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February 8, 2017

To: Hamilton County Drainage Board

Re: William Knight Drain, Marcum Arm

Attached is a drain map and the original petition filed by Doris Marcum for an Arm to the William Knight Regulated Drain located in Washington Township, Section 11, Township 18 North, Range 3 East.

History

The original petition was presented to the Board on February 10, 2014 (see Hamilton County Drainage Board Minutes Book 15, Pages 342-244) to regulate an existing 10 inch diameter private drain tile which connects to the William Knight Regulated Drain. At that meeting it was stated that the existing 10-inch tile was clay material and 358-feet in length on Parcel #08-09-11-00-00-021.000 owned by Doris M. Marcum, 203 E. 161st Street, Westfield, IN 46074, located in Washington Township, Section 11, Township 18 North, Range 3 East.

A public hearing for the petition was held on April 28, 2014. A report from the Hamilton County Surveyor was presented at this meeting. There was discussion concerning the petition and the item was tabled to the next Board meeting on May 12, 2014 (see Hamilton County Drainage Board Minutes Book 15, Pages 398-401).

There was further discussion concerning the petition at the May 12, 2014 Board meeting and the item was tabled to a future date (see Hamilton County Drainage Board Minutes Book 15, Page 408).

At the Board meeting on November 10, 2014, a report by the Hamilton County Surveyor dated November 3, 2014 was presented to the Board. The report indicates, among other things, (1) that the area is experiencing increased precipitation amounts as well as increased rainfall intensities; (2) that the development to the north of 161st Street has managed the runoff and lowered the peak flow draining through the Marcum property; (3) that a surface swale along the west property line would be more costly than replacing the existing pipe; and (4) that it is likely that the age of the 10-inch tile and the increases in precipitation amounts has led to the deteriorating condition of the tile. The item was tabled to a future date. (see Hamilton County Drainage Board Minutes Book 16, Pages 2-6).

On November 14, 2014, the Hamilton County Surveyor met with representatives of the City of Westfield to discuss the possibility of cost sharing for the construction of a drainage outlet for future improvements to 161st Street across the Marcum property.

At the Board meeting on January 12, 2015, the matter was discussed and road drainage issues within the right-of-way of 161st Street were identified and the original petition was approved (see Hamilton County Drainage Board Minutes Book 16, Pages 78-79).

The Hamilton County Surveyor and several members of his staff met with representatives of the City of Westfield to discuss the project on March 22, 2016. The Surveyor was to provide to the City the topographic survey information from a recent survey completed by the Surveyor for use in establishing a top of casting elevation within the 161st Street right-of-way for drainage of future roadway improvements. This meeting was summarized for the Board at the meeting on March 28, 2016 (see Hamilton County Drainage Board Minutes Book 16, Page 504).

On April 26, 2016, the Hamilton County Surveyor received via email from Phil Sunderling, Project Manager for the City of Westfield, an electronic copy of a letter dated April 20, 2106 from Mayor J. Andrew Cook, Mayor of the City of Westfield to Kenton C. Ward, Surveyor that outlined the commitment of the City of Westfield to provide the 50% share in cost for the project and indicating that the project will provide an immediate solution to the issues being experienced on the Marcum property as well as providing a positive outlet to convey standing water from 161st Street that has been an issue for many years.

A progress update on this project was provided to the Board on May 9, 2016. It was agreed that the project has become more than a private drain petition. Westfield will drain the future road improvements to this area and will need an outlet. It was also stated that Westfield has agreed to pay half the cost of the project (see Hamilton County Drainage Board Minutes Book 15, Page 554).

Existing Tile

The age of the existing, private 10" clay private tile is not known. The tile discharged to the William Knight Regulated Drain at the former Station 13+77. The tile was intercepted at a new structure (Structure 112) that was constructed with the recent William Knight Reconstruction project. The tile runs from Structure 112 to the north/northwest approximately 360 feet to the west property line of parcel #08-09-11-00-00-021.000. There are several holes in the soil above the existing tile on the Marcum property. There are two complaints on file for this tile: The first on May 13, 2009 from Doris Marcum and the second on August 19, 2013 from Doris Marcum.

Project Summary

The project includes the installation of 552.75-LF of 18" HDPE Pipe and two 48" manholes. The new tile will be connected to the new structure installed with the recent William Knight Reconstruction project (Structure 112). From this structure, the first 215-LF follows the alignment of the existing 10-inch tile to the north/northwest. The tile then continues an additional 69.03-LF off of the alignment of the existing tile to Structure 113 where the tile turns north, parallel to the property line, a distance of 268.72-LF to Structure 114 at the south right-of-way of 161st Street. The existing tile continues to the west off of the Marcum property approximately 72-LF north of Structure 113. The existing tile will be connected to the new tile at this location. The design of the new tile system allows for future movement of the tile to the west and south property lines while maintaining a reasonable slope in the tile in the event that the tile is moved as the property is developed.

No part of the existing tile will become a part of the regulated drain system. The tile on the Marcum property that will be part of the regulated drain will be new tile.

Easement

A Regulated Drain easement is needed over the new tile and will need to be recorded. The new easement will be 30-feet in width (centered on the proposed tile) and run solely on Parcel #08-09-11-00-00-021.000. The Surveyor is of the opinion that a 30-foot width easement is adequate for future maintenance of this tile. Ms. Marcum has already indicated verbally that they would be willing to dedicate such easement at no cost to the County. A meeting has been scheduled with Ms. Marcum on February 9, 2017 to execute the easement.

Permits

No permits are required for this project. The Surveyor will confirm if approval of the construction entrance from 161st Street is required from the City of Westfield.

Project Cost

The estimated cost of the project is itemized below. Survey, Design and Construction Plan production was completed by staff from the Hamilton County Surveyor's Office. Construction staking and development of As-Built drawings of the completed project will be completed by the Hamilton County Surveyor's Office. As such, there are no costs for these services in the itemized project cost below.

<i>Line Item</i>	<i>Quantity</i>	<i>Unit</i>	<i>Unit Cost</i>	<i>Total Cost</i>
12" HDPE (0-5' Deep)	15	LF	\$17.75	\$266.25
18" HDPE (0-5' Deep)	552.75	LF	\$26.88	\$14,857.92
48" Manholes	2	EA	\$3,600.00	\$7,200.00
Castings	2	EA	\$400.00	\$800.00
Tree Removal	4	EA	\$1,250.00	\$5,000.00
Disposal of Excess Soil Material	180	CY	\$20.00	\$3,600.00
Erosion Control	1	LS	\$1,620.00	\$1,620.00
Clearing (14,000-SF)	1	LS	\$1,500.00	\$1,500.00
Shaping New Berm	1	LS	\$1,000.00	\$1,000.00
Wye Tile Connection	2	EA	\$500.00	\$1,000.00
Existing Tile Removal and backfill	132	LF	\$5.00	\$660.00
5" clay tile connection	1	EA	\$250.00	\$250.00
Swale grading	553	LF	\$3.00	\$1,659.00
Fence Repair	1	EA	\$2,725.00	\$2,725.00
Seeding with Watering (0.3-acres)	1	LS	\$2,500.00	\$2,500.00
			Subtotal	\$44,638.17
			15% Contingency	\$6,695.73
			Engineering	\$-
			Survey	\$-
			Construction Staking	\$-
			As-Builts	\$-
			Total Cost	\$51,333.90

Project Funding

Per a letter from Mayor Andy Cook dated April 20, 2016, the City of Westfield has agreed to pay for 50% of the cost of the project, which is equal to \$25,666.95. In the opinion of the Hamilton County Surveyor, the maintenance fund balance for the Cool Creek Drain (#345) exceeds the amount reasonably needed for maintenance within the watershed in the foreseeable future. Therefore, the Surveyor recommends that a portion of this balance be transferred to this reconstruction project. The maintenance fund transfer is as outlined in IC 36-9-27-45.5. The current maintenance fund balance for the Cool Creek Drain is \$1,332,932.58 and up to \$25,666.95 will be transferred for this project.

Changes to the Drain

The project will be known as the Marcum Arm to the William Knight Drain and will be 552.75-feet in length and will increase the length of the William Knight Drain by 552.75-feet.

Maintenance of Drain

The Surveyor also believes that the proposed drain meets the requirements for Urban Drain Classification as set out in IC 36-9-27-67 to 69. Therefore, this drain shall be designated as an Urban Drain.

Benefitted Parcels

Parcels benefitted by this drain are currently assessed for the Cool Creek 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).

The following tracts are affected by the proposed arm:

Parcel	Owner
08-09-11-00-00-021.000	Marcum, Doris M
08-09-11-00-00-020.000	Ferraro, Joseph P. and Georgia A.
161 st Street R/W	City of Westfield, Indiana

The project will (1) provide an outlet for the drainage system of the future improvements to 161st Street; (2) intercept storm water runoff that drains from north to south under 161st Street; (3) will resolve an issue of standing water on the north side of 161st Street due to the 161st Street culvert being submerged on the south side of 161st Street; and (4) will resolve the issues being experienced by Ms. Marcum.

I recommend that the Board set a hearing for this proposal for March 27, 2017.

Sincerely,



Gary R. Duncan, Jr., P.E.
Hamilton County Surveyor's Office

