,1137.360, FL EXIST CLAY
- 59,3657192.041,4921712.972,1136.613, TOP RCP@COLLAR
- 60,3657192.496,4921714.196,1136.332, TOP RCP@COLLAR
- 61,3657206.585,4921742.820,1137.016, TOP RCP
- 62,3657231.569,4921810.150,1137.149, FL RCP
- 63,3657236.601,4921824.361,1138.656, TOP CLAY GOOD

6535 DD77 12-7-17 jvh

64,3657092.683,4921518.371,1136.213,8"PLASTIC CON S
65,3657182.445,4921693.525,1136.558,4"PLASTIC CON N
66,3657207.119,4921743.800,1137.051,4"PLASTIC CON N
300,3657036.475,4921357.457,1138.197,0+08 15'O/S
302,3657077.973,4921440.123,1141.097,1+00.000 L 15.0
303,3657098.678,4921485.658,1140.958,1+50.000 L 15.0
304,3657119.546,4921531.148,1140.760,2+00.000 L 15.0
305,3657140.402,4921576.643,1140.063,2+50.000 L 15.0
306,3657161.156,4921622.147,1139.516,3+00.000 L 15.0
307,3657181.879,4921667.684,1139.474,3+50.000 L 15.0
308,3657202.655,4921713.119,1139.477,4+00.000 L 15.0
309,3657223.488,4921758.606,1139.571,4+50.000 L 15.0
310,3657244.343,4921804.084,1140.193,5+00.000 L 15.0
311,3657059.708,4921400.254,1143.321,0+56.000 L 15.0
312,3657012.794,4921355.505,1135.304,Cogo
313,3657101.699,4921423.766,1140.586,crop damage
314,3657111.076,4921463.772,1140.512,crop damage
315,3657100.242,4921467.559,1140.523,crop damage
316,3657137.598,4921551.352,1139.945,crop damage
317,3657168.874,4921611.098,1139.233,crop damage
318,3657188.713,4921623.868,1139.315,crop damage
319,3657209.238,4921678.844,1138.848,crop damage
320,3657242.846,4921787.985,1139.762,crop damage
321,3657264.952,4921835.794,1140.596,crop damage
322,3657258.604,4921855.447,1140.848,crop damage
323,3657239.768,4921860.960,1140.624,crop damage
324,3657218.647,4921865.097,1140.436,crop damage
325,3657196.504,4921835.445,1139.869,crop damage
326,3657167.954,4921748.014,1139.235,crop damage
327,3657136.229,4921688.096,1138.943,crop damage
328,3657039.115,4921489.666,1140.940,crop damage
329,3657009.669,4921438.407,1141.330,crop damage
330,3657006.214,4921421.291,1141.640,crop damage
331,3661070.594,4921365.814,1148.051,ir38 y7365 0.5d
332,3663737.175,4921335.948,1148.487,ir34 1.2x tie
333,3663671.704,4921337.040,1147.633,ir34 1.2x tie
334,3653159.387,4921406.804,1147.094,ir34 0.2d
335,3655780.186,4921389.255,1146.890,ir58 0.3d
336,3655780.204,4921389.296,1145.559,isp34 1.6d
337,3655814.394,4921420.090,1144.092,sir12 tie
338,3655747.138,4921411.557,1144.089,mag cmp
339,3655747.015,4921346.188,1140.880,mag cmp
340,3658423.573,4921382.318,1149.459,ir38 y7365 0.3d
341,3658448.568,4921382.134,1149.355,ir38 y7365 0.3d
342,3658453.105,4921397.008,1148.197,ir38 tie 0.3d
343,3658398.111,4921396.926,1148.560,ir38 tie 0.3d
500,3657084.572,4922900.203,1144.241,gs 16" tile locate
501,3657076.175,4922874.615,1144.266,gs 16" tile locate
502,3657064.731,4922840.907,1143.910,gs 16" tile locate
503,3657053.639,4922804.888,1143.834,gs 16" tile locate
504,3657047.915,4922762.832,1143.570,gs 16" tile locate
505,3657055.481,4922722.975,1143.687,gs 16" tile locate
506,3657072.195,4922684.803,1143.532,gs 16" tile locate
507,3657090.017,4922647.994,1143.129,gs 16" tile locate
508,3657105.960,4922613.390,1142.179,gs 16" tile locate
509,3657121.399,4922577.585,1141.339,gs 16" tile locate
510,3657134.743,4922537.401,1140.919,gs 16" tile locate
511,3657147.293,4922500.968,1140.864,gs 16" tile locate
512,3657160.263,4922463.720,1141.357,gs 16" tile locate
513,3657172.210,4922426.223,1142.143,gs 16" tile locate
514,3657184.808,4922389.076,1142.403,gs 16" tile locate
515,3657196.849,4922352.518,1142.469,gs 16" tile locate
516,3657208.118,4922316.959,1142.139,gs 16" tile locate

6535 DD77 12-7-17 jvh
517,3657219.477,4922283.199,1141.858,gs 16" tile locate
518,3657231.988,4922243.942,1141.705,gs 16" tile locate
519,3657244.474,4922205.900,1141.297,gs 16" tile locate
520,3657258.412,4922164.449,1141.623,gs 16" tile locate
521,3657270.363,4922125.441,1141.583,gs 16" tile locate
522,3657281.572,4922090.681,1141.159,gs 16" tile locate
523,3657292.276,4922056.290,1137.184,fl 16" vcp
524,3657292.675,4922054.543,1137.183,fl 16" vcp
525,3657303.430,4922009.665,1140.228,gs 16" tile locate
526,3657292.141,4921971.619,1140.502,gs 16" tile locate
527,3657277.318,4921932.809,1140.892,gs 16" tile locate
528,3657262.308,4921892.993,1141.080,gs 16" tile locate
529,3657247.461,4921853.700,1140.641,gs 16" tile locate
530,3657236.823,4921824.176,1139.901,gs 16" tile locate
531,3657290.196,4922053.726,1140.544,gs by fl
540,3650568.759,4921455.000,1147.577,gps mon 8002
8002,3650568.780,4921455.020,1147.670,ALUM DISK CONC
8002_GNSS,3650568.780,4921455.020,1147.670,Autonomous Setup

Drainage District:

#41

Repair Summary:

- Landowner reported three sinkholes/blowouts on the Main tile located in the SE¼ of Section 12, Township 88 North, Range 22 West.
- Visually inspected area and found three tile sinkholes/blowouts at 490'± west of H Avenue, 600'± west of H Avenue, and 675'± west of H Avenue. The District Trustees authorized CCTV inspection of existing main tile to determine its overall condition.
- Performed CCTV inspection on 18" VCP Main tile from sinkhole/blowout 675'± west of H Avenue. During CCTV inspection, removed 6' of collapsed 18" VCP to continue CCTV inspection. Temporarily repaired this section with 18" dual wall HPDE tile and fabric wrapped joints. Defects are tabulated in attached sheet.
- Also, performed CCTV inspection from the east side of H Avenue at the request of the landowner. Defects are tabulated in attached sheet.
- While in field, noted that the existing Main tile outlet is rusty CMP without a rodent guard. Also, there are some scrub trees near the Main tile outlet.

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

See attached Tabulated Contractor Time and Materials Sheet.

Additional Actions Recommended:

The Main VCP tile is cracked for much of the extent of the CCTV inspection. It is our opinion that most of the cracked tile is not deformed enough to indicate imminent failure. However, there are 12 locations that pipe failure appears to be imminent. The first 9 are located within the first 300' of the Main tile. The remaining 3 are located further upstream in the Main tile. In addition, the Main tile outlet needs some work (i.e. rodent guard installation, rip-rap installation, and tree removal). Based on this, it is our recommendation that spot repairs on the Main tile be performed with Class IV or V RCP or polypropylene tile where collapse is imminent and repairs performed to the outlet. It is our opinion that the total construction cost of these repairs would be \$25,000 to \$30,000 (assuming that no additional tile will need replaced after the tile is uncovered). This cost is low enough that neither a hearing nor an engineer's report would be required for said repairs.

If the District Trustees wish to proceed with full replacement of the lower 300' of the Main tile, spot repairs of the Main tile at the upstream locations, and outlet repairs, it is our opinion that the total construction cost would be \$40,000 to \$49,000. This cost is also low enough that neither a hearing nor an engineer's report would be required for said repairs.

