

Kenton C. Ward, CFM
Surveyor of Hamilton County
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Suite 188
One Hamilton County Square
Noblesville, Indiana 46060-2230

May 5, 2017

TO: Hamilton County Drainage Board

RE: William Krause Drain, Krause Drain Reconstruction Phase I

Attached are the petition, plans, schedule of assessments and drainage shed map, for the William Krause Drain Phase I. This petition was filed by the Town of Sheridan on December 15, 2016. The petition was referred to the Surveyor for report by the Drainage Board December 21, 2016. (See Hamilton County Drainage Board Minutes Book 17, page 237.) I have reviewed the petition and found it to be in proper form.

I have made a personal inspection of the land described in the petition. Upon doing so, I believe that the drain is practicable, will improve the public health, benefit a public highway and be of public utility; and that the costs, damages and expenses of the proposed drain will probably be less than the benefits accruing to the owners of land likely to be benefited.

The attached plans were prepared by Banning Engineering dated May 1, 2017, Project Number 11194KRUS. The plans were prepared for the Hamilton County Drainage Board.

The proposed project will improve the drainage in the southeastern portion of Sheridan. The drainage facilities will be placed in either existing street right of way or the existing drainage easement of the William Krause Drain, or new easement being purchased by the Drainage Board.

The William Krause Drain is an existing tiled drain on the south and southeast side of the Town of Sheridan consisting of the Main Arm, Arms 1, 2, 3 and 4 and the Jacob Boyer Arm.

The drain is located in Adams Township, Section 32, Township 20 North, Range 3 East and Section 5, Township 19 North, Range 3 East. The drain starts approximately 920-feet east of the intersection of Jarit Drive and East 2nd Street and runs generally south and west into the south and southeast portion of the Town of Sheridan.

History

The original drain petition was by Joseph Furnas and established as the West Cicero Ditch in 1877. [See Hamilton County Drainage Board Minutes Book 4, page 129]. In 1892, George Symonds petitioned for the drain consisting of a main drain and six arms. [See Hamilton County Drainage Board Minutes Book 4, page 129]

Many of the arms became other drain through the years including the Benton-Hinesley Drain, the William Krause Drain, and the George Beam Drain. In 1919-1920, approximately 2,215 of the George Symonds Drain was tiled as part of the William Krause Drain. [See Hamilton County Drainage Board Minutes Book 4, page 130].

The Jacob Boyer Drain was constructed and attached to the William Krause drain in 1923.

The first noted significant repair on the William Krause Drain occurred in 1945.

In 1952 work was completed on the downstream headwall outlet. In 1952 the Town of Sheridan petitioned for a reconstruction/relocation of the drain along SR 47 near Park Avenue and Malott Street. 250-feet of the drain was relocated from the north side of SR47 to the south side of SR 47. This work added 100-feet to the drain. [Surveyor Report to the Drainage Board dated July 7, 1994]

The Jacob Boyer Drain and the William Krause Drain were officially separated from the George Symonds Drain and combined in to the William Krause Drain at the August 22, 1994 meeting of the Drainage Board. [See Hamilton County Drainage Board Minutes Book 3, pages 275-276] The William Krause Drain was placed on maintenance and classified as an Urban Drain at the August 22, 1994 meeting of the Drainage Board. [See Hamilton County Drainage Board Minutes Book 3, pages 275-276]

The Main Arm runs from where the tile discharges to the George Symonds Drain southwesterly crossing under SR 38 and then south to 8th Street to the Jacob Boyer Arm from the south/east. The Main Arm continues west along 8th Street to South Bailey Street where it then runs south along South Bailey Street to State 47 where it turns to the west.

At South Malott Avenue, the drain crosses to the south side of State Road 47 and then crosses back to the north side at South Park Avenue.

The drain then continues west to the alley between Main and Ohio Streets to the start of Arm 1.

The Main Arm consists of the following: 3,985-LF of 24" tile installed in 1920; 90-LF of 21" tile installed in 1953; 250-LF of 18" tile installed in 1953; 50-LF of 15" installed in 1953; 462-LF of 12-inch tile installed in 1920 and 478-LF of 8" tile installed in 1920.

Arm 1 stubs to the north from the Main Arm at the alley between Main and Ohio Streets a distance of 66-feet and is a 6-inch tile installed in 1920.

Arm 2 stubs to the north at the alley between Main and Georgia Streets a distance of 165-feet and is a 6-inch tile installed in 1920.

Arm 3 stubs to the south from the Main Arm on the west side of Georgia Street a distance of 660-feet and is an 8-inch tile installed in 1920.

Arm 4 stubs to the south a distance of 50-feet just east of Malott Avenue and is an 18-inch tile installed in 1920.

The Jacob Boyer Arm consists of 224-LF 12-inch, 26-LF 12-inch, 369-LF 10-inch, 162-LF 8-inch, 231-LF 8-inch, 48-inch 8-inch all installed in 1924. The total length of the arm is 1,060-feet.

Existing Condition

A 2013 hydraulic study for the George Symonds and William Krause watershed by Banning Engineering identified that the hydraulic capacity of the 24" tile portion of the William Krause Drain is 10 cubic feet per second and is only adequate to convey the runoff from a 1% frequency storm event. The study identified that without significant upsizing or diversion, flooding in the area served by the Main Arm of the William Krause Drain generally between Fanning Street and Hudson Street and north of 8th Street to SR 38 would be expected to continue. This area experienced significant flooding on June 20, 2011 with water overtopping SR 38 near the Apostolic Faith Church.

Reconstruction Project

This project will serve as an adequate outlet for the concurrent William Krause Drain, Sheridan Stormwater Improvements project. The Sheridan Stormwater Improvements project is funded by a grant from the Office of Community and Rural Affairs (OCRA) to alleviate the flooding potential for the area drained by the William Krause Drain west of SR 38.

The Krause Drain Reconstruction Phase I project starts at the new manhole on the southwest side of SR 38 set with the OCRA Grant project. This manhole is identified as Structure 106 on the Banning Construction Plans (Project 11194 KRUS dated May 1, 2017) for this project and is the same as Structure EX1 on the Banning Construction Plans (Project 11194 SH dated April 27, 2017) for the above mentioned OCRA Grant project. This structure is located at Sta. 30+50 of the William Krause 1920 Drain Description.

From Structure 106, the new tile follows the existing alignment with the existing 24" tile being replaced as 38"x 60" elliptical RCP a distance of 36-Lf to a new manhole (Structure 105) on the east side of State Road 38. Thence continuing in the existing alignment with 72' LF of 48" RCP to Str. 104, Sta. 31+60 of the 1920 William Krause description. This structure being located on the south side of the existing building on the current Apostolic Faith Church, Inc. parcel. From there, the 48" tile runs easterly, south of the existing building on the current Apostolic Faith Church, Inc. parcel a distance of 40-LF to a new Manhole Str. 103; then 53-LF to a new Manhole Str.102; and then 191-LF to a new Manhole Str.101. This alignment will allow the portion of the existing 122-feet of 24" tile under the building on the current Apostolic Faith Church, Inc. parcel to be grouted full and abandoned (vacated) in place. The portion of the drain to be abandoned is that section between Stations 31+60 and Sta. 32+82 of the 1920 description of the William Krause Drain. At Sta. 32+82 Structure 107 will be placed as shown on Sheet C301 of the Banning plans.

At the new manhole, Structure 101, the drain turns north and runs 25-LF to an end section, Structure 100 where the drain discharges to the new open ditch. This segment consists of 25-LF of 54" RCP. At Structure 100 an 8' section of 36" RCP will be stubbed, Structure 101, to the south to accommodate storm water from a future phase of the project.

Once outletted on the current Phyllis A, Fox, Cynthia L Ogle and Frederick L. Fox Jr. property, the Main Arm will be reconstructed as a two stage open drain running along the west and north property lines of the property a distance of 2,312-LF to the existing headwall at the start of the George Symonds Drain. The open drain will be located to accommodate the footprint of the future regional detention facility on the Fox property. The portion of the existing 24" tile (318 feet) from the Apostolic Faith Church, Inc. parcel at Sta. 32+82 of the 1920 Krause description (Structure 107) will remain in place as regulated drain and will discharge to the new open drain at Sta. 36+00 of the 1920 Krause description. 59-Lf of the existing 24" tile will be removed when the new open drain is constructed (Sta. 36+00 to Sta. 36+59 of the 1920 description). The existing 24-inch tile that runs northeasterly across the Fox property east of the new open drain will remain a regulated drain and will discharge where the new open drain discharges to the George Symonds Drain. This is that portion of the 1920 Krause Drain between Sta. 36+59 to Sta. 53+15.

The slope of the two stage ditch is 0.15% with a shelf 1-foot from the ditch bottom. The two stage ditch will have a 4-foot bottom with two 4-foot shelves. At the curves in the two-stage ditch, the shelves are widened to 6-feet for a distance of 243-feet. The proposed two stage ditch and pipes are sized for the runoff from the 100-year critical duration series per the 2013 Hydraulic Study. The lower section of the new open ditch will be expanded into the proposed detention facility in a future phase.

This project is consistent with the February 2013 study completed for the William Krause and George Symonds Drains by Banning Engineering.

181 LF will be eliminated from the existing drain as outlined bellows:

1. 122-LF of the existing 24" tile installed in 1920 between Stations 31+58 and 32+80 will be grouted full and abandoned in place under the existing building on the current Apostolic Faith Church, Inc. parcel.
2. 59-LF of the existing 24" tile installed in 1920 between Stations 36+00 and 36+59 will be removed when the new open drain is constructed.

110-LF of the existing drain will be replaced with 108-LF of new drain as outlined below.

1. 110-LF of the existing 24" tile installed in 1920 tile between Stations 30+50 and 31+60 will be replaced with 36-Lf of 38"x60" elliptical RCP and 72-LF of 48" RCP.

2,629-LF will be added to the drain as outlined below.

1. 8-LF of 36" RCP
2. 40-LF of 48" RCP
3. 53-LF of 48" RCP
4. 191-LF of 48" RCP
5. 25-LF of 54" RCP
6. 2,312-LF of open drain

This project will add approximately 134-LF of tile and 2,312-LF of open drain.

A regulated drain easement is needed over the new tile and along the new open drain and will run on the following parcels:

1. Parcel # 02-01-32-03-05-019.000 and parcel 02-01-32-03-05-017.000. Apostolic Faith Church Inc.
2. Parcel # 01-01-32-00-00-021.000. Fox, Phyllis A, Cynthia L Ogle & Frederick L Fox Jr jt/rs

Over the new tile, the easement will be 30 feet in width (centered on the proposed tile). The Surveyor is of the opinion that a 30-foot width easement is adequate for future maintenance of this tile. Over the new open drain, the easement will include the width between the tops-of-bank and 75-feet from each top of bank.

The estimated cost of the project is as follows:

First Project					
Item No.	Description	Quantity	Unit	Unit Price	Total Amount
1	Two Stage Ditch Section "A"	2069	LFT	\$35.00	\$ 72,415.00
2	Two Stage Ditch Section "B"	243	LFT	\$45.00	\$ 10,935.00
3	Bulkheads and Breathers	3	EA	\$4,725.00	\$14,175.00
4	Grout and Fill Existing Pipe	14	CY	\$275.00	\$3,850.00
6	Rip-Rap Splash Pads	4	EA	\$200.00	\$800.00
7	36" RCP with Granular Backfill	8	LFT	\$80.00	\$640.00
8	48" RCP with Granular Backfill	228	LFT	\$140.00	\$31,920.00
9	48" RCP with Common Backfill	128	LFT	\$105.00	\$ 13,440.00
10	54" RCP with Common Backfill	25	LFT	\$120.00	\$3,000.00
11	54" RCP End Section	1	EA	\$3,500.00	\$3,500.00
12	48" Manhole with Casting	1	EA	\$3,000.00	\$ 3,000.00
13	72" Manhole with Casting	2	EA	\$6,000.00	\$ 12,000.00
14	84" Manhole with Casting	1	EA	\$6,750.00	\$ 6,750.00
15	96" Manhole with Casting	1	EA	\$7,500.00	\$ 7,500.00
16	24" X 24" Inlet with Casting	3	EA	\$2,000.00	\$6,000.00
17	24" Outlet	2	EA	\$4,725.00	\$9,450.00
18	10" Outlet	1	EA	\$2,250.00	\$2,250.00
19	Erosion Control Blanket	8762	SYS	\$2.50	\$21,905.00
20	Temporary Seeding	8.51	ACRE	\$1,500.00	\$12,765.00
21	Permanent Seeding	8.60	ACRE	\$2,500.00	\$21,500.00
22	Silt Fence	1490	LFT	\$2.00	\$2,980.00
23	Check Dam	1	LS	\$1,500.00	\$1,500.00
24	Construction Entrance	1	LS	\$3,000.00	\$3,000.00
25	Rip-Rap (Loose)	20	TONS	\$80.00	\$1,600.00
26	Traffic Control	1	LS	\$5,000.00	\$5,000.00
27	96" Manhole with Casting/INDOT	2	EA	\$10,000.00	\$20,000.00
28	38"x60" Elliptical Pipe	36	LFT	\$800.00	\$28,800.00
29	1.5" Surface; 4" Base; 9" Concrete' 6" Compacted #53 stone	1	LS	\$15,000.00	\$15,000.00
30	Concrete Cradle	1	EA	\$500.00	\$500.00
31	Sidewalk Repair	1	LS	\$1,750.00	\$1,750.00
32	Construction Engineering	1	LS	\$9,500.00	\$9,500.00
SUB TOTAL					\$347,425.00
15% Contingency					\$52,113.75
SUBTOTAL Construction					\$399,538.75
Professional Services [Engineering, Surveying, Geotechnical, Acquisition, Grant Preparation, Construction Staking, Construction Inspection, As-Built Documents]					\$161,843.13
GRAND TOTAL					\$561,381.88

The above cost estimate does not include the easements required on the Fox and Apostolic Church properties. The costs of the easements once obtained will become part of the cost of the overall project.

This project will be funded by the Town of Sheridan through a grant from the USDA.

The County has existing contracts for professional services for this project. These costs include the following:

1. Engineering Services: \$80,000.00
2. Fox Property Survey: \$13,050.00
3. Grant Application Assistance: \$11,576.25
4. Geotechnical investigation: \$9,206.88
5. Land Acquisition Professional Services: \$3,850.00
6. Court ordered appraisals on Fox property: \$7,500.00
7. Mendenhall Grant Administrations: \$8,000.00
8. Agricon, Inc. for exploratory excavations: \$1,160.00.

The County will incur the following costs for professional services for this project:

1. Construction Staking: \$7,500.00
2. Construction Inspection: \$20,000.00

The County will bid this project and administer the construction contract. The mechanism for reimbursement from the USDA Grant for the cost of construction and for professional services is being finalized. The portion of the project within the right of way for State Road 38 will be paid by INDOT as per IC-36-9-27-71. This is the portion between and including Structures 105 and 106. The cost for this work is estimated at \$92,632.50.

A new easement will be required across the property of the Apostolic Faith Church, Inc. This is for the new relocated tile described above downstream of Str. 104. Over the new tile, the easement will be 30-feet in width (centered on the proposed tile). The Surveyor is of the opinion that a 30-foot width easement is adequate for future maintenance of this tile and is allowed under IC 36-9-27-33(e). This easement has yet to be obtained.

The easement for the new open drain, across the Fox property is currently in litigation in the Hamilton County Circuit Court under Cause No. 29C01-1603-PL-002246. At this time the Report of Appraisers has been filed with the court and it is anticipated that the matter will be resolved prior to construction.

A permit is required from the Indiana Department of Transportation to install the pipe under State Road 38.

Parcels benefitted by this drain are currently assessed for the William Krause Drain. Therefore no changes in the current assessment shall be required.

I believe no damages will result to the landowners. Damages are set at zero (0).

I recommend that the Board set a hearing for this proposal for June 26, 2017.

Sincerely,

Kenton C. Ward, CFM
Hamilton County Surveyor's Office

KCW/pll

Wm. Krause, Reconstruction Phase I

USDA Grant-Phase I

*Project to be funded by Town of Sheridan thru a grant from USDA. No change in current maintenance assessment. Damages are set at zero. The County will bid & administer the construction contract. Cost estimate is \$561,381.88 (Doesn't include cost of easement; will be added to overall cost once obtained.)

There will be 317' of new tile & 2,312' of new open drain.

The footage will be reduced by 2' when the 110' of tile between Sta 30+50 to 31+60 is replaced with 108'.

The 122' of tile between Sta 31+58 to 32+80 will be vacated.

The 59' of tile between Sta 36+00 to 36+59 will be vacated.

The project will add 134' of tile & 2,312' of open drain to the overall footage.

Hearing: 06/26/17

Parcel 02-01-32-03-05-019.000 Owner Apostolic Faith Church

02-01-32-03-05-017.000 Apostolic Faith Church

01-01-32-00-00-021.000 Fox, Phyllis & Cynthia Ogle & Frederick Fox Jr.

99-99-99-99-999.009 Town Of Sheridan

**The mechanism for reimbursement from the USDA grant for construction & professional services is being finalized.

99-99-99-99-999.002 Indiana Department Of Transportation

***The portion of the project between & including structures 105 & 106 within the SR38 right-of-way will be paid by INDOT per IC 35-9-27-71. Cost estimate is \$92,632.50.

Cost Estimate for INDOT portion

Traffic Control	\$5,000.00
96" manhole w/casting	\$20,000.00
38" x 60" Elliptical Pipe	\$28,800.00
1.5" surface; 4" base; 9" concrete 6" compacted #53 stone	\$15,000.00
Concrete cradle	\$500.00
Sidewalk repair	\$1,750.00
Construction Engineering	\$9,500.00
Sub-total:	\$80,550.00
15% Contingencies:	\$12,082.50
INDOT Total:	\$92,632.50

	Maintenance	Reconstruction	
*	Assessment	Assessment	Percent
*	*	*	*

Description
S32 T20 R3 1.00 Ac

S32 T20 R3 0.22 Ac

S32 T20 R3 72.15 Ac

S32 T20 R3 USDA Funds

S32 T20 R3 SR38

*	*	**	*
*	*	***	*

DUNK
WILLIAM KRAUSE
IN THE MATTER OF THE THORPE CREEK DRAIN
HAMILTON COUNTY DRAINAGE BOARD

FILED
DEC 15 2016
OFFICE OF HAMILTON COUNTY SURVEYOR

Come now the Town Council of the Town of Sheridan, Indiana who petition the Hamilton County

Drainage Board as follows:

1. They are the duly elected Town Council of the Town of Sheridan, Indiana.
2. That in that capacity they are responsible for the drainage of public streets.
3. That they now desire that the William Krause regulated drain be reconstructed in Adams Township which involves 4th, 5th, 6th and 7th Streets and various other streets within the Town and various areas surrounding these streets in the drainage shed.
4. The names and address of each owner affected by the proposed public drainage are attached hereto, made a part hereof, and marked Exhibit "A", which area of land involved in the proposed drainage area is located in Section 32, Township 20 north, Range 3 east, Hamilton County, Indiana.
5. No other public lands or owners are located in the area which would affect improvement.
6. That the general route of the proposed drain is the construction of a regional detention facility between Stations 35+00 and 53+15 of the original William Krause Drain.
7. That in the opinion of the Petitioner, the costs, damages, and expenses of the proposed improvement will be less than the benefits which will result to the owners of the land to be benefited thereby.
8. That in the opinion of the Petitioner, the proposed improvement will benefit a public highway in the Town of Sheridan, Hamilton County, Indiana.
9. That the name of the attorney representing Petitioner in the drainage petition is Chou-il Lee, One Indiana Square, Suite 3500, Indianapolis, Indiana.
10. That Petitioners shall pay the cost of notice and all legal costs if the Petition is dismissed.
11. Petitioner shall post a bond, if required, to pay the cost of notice and all legal costs in the case the improvement is not established.

Town Council, Sheridan,
Hamilton County, Indiana

BY: [Signature]
David Kinkead, President

BY: [Signature]
Member

BY: [Signature]
Member

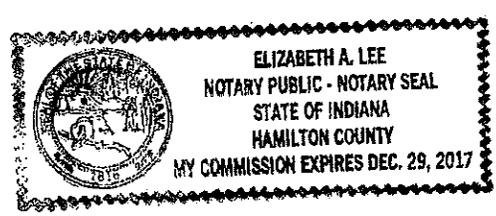
BY: [Signature]
Member

BY: [Signature]
Member

Attest:

[Signature]
Elizabeth A. Walden/Clerk -- Treasurer of Sheridan, Indiana

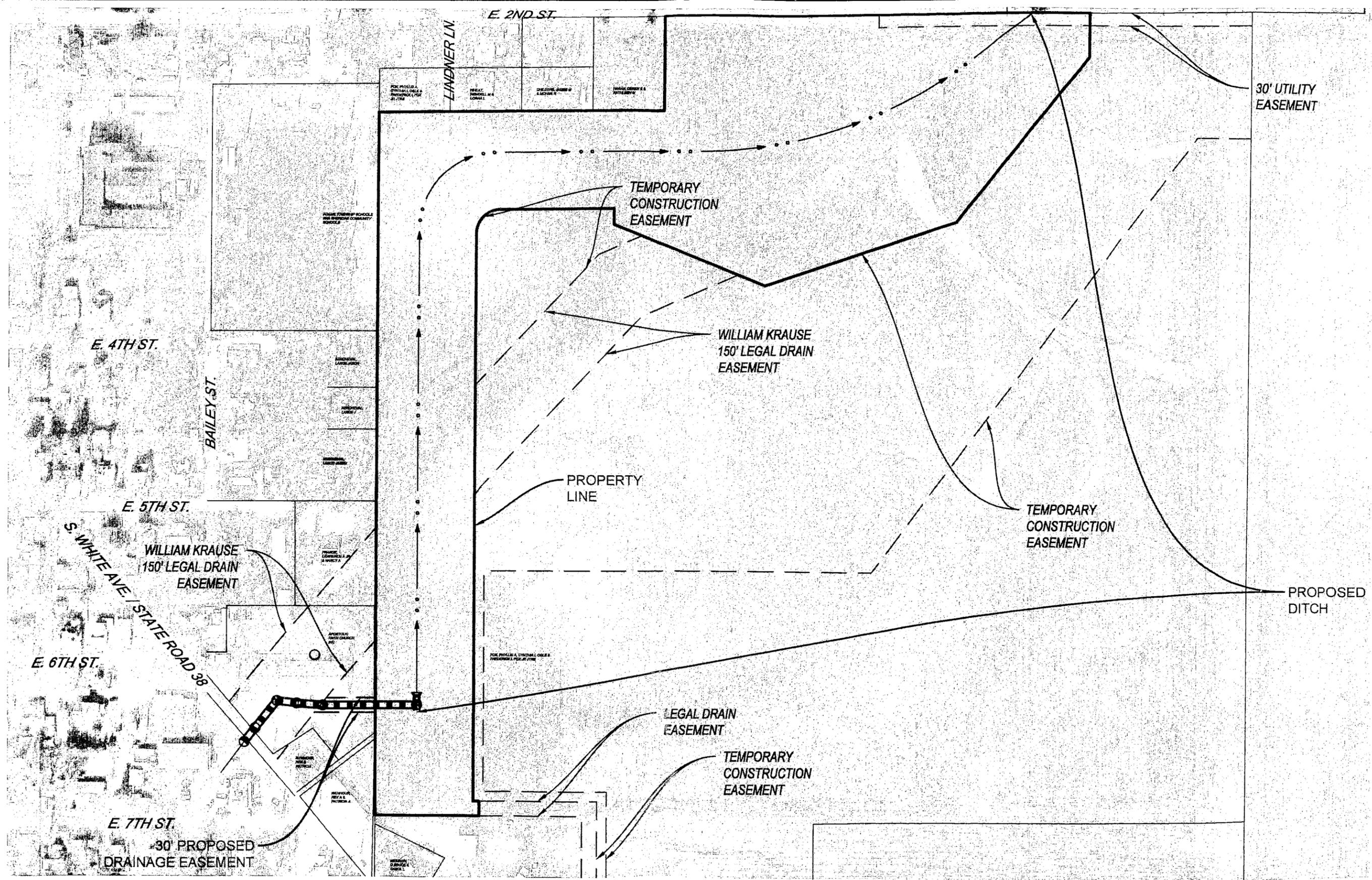
STATE OF INDIANA)
) SS:
COUNTY OF HAMILTON)



Subscribed and sworn to before me, A Notary Public this 8 day of December 2016.

[Signature]
Notary Public of Hamilton County

My Commission Expires:
12-29-2017



SITE MAP

