

ENGINEER'S REPORT ON REPAIRS TO LATERAL 10, DRAINAGE DISTRICT 30 FRANKLIN COUNTY, IOWA

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	<p><i>Lee O. Gallentine</i>, P.E. <i>Oct 23, 2023</i> LEE O. GALLENTINE, P.E. DATE</p> <p>LICENSE NUMBER: 15745 MY LICENSE RENEWAL DATE IS DECEMBER 31, 2024 PAGES OR SHEETS COVERED BY THIS SEAL: SHOWN ON TABLE OF CONTENTS</p>

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FRANKLIN CO. AUDITOR
HAMPTON, IOWA

	<p>CLAPSADDLE-GARBER ASSOCIATES OFFICE LOCATIONS</p> <p>16 East Main Street, PO Box 754 Marshalltown, IA 50158 1523 S. Bell Avenue, Suite 101 Ames, IA 50010 5106 Nordic Drive Cedar Falls, IA 50613 739 Park Avenue Ackley, IA 50601</p>	<p>Project Office 739 Park Avenue Ackley, IA. 50601 Phone: 641-847-3273 Fax: 641-847-2303</p>
	<p>CLAPSADDLE-GARBER ASSOCIATES</p>	

**Engineer's Report on
Repairs to Lateral 10,
Drainage District 30,
Franklin County, Iowa**

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Engineer's Report on Repairs to Lateral 10, Drainage District 30, Franklin County, Iowa

1.0 INTRODUCTION

1. **SCOPE OF WORK** – The Franklin County Board of Supervisors, acting as District Trustees, requested Clapsaddle Garber Associates to investigate and report concerning repairs to the Lateral 10 tile of Drainage District 30. This report will investigate the necessity and feasibility of said repairs and present an opinion of probable costs associated with said repairs. At the drainage meeting on May 15th, 2023, the previously recommended actions shown in the Repairs Summary for Work Order Request #189 (copy included in Appendix A) were discussed and reviewed by the District Trustees. As a result, the District Trustees requested Clapsaddle Garber Associates to move ahead with this report.

2. **LOCATION** – The area of investigation was limited to the upper end of Lateral 10 tile located in Sections 26, 27 and 28, Township 92 North, Range 22 West, Franklin County, Iowa. Specifically, the downstream limit is where Lateral 10 tile connects to the recent repair in the SE¼ of said Section 26. Said connection is approximately ¼ of a mile north of State Highway #3 and approximately 5/8 of a mile east of Eagle Ave. Going upstream Lateral 10 travels northwesterly and westerly until crossing Eagle Ave approximately ½ mile north of State Highway #3 into section 27. Continuing upstream lateral 10 travels westerly and southwesterly through Section 27 until it crosses Dogwood Ave approximately 1/8 mile north of State Highway #3. It then continues northwesterly into Section 28 with the upper limits of said investigation being approximately 3/8 of a mile north of State Highway #3 and approximately 5/8 of a mile west of Dogwood Ave. For reference, a copy of the investigation map showing said limits is included in Appendix B.

- 1.0 **PARTIAL DISTRICT HISTORY** – The following is a partial summary of the history of Lateral 10 of Drainage District 30 as obtained from the Franklin County Auditor’s drainage minutes and records.
- | | |
|----------------|---|
| 1912, Dec. 28 | Petition for Drainage District. |
| 1914, Apr. 10 | Engineers report on petition for “SIMONSEN DRAINAGE DISTRICT NUMBER 30” from A.G. Baker. |
| 1915, Feb. 4 | Engineers report on petition for Drainage District Number 30 from A.G. Baker with an estimated construction cost for Lateral 10 of \$52,543.46 |
| 1915, Jul. 14 | Notice for hearing on establishment of Drainage District. |
| 1916, Dec. 22 | Notice for hearing on classification of lands within Drainage District. |
| 1921, Nov. 3 | Engineer’s report from Vernon Finkle on completion of construction of Drainage District. |
| 1922, Oct. 22 | Request for repairs or changes to Drainage District. |
| 1925, Jan. 2 | Engineer’s report from Vernon Finkle on condition of Drainage District. |
| 1970, Aug. 24 | Engineers report from Gerald W. Hollander recommending replacing a portion of the Lateral 10 tile and converting it to an open ditch. |
| 1970, Oct. 26 | Request for reclassification of benefits and claims. |
| 1970, Oct. 27 | Remonstrance to project. The remonstrance contained “11,000 acres, or 90% of the landowners and well over one-half of the property owners”. It appears that this stopped the proposed reconstruction, improvement, and extension of the entire Drainage District. |
| 1971, Sept. 9 | Notice of Contractors for construction of drainage improvements to Drainage District. It appears that this does not include any improvements to Lateral 10. |
| 1971, Sept. 22 | District Trustees accepted the lowest bid for repairs and/or improvements from John T. McGuire Company. |
| 1977, Mar. | District Trustees approved reclassification of Drainage District. |
| 1978, Jan. 18 | Appointment of appraisers of benefits. |
| 1978, Dec. 1 | District Trustees approval of reclassification schedules of Drainage District. |
| 1991, Aug. 19 | Request for repair – “Blowout” located in SW¼ SE¼ Section 28. |
| 1991, Sept. 17 | Request for repairs – “Blowouts” located in Section 27. |
| 1994, Apr. 27 | Request for repairs – “Blowouts” located in SE¼ SE¼ Section 28. |
| 1995, Oct. 4 | Request for repairs – “Broken tile” located in E½ Section 27. |
| 1997, Mar. 28 | Request for repairs – located in Section 28. |
| 1997, Nov. 14 | Request for repairs – “tile is setting full of water” located in SW¼ Section 27. |
| 1998, Oct. 29 | Request for repairs – “broken tile” located in SW¼ SE¼ Section 28. |
| 1999, Dec. 1 | Request for repairs – “2 blowouts” located in SE¼ Section 26. |
| 2001, Jun. 25 | Request for repairs – “replace tile w/steel culvert” located in SE¼ SE¼ Section 26. |

2001, Nov. 14	Request for repairs – “tile blowout” located in SW¼ SW¼ Section 27.
2005, Apr. 13	Request for repairs – “2 intakes just inside fence line blowout” located in NW¼ Section 26.
2011, Apr. 19	Request for repairs – “Large tile blowout” located in SW¼ NE¼ Section 26.
2012, Mar. 21	Request for repairs – “Broken tile” located in SE¼ SE¼ Section 28.
2012, Jun. 26	Request for repairs – “broken tile” located SE¼ SE¼ Section 26.
2012, Jun. 26	Request for repairs – “2 large blowouts” located in Section 26.
2012, Jun. 26	Request for repairs – “broken tile” located SE¼ SE¼ Section 26.
2013, Jun. 10	Request for repairs – “blowout” located in SW¼ SE¼ Section 28.
2015, Apr. 2	Request for repairs – “3 blowouts” located in SW¼ SE¼ Section 28.
2015, Nov. 10	Request for repairs – “Wet soft spot” located in SE¼ SE¼ Section 28.

- 2.0 **INVESTIGATION** – The investigation for this report consisted of previous field investigations and a limited record review. The record review included a review of district history. The previous field investigation was limited to that performed for Work Order #189. For reference, a copy of the Repair Summary for Work Order #189 is included in Appendix A.
- 3.0 **DISCUSSION AND CONCLUSIONS**– Based on the above, it is obvious that Lateral 10 tile through the area of investigation is at or near its useful lifecycle. Many (if not all) the existing blowouts/sinkholes are due to lack of soil cover over the tile especially at the upper end. This has evidenced itself by the reports of 15 blowouts, broken tile, and wet spots repaired over the last 32 years (not quite on average of 1 every other year).

Given the frequency of repairs occurring on the Lateral 10 tile it is the opinion of CGA that the depth of the tile needs to be increased to allow for more soil cover over the tile of Lateral 10. If the depth is not improved, it will negatively affect drainage capacity and the Lateral 10 tile in the following ways:

- Premature physical failure due to freeze/thaw action and farm equipment loads requiring additional repairs.
- Overall conditions of the tile will continue to deteriorate.
- Increases in blowouts/sinkholes and overland flow will be observed.
- Possible damage to farm equipment due to blowouts/sinkholes.

If repairs are not performed, the Lateral 10 tile will continue to physically deteriorate and debris will continue to accumulate in the tile. The visible signs of this will be surface ponding/saturation and increased frequency of work orders. All told, the existing Lateral 10 tile currently provides a patch work of deteriorating VCP pipe linked together with newer pipe from a variety of previous repairs and replacements. If nothing is done, the Lateral 10 tile will have more sinkholes and blowouts, more siltation in the tile, and further blockage due to tile pieces and soil. This will result in further restricted drainage in the Lateral 10 tile.

4.0 **REPAIR METHODS** – To repair the Lateral 10 tile, the following options are the most straightforward available:

Partial Upper Tile Replacement (11,600 ft)

- Remove and replace 11,600 ft of the existing Lateral 10 tile with a new tile of equal size or the closest diameter equivalent to the existing tile.
- Increase the soil cover by 3 ft +/- by lowering the tile depth. This can be achieved by modifying the tiles grade. The lowering is being done solely for the tile's protection and not for increased drainage area of influence.
- Typically, the replacement tile would be in the same location as the existing tile to locate and reconnect laterals and private tiles. For reference, the replacements limits are shown on the repair Map included in Appendix C.

Partial Upper Tile Replacement (15,500 ft)

- Remove and replace the 15,500 ft of the existing Lateral 10 tile with new tile of equal or the closest diameter to the existing tile.
- Increase the soil cover up to 6 ft +/- by lowering the tile depth. This can be achieved by modifying the tiles grade. The lowering is being done solely for the tile's protection and not for increased drainage area of influence.
- Typically, the replacement tile would be in the same location as the existing tile to locate and reconnect laterals private tiles. For reference, the replacements limits are shown on the repair Map included in Appendix D.

With the above-mentioned repair methods, the following should be noted:

- The pipe sizes used are those that are currently manufactured that most closely meet the current tile size.
- The issues and conditions of the Lateral 10 tile viewed in the field are consistent throughout its entire length.
- Due to the soil types of present, all replacement Lateral 10 tile would be bedded with rock bedding for additional stability and strength.
- Repairs have historically been viewed as not having an impact on jurisdictional wetlands. As such, individual landowners should consult with applicable staff at the Franklin County NRCS office to verify the existence of said jurisdictional wetlands and that there will be no impact on them.
- Per Iowa Code Chapter 468.126, any of the above actions that do not intend to increase capacity would be considered a repair. Per Iowa Code Chapter 468.126.1.g, the right of remonstrance does not apply to the proposed repairs.
- The downstream limit of the 15,500 ft option would connect to the 2022 repair project.

- 5.0 **OPINION OF PROBABLE COSTS** – Using the above method of repair, an itemized list of project quantities and associated opinion of probable costs was compiled and is included in Appendices E and F of this report respectively. A summary of said costs are as follows:

<u>METHOD</u>	<u>DISTRICT COSTS</u>	<u>ROADWAY COST</u>	<u>TOTAL COST</u>
Partial Tile Replacement (11,600 ft)	\$1,023,270.88	\$52,167.50	\$1,075,438.38
Partial Tile Replacement (15,500 ft)	\$1,428,438.38	\$52,167.50	\$1,480,605.88

It should be noted that said costs include materials, labor, and equipment supplied by the contractor to complete the necessary repair and includes applicable engineering, construction observation, and project administration fees by Clapsaddle Garber Associates. However, said costs do not include any interest, legal fees, county administrative fees, crop damages, other damages, previous repairs, engineering fees to date, or reclassification fees (if applicable). As always, all costs shown are the opinions of Clapsaddle Garber Associates based on previous lettings on other projects. Said costs are just a guideline and are not a guarantee of actual costs.

- 6.0 **OWNERSHIP AND CLASSIFICATIONS** – Any and all information concerning ownership of lands and classifications of said lands within Drainage District 30 can be obtained from the Franklin County Auditor's office.

It should be noted that Iowa Code Chapter 468.65 states "When, after a drainage . . . district has been established . . ." and ". . . a repair . . . has become necessary, the board may consider whether the existing assessments are equitable as a basis for payment of the expense of . . . making the repair . . ." and "If they find the same to be inequitable in any particular . . . they shall . . . order a reclassification . . ." Based on this, it is our opinion that a reclassification may be required if the repair were to move forward.

- 7.0 **RECOMMENDATIONS** – There is a definite need to perform the repairs mentioned above to ensure the drainage capacities of the original construction are maintained. The repairs would remove the current restrictions in the Lateral 10 tile and extend the lifespan of the same. Therefore, it is recommended that the District Trustees should take action to accomplish the following:

- Approve the Engineer's Report as prepared by Clapsaddle Garber Associates.
- Hold the required hearing on the proposed repairs.
- Adopt the recommendations of the Engineer's Report.
- Direct Clapsaddle Garber Associates to prepare plans and specifications for the proposed repairs.
- Proceed with receiving bids from interested contractors by Clapsaddle-Garber Associates.
- Award contract to the lowest responsible contractor.
- If desired or required by the Iowa Code, proceed with reclassification proceedings.



**DRAINAGE WORK ORDER
REQUEST FOR REPAIRS
FRANKLIN COUNTY, IOWA**

Work Order #: 189

Fund #: 51043

Drainage District #: 30

Lateral: 10

Date: 4-20-2021

Township: Scott

Section: 28

TWP: 92

Rge: 22

Repair Requested by: Bob Parks

Address: 333 Hwy 3, Alexander IA 50420

Phone: 515-867-1781

Landowner: Robert W & Ardith J Parks

Address: 333 Hwy 3, Alexander IA 50420

Phone: 515-867-1781

Site Available for repair now? Yes

Date Available: 4-20-2021

Identification of repair:

Landowner reported a blowout, tile break in the SW SE corner of Sec 28 in Scott Twp. He would like repaired, if at all possible, before the crops are in.

Request taken by: Colette Bruns

Original cost of the District: \$70,523.20

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

Potential Wind Farm? ☐ Yes-Call Alliant (641-640-0359 Nate Crawford) ☒ No

Repair Assigned to:

Date:

Private tile?

No Work Necessary?

BOS Put on Hold?

Please send statement for services to:

FRANKLIN COUNTY AUDITOR

ATTN: COLETTE BRUNS

PO BOX 26

HAMPTON, IA 50441

Email: cbruns@co.franklin.ia.us

Phone: (641) 456-5622 Fax: (641) 456-6001

Please include the GPS coordinates of the location of the repair on your bill to Franklin County
(For example, 93°18'39.67 W 42°39'31.7 N)
Thank you!!

Latitude:

Longitude:

Drainage District:

#30, Lat 10

Investigation/Repair Summary:

- Landowner in the SW¼ SE¼ Section 28, Township 92 North, Range 22 West reported a tile blowout in the farmed field.
- Visual observation found the blowout/sinkhole has described, with two sections of the 10-inch VCP Lateral 10 tile collapsed in the base of the 1-foot-deep sinkhole.
- Excavated and removed the broken VCP tile sections, grading the base of the excavation for new tile. Repaired the Lateral 10 tile with rock bedding and backfill, 10-inch dual wall HDPE tile, factory internal HDPE couplers, and fabric over the joints. The excavation was then filled with on-site soil.

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

See attached Tabulated Contractor Time and Materials Sheet.

Additional Actions Recommended:

Due to the minimal cover over the tile (approximately 1-foot), the HDPE repair will likely fail prematurely, but HDPE is the only material readily available in size. Also, looking through the recent history of Lateral 10 (specifically in Section 28), there are multiple blowout repairs and reports of ponding that have taken place within the last 10 years. This, coupled with finding the tile has minimal cover, leads to the conclusion that there may be an issue with the general condition of the tile in this vicinity. Due to this, a large-scale investigation into the condition and possible deepening of Lateral 10 in the SE¼ of Section 28 and SW¼ of Section 17 may be warranted.



The map displays a drainage district boundary in yellow, a lateral 10 district tile in blue, and an area of investigation in red. The map is overlaid with a grid showing street names and elevations. Key streets include Highway 3, Highway 517/Dogwood Ave, and various local streets like Fred Klaus, Henry Bernier, and Theobald. A legend at the bottom identifies the symbols: yellow for Drainage District Boundary, blue for Lateral 10 District Tile, and red for Area of Investigation. A north arrow is also present.

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OF GREAT WE:

Legend:

- Drainage District Boundary
- Existing Lateral 10 Drainage Tile
- Existing Lateral 10 Drainage Tile (to be replaced)

Map Labels:

Highway 3

Highway 517/Dogwood Ave

Highway 34

Section 23, 24, 25, 34, 35

Property Owners: FRED KAUF, HENRY HERMAN, CHAS. HOMBURG, CHAS. WEHRBURG, OLE HOUG & ADDIE E FRITZ, L.B. MAGLE, E.P. ANDERSON, L.S. JOHNSON, D.H. SILVIUS, CHAS. JOHNSON, WM. WELDEN, CHAS. JOHNSON, HANS JOHANSEN, JOHANNES JOHANSEN, SHULTZ.

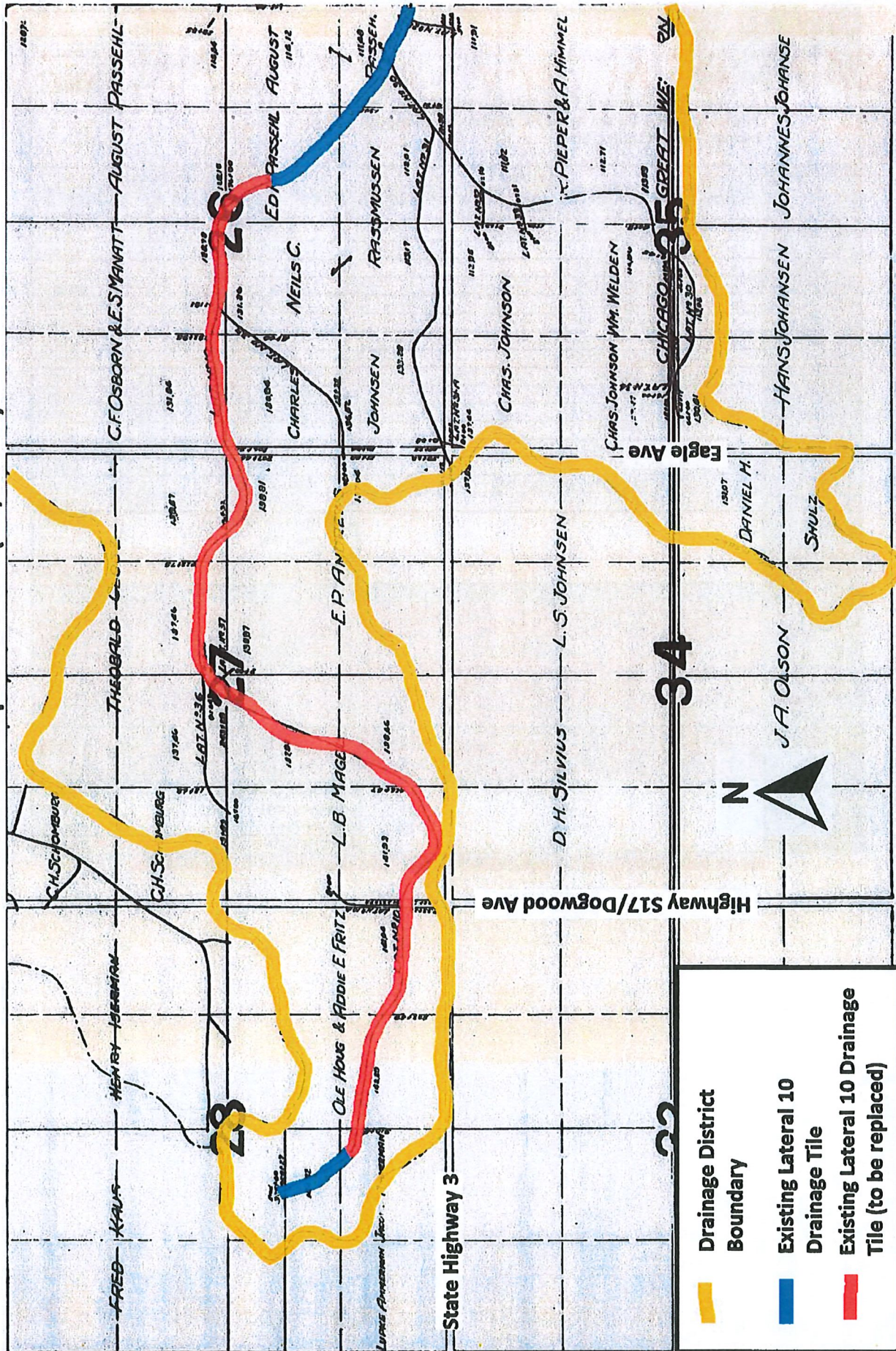
Other Labels: AUGUST PASSEHL, ED. PASSEHL, NEILS C., RASMUSSEN, JOHNSEN, CHAS. JOHNSON, W. DIEPER & A. HIMMEL, CHAS. JOHNSON, W. WELDEN, CHAS. JOHNSON, HANS JOHANSEN, JOHANNES JOHANSEN, SHULTZ.

**Drainage District
Boundary**

Existing Lateral 10 Drainage Tile

**Existing Lateral 10 Drainage
Tile (to be replaced)**

Partial Tile Replacement (15,500 ft)





By: HAV
Date: 7/7/2023
Checked By: LOG
Date: 10/16/2023

Engineer's Opinion of Probable Construction Cost
Project: Drainage District 30 Lat 10 Partial Tile Replacement (11,600 ft)
Location: Franklin County, IA

Partial Tile Replacement Drainage District 30 Lat 10 (11,600 ft)

ITEM #	DESCRIPTION	Unit Cost	Units	Quantity	Units	Total Cost
CONSTRUCTION COSTS						
1	WYE INSERTS (24" x 24" x 10") (Lateral #35 & #37)	\$ 1,000.00	EA	2	EA	\$ 2,000.00
2	WYE INSERTS (24" x 24" x 6") (Lateral #36)	\$ 900.00	EA	1	EA	\$ 900.00
3	CONCRETE COLLAR	\$ 800.00	EA	5	EA	\$ 4,000.00
4	24" PP/CONCRETE TILE	\$ 60.00	LF	4610	LF	\$ 276,600.00
5	18" PP/CONCRETE TILE	\$ 50.00	LF	1300	LF	\$ 65,000.00
6	15" PP/CONCRETE TILE	\$ 40.00	LF	2639	LF	\$ 105,560.00
7	12" PP/CONCRETE TILE	\$ 35.00	LF	1700	LF	\$ 59,500.00
8	10" PP/CONCRETE TILE	\$ 30.00	LF	1200	LF	\$ 36,000.00
9	PRIVATE CONNECTIONS	\$ 500.00	EA	60	EA	\$ 30,000.00
10	24" X 18" REDUCER	\$ 1,100.00	EA	1	EA	\$ 1,100.00
11	18" X 15" REDUCER	\$ 1,000.00	EA	1	EA	\$ 1,000.00
12	15" X 12" REDUCER	\$ 900.00	EA	1	EA	\$ 900.00
13	12" X 10" REDUCER	\$ 800.00	EA	1	EA	\$ 800.00
14	EXISTING TILE REMOVAL	\$ 10.00	LF	11449	LF	\$ 114,490.00
15	FENCE REPAIR	\$ 250.00	EA	8	EA	\$ 2,000.00
16	PERMANENT SEEDING AND WARRANTY	\$ 10,000.00	LS	1	LS	\$ 10,000.00
17	LOCATE EXISTING TILE	\$ 300.00	STA	114.49	STA	\$ 34,347.00
CONSTRUCTION SUBTOTAL						\$ 744,197.00
Contingency (10%)						\$ 74,419.70
Engr. Cost (25%)						\$ 204,654.18
CONSTRUCTION TOTAL						\$ 1,023,270.88
ROADWAY ITEMS						
16	24" PP/CONCRETE TILE	\$ 100.00	LF	90	LF	\$ 9,000.00
17	15" PP/CONCRETE TILE	\$ 80.00	LF	61	LF	\$ 4,880.00
18	WYE INSERTS (15" x 15" x 8") (Lateral #10-A)	\$ 550.00	EA	1	EA	\$ 550.00
19	INTAKES	\$ 350.00	EA	4	EA	\$ 1,400.00
20	EXISTING TILE REMOVAL	\$ 10.00	LF	151	LF	\$ 1,510.00
21	FENCE REPAIR	\$ 250.00	EA	4	EA	\$ 1,000.00
22	PRIVATE CONNECTIONS	\$ 500.00	EA	2	EA	\$ 1,000.00
23	PERMANENT SEEDING AND WARRANTY	\$ 10,000.00	LS	1	LS	\$ 10,000.00
24	LOCATE EXISTING TILE	\$ 300.00	STA	2	STA	\$ 600.00
25	TRAFFIC CONTROL	\$ 4,000.00	LOC	2	LOC	\$ 8,000.00
CONSTRUCTION SUBTOTAL						\$ 37,940.00
Contingency (10%)						\$ 3,794.00
Engr. Cost (25%)						\$ 10,433.50
CONSTRUCTION TOTAL						\$ 52,167.50

Note: Per Iowa Code, road crossings (highlighted pink) are not typically a district expense



By: HAV
Date: 7/7/2023
Checked By: LOG
Date: 10/16/2023

Engineer's Opinion of Probable Construction Cost
Project: Drainage District 30 Lat 10 Partial Tile Replacement (15,500 ft)
Location: Franklin County, IA

Partial Tile Replacement Drainage District 30 Lat 10 (15,500 ft)

ITEM #	DESCRIPTION	Unit Cost	Units	Quantity	Units	Total Cost
CONSTRUCTION COSTS						
1	WYE INSERTS (24" x 24" x 10") (Lateral #35 & #37)	\$ 1,000.00	EA	2	EA	\$ 2,000.00
2	WYE INSERTS (24" x 24" x 8") (Lateral #36)	\$ 900.00	EA	1	EA	\$ 900.00
3	CONCRETE COLLAR	\$ 800.00	EA	5	EA	\$ 4,000.00
4	24" PP/CONCRETE TILE	\$ 60.00	LF	8510	LF	\$ 510,600.00
5	18" PP/CONCRETE TILE	\$ 50.00	LF	1300	LF	\$ 65,000.00
6	15" PP/CONCRETE TILE	\$ 40.00	LF	2639	LF	\$ 105,560.00
7	12" PP/CONCRETE TILE	\$ 35.00	LF	1700	LF	\$ 59,500.00
8	10" PP/CONCRETE TILE	\$ 30.00	LF	1200	LF	\$ 36,000.00
9	PRIVATE CONNECTIONS	\$ 500.00	EA	80	EA	\$ 40,000.00
10	24" X 18" REDUCER	\$ 1,100.00	EA	1	EA	\$ 1,100.00
11	18" X 15" REDUCER	\$ 1,000.00	EA	1	EA	\$ 1,000.00
12	15" X 12" REDUCER	\$ 900.00	EA	1	EA	\$ 900.00
13	12" X 10" REDUCER	\$ 800.00	EA	1	EA	\$ 800.00
14	EXISTING TILE REMOVAL	\$ 10.00	LF	15349	LF	\$ 153,490.00
15	FENCE REPAIR	\$ 250.00	EA	8	EA	\$ 2,000.00
16	PERMANENT SEEDING AND WARRANTY	\$ 10,000.00	LS	1	LS	\$ 10,000.00
17	LOCATE EXISTING TILE	\$ 300.00	STA	153.49	STA	\$ 46,047.00
CONSTRUCTION SUBTOTAL						\$ 1,038,897.00
Contingency (10%)						\$ 103,889.70
Engr. Cost (25%)						\$ 285,696.68
CONSTRUCTION TOTAL						\$ 1,428,483.38
ROADWAY ITEMS						
16	24" PP/CONCRETE TILE	\$ 100.00	LF	90	LF	\$ 9,000.00
17	15" PP/CONCRETE TILE	\$ 80.00	LF	61	LF	\$ 4,880.00
18	WYE INSERTS (15" x 15" x 8") (Lateral #10-A)	\$ 550.00	EA	1	EA	\$ 550.00
19	INTAKES	\$ 350.00	EA	4	EA	\$ 1,400.00
20	EXISTING TILE REMOVAL	\$ 10.00	LF	151	LF	\$ 1,510.00
21	FENCE REPAIR	\$ 250.00	EA	4	EA	\$ 1,000.00
22	PRIVATE CONNECTIONS	\$ 500.00	EA	2	EA	\$ 1,000.00
23	PERMANENT SEEDING AND WARRANTY	\$ 10,000.00	LS	1	LS	\$ 10,000.00
24	LOCATE EXISTING TILE	\$ 300.00	STA	2	STA	\$ 600.00
25	TRAFFIC CONTROL	\$ 4,000.00	LOC	2	LOC	\$ 8,000.00
CONSTRUCTION SUBTOTAL						\$ 37,940.00
Contingency (10%)						\$ 3,794.00
Engr. Cost (25%)						\$ 10,433.50
CONSTRUCTION TOTAL						\$ 52,167.50

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