

Drain: W/R FERTIG **Drain #:** 176
Improvement/Arm: ARM 3
Operator: J. LIVINGSTON **Date:** 12-17-03
Drain Classification: Urban/Rural **Year Installed:** 1927

GIS Drain Input Checklist

- Pull Source Documents for Scanning JL
- Digitize & Attribute Tile Drains JL
- Digitize & Attribute Storm Drains _____
- Digitize & Attribute SSD _____
- Digitize & Attribute Open Ditch _____
- Stamp Plans _____
- Sum drain lengths & Validate JL
- Enter Improvements into Posse _____
- Enter Drain Age into Posse JL
- Sum drain length for Watershed in Posse JL
- Check Database entries for errors JL

Gasb 34 Footages for Historical Cost
Drain Length Log

Drain-Improvement: WR FERTIG - ARM 3

Drain Type:	Size:	Length ()	Length (DB Query)	Length Reconcile	If Applicable	
					Price:	Cost:
TILE	15"	50'	50'		5. ⁰⁰ /lf	250'

Sum: 50' 50' _____

Final Report: 682'

Comments:
560' of RCP REPLACED ARM 3 FROM STA 0+50 - STA
6+82 IN 1987.

It is our opinion and report that said drainage repair would best be accomplished by cleaning out the open channel below the headwall for a distance of 1000 feet to a grade sufficient to give proper outlet for the tile portion.

Repairing the Headwall to its original specifications;

Removing and salvaging the old tiles for a distance of 120 feet above the headwall and replacing said section with 20 inch vitrified Bell End sewer pipe ;

Repairing all broken down places in Main ditch and arms ;

Enlarging and deepening the north side ditch of the Geo. Ellis Road by cutting the bottom and north bank to provide ~~XXXXXXXX~~ at all points for the free flow of the water east into the catch basin at the head of Arm No.3 and No.4 .

The construction of an arm to be known as arm NO. 3 ;

The Construction of an Arm to be known as Arm No.4 ;

The construction of a catch basin at the head of each of arms No. 3&4

Remodeling the inlet at the head of the main ditch.

Constructing concrete box unions at the junctions of Arms Nos ~~3&4~~, 3,4 with main ditch;

Putting in Y & T joints of sewer pipe providing for junction of private drains;
following

All of the above work to be done in accordance with the specifications and the drawings hereto attached.

Specifications for Repair and
Improvement of W.R. Fertig,
Drain.

The contractor or contracotrs must perform all labor and furnish all materials to accomplish the work herein specified or such parts of same as may be let to them respectively, assording to these plans and specifications:

Remove the silt and all obstructions in the open chanall below the headwall to such extent as may be necessary to drain all water from the mouth of the tile at the headwall at all times while work is in progress.

Restore the headwall to its original dimensions by theuse of concrete accordg to formula elsewhere given.

Remove all the tile within 120 feet of the headwall andreplace same with 20 inch vitrified bell sewer pipe of standard weight and quality, free from cracks scales or other defects and laid with the bell upstream and the joints well fitted and the bell fitted and sealed with cement mortar. They shall be laid to grade

and so that the full length of each piece shall rest on solid bottom and if at any place there shall be found soft earth or silt below grade line there same shall be removed and the space filled with concrete so as to provide a firm bed for the pipe at all points.

Care shall be taken in removing and replacing tile as required in these specifications so as not to break or injure any pieces fit for use in any of the repair or construction work herein provided for and so as not to disturb the tile with which replaced tile is connected.

The contractor shall make excavation as may be necessary in order to take up two pieces of tile at each turn in the main tile drain and in the several arms as originally constructed and at points where they connect with the main tile drain, so as to admit light ~~whosachend~~ of each straight run and make like excavation and remove tile at intermediate points if necessary so that, by the use of reflectors and sunlight or artificial light, or by any other devices which may be found practicable, it may be ascertained whether there are any broken or misplaced tile or other obstruction in any such run, and if any, to locate the same as nearly as possible. He shall also make excavation at such other points as the commissioner in charge of the work may direct, to determine the extent of the repairs required to replace broken tile or such as may be out place and to remove obstructions.

The excavation for all tile used in making repairs shall be carried down 3 inches below the bottom of the adjoining tile and the space filled with concrete in which the relaid tile shall be imbedded so as to set flush with the tile in place and all joints and open spaces shall be closed with cement mortar so as to hold the relaid tile firmly in place. ✓

Deepen by cutting the bottom along north bank, the side ditch on the north side of the highway along the south line of section 35, township 17 north, range 3 east, from the head of main drain, east to the head of arm No. 3, as elsewhere described in these specifications, so as to provide at all points for free flow of surface water east into catch basins in such side ditch as elsewhere specified, depositing the earth on the north bank of such ditch and raising earth from the opposite side, if necessary, so as to make an embankment two feet high and one foot wide on top at all points. At head of arm No. 4, elsewhere specified, where a pipe under the road bed allows the flow of water from the south to the north side of ditch, the embankment shall be protected with boulders so as to prevent its being washed away by flow of water through such

pipe. This work to be done so as not to disturb the tile drain in said side ditch. If necessary to move any fencing along the north side of said highway in order to construct such embankment the same shall be moved by landowners on reasonable notice from the contractor and on failure of either landowner to move such fencing on his land he shall be liable to the contractor for reasonable cost of moving same.

The 10 inch drain tile to be replaced with 15 (14) tile in Arm No. 3 shall be salvaged by the contractor and such pieces as are found fit by the superintendent in charge shall be used in the construction of Arm No. 4 as elsewhere specified.

"Y" or "T" joints of vitrified sewer pipe of sizes as required shall be provided for all unions of private side drains with the main ditch or either of the arms at points designated by the respective owners of the lands on which the same are located and cost of same are taken into account in fixing the assessment on lands drained by said side ditches respectively.

Concrete boxes shall be constructed for unions of arms 1, 2, 3, and 4 with main ditch and for catch basins at the head of arms 3 and 4 as shown in accompanying drawing.

All work and material required for the construction and repairs provided for in these specifications to be done and furnished by the contractor or contractors will be estimated on the following schedule and the bidders will be required to itemize their bids so that contracts may be let accordingly.

1. Cleaning open channel below headwall per red, \$-----
2. Repairing headwall, \$-----
3. Sewer pipe construction above headwall, 120 feet in length and salvaging 20 inch clay tile in line of same, \$-----
4. Excavations in tile drain and arms including refilling per cubic yard, \$-----
5. Enlarging side ditch and making embankment along highwall complete as specified, \$-----
6. Constructing satch basin at head of arm 3 and connecting inlets and outlets as per drawing and specifications therefor complete, \$-----

- 7. Constructing catch basin at head of Arm 4 in like manner, \$ _____
- 8. Constructing Arm No. 3 and making connections at each end complete as specified and salvaging old tile along line, \$ _____
- 9. Constructing Arm No. 4 in like manner, *Res Lineal Foot of tile & Cured Eye* \$ _____
- For new tile required for same, if any, per lineal foot, \$ _____
- 10. Remodelling inlet at head of main tile drain as per drawing, \$ _____
- 11. Constructing concrete box union at junction of Arm 3 with main tile drain complete as per drawing, \$ _____
- ~~12. Constructing like union at junction of Arm 1, \$ _____~~
- ~~13. _____ \$ _____~~
- 14. "Y" or "T" joints of sewer pipe provided for junction of private drains, -12" per joint, \$ _____
 - 15" , \$ _____
 - 18" , \$ _____
- 15. Grubbing saplings and bushes within 20 feet of tile, \$ _____
- 16. Price of New tiles, laid in ditch as following, \$ _____
- 17. New 20 inch clay or shale tile, lineal foot, \$ _____
- 18. .. 18 , \$ _____
- 19. .. 15 , \$ _____
- 20. .. 12 , \$ _____
- 21. .. 10 , \$ _____

The work will be staked out by the Engineer and his stakes must be carefully preserved and followed. The dogging of each and every portion of the Ditch must be at its outlet, or its junction with another tile Drain toward its upper end.

The Ditch to be dug along one side of the line Survey Stakes, and sufficient distance from to not disturb them, and shall be dug in a straight and clean manner. In taking out the last draft the blade of the spade must not go deeper than the grade line. The Ditch must be dug accurately and true to the grade at the depth by the figures given by the Engineer, measured from the grade stakes.

The laying of the tile must begin at the lower end and proceed up stream. The tile must be laid as closely as practical and in a line free from crooks, the piece being turned about until the upper closes, unless there is sand or fine silt which is likely to run into the tile, in which case the lower edge must be laid close and the upper side covered with clay or other materials. When making turns or by other unavoidable reasons, a crack of one fourth inch or more is necessarily left, it must be securely covered with broken pieces of tile, or by other indestructable material, junctions with branch lines must be carefully and securely made. After the tile have been laid and inspected by the Engineer or his representatives, they must be covered with the earth excavated from the trench, or borrowed clay or soil. Where said trench does not afford sufficient material and in no case less than two feet in depth over the tile in new cuts.

And where said Drain in an open channel the filling shall be to a depth of not less than two (2) feet above the top of the tile, for the full width of said channel, in no case must the tile be covered with sand without other materials being first used in and no case will boulders or heavy rocks be allowed in the filling if they may come in contact with the tile. The Ditch Contractor must assume all risk from caving in of the Ditch, and when each Drain is completed it must be free from sand and mud before it will be received and paid for in full. In case it is found impracticable by reason of bad weather or other unexpected trouble in digging the Ditch properly laying the tile, to complete the work specified in the contract, the time may be extended as mutually agreed upon by the Contractor and the Engineer.

The Contractor shall use all necessary precaution to secure his work from injury while he is constructing the drain.

All tile and materials used in the construction of the Drain and its tributaries thereto, include in the requirements of these specifications, shall be first class in every respect and subject to rigid inspection by the Engineer.

The Engineer shall have authority to layout and direct the work and to inspect and supervise the same during the construction and completion to see that it is properly done in accordance with the specifications and contract, and his instructions shall be fully carried out.

CONCRETE WORK

Unless otherwise specified all concrete work included in these specifications shall be a mixture of 1-2-³/₄; One part of Portland Cement, two parts sand; and three parts gravel.

The sand and gravel to be free from dirt, loam and other foreign matter.

The Cement, Sand and Gravel to be thoroughly mixed while dry until it presents an even shade of coloring throughout, then made into a moderately

wet mortar, and be immediately placed in the forms for moulding the concrete in to shape.

The forms for all concrete work shall be neatly constructed from strong materials, and shall be true to lines, dimensions and shape given for the different structures.

Arm No. 4 to be constructed as a new Drain except that the tile salvaged from Arm No. 3 shall be used to such extent as are considered good by the Superintendent in charge of construction, and supplying New tile should there not be sufficient amount of the old.

Said Arm to be cut to a grade to be laid out by the Engineer which will give the proper depth at the head of said arm, and connect with the main Ditch 4 inches above the grade of said Main Ditch.

Said Arm to begin in North Side Ditch of Geo. Ellis Road and extend north until same reaches the main Ditch on the lands of W. R. Fertig.

The Inlet at the head of the main Ditch to be repaired by putting on a top same as shown on drawing for catch Basins and repairing the walls of present basin in a manner to receive said top.

Arm #3 CONSISTS OF 682' OF TILE

Arm #4 CONSISTS OF APPROXIMATELY 450' OF TILE

The superintendent in charge shall keep an accurate account of the amount done as said work progresses, and shall pay for all work done materials furnished at the contract price for same, together with all necessary expenses including Attorney fees, Court expenses, Legal printing, Superintending the Construction, Cost of Viewers and Engineer in making the necessary surveys examination of premises and the making of this report, and all other expenses incident to the establishment and construction of said work as the Court shall deem proper, out of funds collected from the assessments made by the Viewers and confirmed by the Court.

For the purpose of raising funds for making such payments the superintendent shall collect the assessments set out below, which assessments are made by the Viewers for the construction of said drain.

Said collection to be made in accordance with the law for collections made for the original construction of ditches.

Estimated cost of construction including,
 Material, Labor, Hauling etc.,
 Necessary for completion of the work in
 accordance with the Plans and Specifications.

Main Ditch

Station	to
Station	to
Station	to
Arm		
Station	to
Station	to
Station	to
Total		\$ 1163.90

Estimated expense, including,

Attorney's Fee,	
Recording and Releasing,	
Legal Printing,	
Superintendent of Construction,	
Court expense etc.,	
Contingency fund,	
Total	\$ 550

We claim for services, expense & Mileage,

to date for,

..... <i>L.M. Stutz</i>	Drainage Commissioner	\$ 30.00
..... <i>L. Johnson</i>	Viewer,	30.00
..... <i>E.A. Baker</i>	Engineer & Helpers,	94.30
Total		154.30
Grand Total		\$ 1868.20

Repair of Walter R: Fertig, Ditch

Arm No. 3

Sta.	Hub. Cut.	Cu. Yds.
0	5.08	
1	3.65	32
2	2.97	25
3	3.84	25
4	3.61	28
5	4.43	30
6	4.65	34
6 - 82	4.60	28

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NAMES	DESCRIPTION OF LANDS	Section	Township	Range	Acres Assessed		Acres Benefited		Amount of Benefits		Am't of Assessment		Total Assessment	
					A	Hun	A	Hun	\$	Cts.	\$	Cts.	\$	Cts.
Walter R Fertig	SE	SW 35	18	3	40		40		160	80	134	00		
DO	SW	SE 35	18	3	40		40		160	80	134	00		
DO	N.W.	SE 35	18	3	40		40		86	40	72	00	340	00
Blanch Huber	N.E.	SW 35	18	3	40		40		86	40	72	00	72	00
Mary Cotton	NW	SW 35	18	3	40		15		32	40	27	00		
DO	SW	SW 35	18	3	40		20		80	40	67	00	94	00
Chas. Ellis	SE	SE 35	18	3	40		40		105	00	87	50		
DO	N.E.	SE 35	18	3	40		40		86	40	72	00		
DO	SW Cor.	SE NE 35	18	3	9		9		19	44	16	20		
DO	1/2 W ²	SW 36	18	3	28		28		60	48	50	40	262	296 10
Jett Hinshaw	S ² SE	NW 35	18	3	20		20		43	20	36	00	36	00
Frank P. Hinshaw	N ² SE	NW 35	18	3	20		20		43	20	36	00		
DO	NE NW except 10 A. off the N side	35	18	3	30		30		64	80	54	00	90	00
Wm Booth	10 A. off N side NE	NW 35	18	3	10		10		21	60	18	00		
DO	S.E.	SW 26	18	3	40		25		54	00	45	00	63	00
Edgar Brown	NW	NE 35	18	3	40		40		86	40	72	00		
DO	7 A. off N side SW	NE 35	18	3	7		7		15	12	12	60	84	60
Rose Neese	SW NE except 7 A. off N side	35	18	3	33		33		71	28	59	40	59	40
M.L. Miller	NE	NE 35	18	3	40		40		86	40	72	00		
	NW + 7 A. of N side	SW NW 35	18	3	44		44		95	04	79	20	151	20
Fred J. Brown	SE NE except 9 A. in SW Cor. thereof	35	18	3	31		31		66	96	55	80		
DO	S ² SW	NW 36	18	3	20		20		43	20	36	00		
DO	8 A. in NW Cor													
	NW	SW 36	18	3	8		8		17	28	14	40	106	20

II

NAMES	DESCRIPTION OF LANDS	Section	Township	Range	Acres Assessed		Acres Benefited		Amount of Benefits		Am't of Assessment		Total Assessment	
					A	Hun	A	Hun	\$	Cts.	\$	Cts.	\$	Cts.
Dmer J. Firestine & wife	N ² S W NW													
	except 4 A. off N side	36	18	3	16		16		34	56	28	80	28	80
Archie Cox	S.E. NW	36	18	3	40		10		21	60	18	00	18	00
John E. Clark	NE NE	2	17	3	40		20		79	20	66	00		
DO	E ² NW NE	2	17	3	20		20		79	20	66	00	132	00
Isabel McCoy	E ² W ² NW NE	2	17	3	10		8		31	68	26	40	26	40
J. A. Minturn	W ² W ² NW NE	2	17	3	10		8		31	68	26	40	26	40
R. E. Baker & Stella Baker	N.E. NW	2	17	3	40		25		99	00	82	00	82	00
Phoebe Morris	NW SW except 10 a. off E side SW SE	26	18	3	30		10		21	60	18	00		
		26	18	3	40		40		86	40	72	00	90	00
Burgess J. Roberts	N ² S.E.	26	18	3	40		6		12	96	10	80		
DO	NW SE SE	26	18	3	10		10		21	60	18	00	28	80
C. B. Perisho	NE SE SE	26	18	3	10		1		2	16	1	80	1	80
Eli Stratton	S ² SE SE	26	18	3	20		20		43	20	36	00	36	00
Hamilton County Benefit to Highways														
Road	N+S W ²	36	18	3					30	00	25	00		
Road	N+S Cent	35	18	3					30	00	25	00		
Road	E+W S. line	35 36	18	3					30	00	25	00	75	00

STATE OF INDIANA)

)SS

HAMILTON COUNTY)

We the undersigned Viewers and Engineer, to whom was referred the above entitled petition for report, after being duly sworn upon Oath, say that we have personally examined the whole line of said proposed ditch, that the assessments herein made and reported are correct, just and equitable to all parties herein named as interested, that no other lands will be benefitted or injured by said proposed drain, and that the above and foregoing report is true in substance and in fact as we verily believe.

L. M. Stutz
.....
F. J. Symons
.....
Viewers

E. A. Baker
.....
Engineer

Subscribed and sworn to before me this *4th* day of *April*.....1927.

O. M. Applegate
.....
Auditor of Hamilton County.