Final Hearing Report
James Joint County Watershed
Drainage Petition per Ohio Revised Code Sec. 6133
January 15, 2025

This report has been prepared for the preliminary hearing on a drainage improvement petition filed by Joseph Isler on June 7, 2024. The original petition has been signed by 1 individual representing 2 of the 10 parcels in the watershed.
The general location and course of the requested improvements are quoted from the petition as follows:

> *In Delaware County, Marlboro Township and Marion County, Waldo Township, within the James Joint County watershed and generally following, but not limited to, the course and termini of existing improvements.*

The following is the nature of the work petitioned:

> *To generally improve the drainage, both surface and subsurface, to a good and sufficient outlet, by replacing, repairing, or altering the existing improvements as required and/or creating new surface and subsurface drainage mains or laterals, as requested, by this petition.*

Petition Process

This petition has been submitted according to section 6133 of the Ohio Revised Code, which authorizes a Joint Board of County Commissioners to act on behalf of benefited property owners to make drainage improvements as requested by the petitioners. Should the Joint Board find in favor of the petition, the existing subsurface drain pipe will be placed on the Delaware County Drainage Maintenance program in perpetuity per section 6137 of The Ohio Revised Code. The special maintenance assessments that follow this action would appear on each property's tax duplicate semi-annually. The cost of maintenance would average 2% to 5% annually of the current value of the infrastructure with the costs being shared by the benefitting properties within the watershed.

The decision to approve a petition project is a 3-step process. First, a viewing of the proposed drainage petition is conducted for the Commissioners to familiarize themselves with the site. The commissioners conducted the viewing for this project by drone video on September 9, 2024. Next, a preliminary hearing is held to consider the initial feasibility and benefit of the request. This hearing was held November 25, 2024. At this first hearing, the Commissioners found in favor of the petition. They requested the Delaware County Engineer, Delaware Soil and Water Conservation District, and Marion County Engineer to proceed with the detailed inspection and assessment of the overall drainage system, the development of engineering

plans and specifications, and the development of the schedule of assessments. It is this information that is before the Joint Board of Commissioners at this second and final hearing.

Existing Conditions

The Delaware Soil and Water Conservation District performed an inventory and evaluation of the existing storm water drainage system. The system generally appears to have been installed and is functioning per the available engineering plans. A CCTV inspection of the existing subsurface drain pipe showed it to be in good condition and functional. There were no items identified requiring immediate repair or maintenance work. It is recommended to accept the existing subsurface drain pipe onto the Drainage Maintenance program in its existing condition.

The surface drainage path has been surveyed and evaluated. It does not appear the future development plans in the watershed will have an adverse effect on the surface drainage capacity.

Estimate of Current Value

The current replacement value of the infrastructure recommended to be placed on Drainage Maintenance is $31,646.14.

Calculation of Maintenance Base

The Ohio Revised Code instructs the County Engineer to calculate the assessments to individual property owners based on the benefits received from the improvements for the various properties in the watershed. The ORC further defines benefited land as:

> *"Lands that have been removed from their natural state by deforestation, cultivation, artificial drainage, urban development, or other manmade causes shall be considered as benefited by an improvement required to dispose of the accelerated flow of water from the uplands."*

While there are no proposed construction assessments for this project, the Schedule of Maintenance Base has been calculated using the same formula as is used for assessments, a rationale that is widely used throughout the state of Ohio.

(Acres Benefited) **X** (Land Use Factor) **X** (Percent of Improvement Used) **X** (Remote Factor) = (Individual Parcel Base Factor)

Each parcel's base is then determined by:

(Individual Parcel Base Factor) **/** (Total of all Individual Base Factors) **X** (Total Estimate of Current Value) = (Parcel Maintenance Base)

Explanation of Factors:

- **Acres Benefited**
  Total number of acres within a given parcel that contribute drainage to the improvement.
- **Land Use Factor**
  The relative benefit to parcels of drainage based on the amount of increased storm water runoff resulting from the land use of the parcel.
- **Percent of Improvement Used**
  The point at which drainage from a given parcel enters the improvement. Parcels are only assessed for the portion of the improvement that lies downstream of the parcel.
- **Remote Factor**
  The remote factor is based upon a parcel's distance from the improved section of the drainage course, and is typically established in ½ mile increments. Parcels that are most "remote" from the actual improvement receive the greatest reduction on their assessment.

Benefits vs Cost

One of the primary factors set forth for consideration in the approval or dismissal of a petition request is the actual benefit of the proposed improvements to the watershed in question. The following analysis examines this factor from the standpoint of land productivity for the agricultural acres as well as the value of drainage to residential parcels.

A publication by The Ohio State University Extension titled "Returns to Farm Drainage" details several studies, conducted by Ohio State researchers, on the effects of drainage on crop yields. The studies show that fields with good drainage will produce higher yields than fields that have poor drainage. A recently completed 25-year study showed that subsurface drainage increased corn yields by 24%-39%, and increased soybean yields by 13%-46%. This produces average yield increases of 31% and 29% respectively. The benefits of drainage will thus equal this increased yield multiplied by the market price.

Overall, approximately 97 acres of the 104-acre watershed is agricultural land. The 2024 through 2020 average market price for corn and soybeans in Ohio, as reported by the USDA National Agricultural Statistics Service is $5.16 per bushel for corn and $12.73 per bushel for soybeans. The average estimated yield increases for the soil types present in the watershed, given appropriate drainage improvements are in place, equal 46 bushels per acre for corn and 14 bushels per acre for soybeans.

For this example, we will assume that cropland acres are distributed equally between corn and soybeans.

- 97 acres of agricultural land
- Corn:
  (46 bushels per acre increase in yield) X ($5.16 per bushel) X (97 acres) = $23,023.92 increase annually.
- Soybeans:
- (14 bushels per acre increase in yield) X ($12.73 per bushel) X (97 acres) = $17,287.34 increase annually.
- Average Annual Benefit = $20,155.63
- Potential 20-year return = $403,112.60

While this example does not take into consideration individual farm management practices, it does illustrate the fact that good agricultural drainage is a key factor in farm profitability and would reflect positively when considering a cost/benefit analysis for the watershed. It is also reasonable to view potential annual benefits as potential losses should the existing drainage system fail to be maintained and cease to function as a good and sufficient outlet.

The increased value or benefit for residential parcels is typically found in two ways: the increased marketability of the home and functionality of the homesite sewage treatment system and associated drainage needs. An inadequate subsurface drainage outlet can dramatically deteriorate the condition of household sewage treatment systems potentially limiting the value of the home for resale. Locally, the cost to construct an alternate sewage treatment system, should the existing system fail, ranges from $15,000 to $25,000 on average. Other benefits that are commonly perceived as a result of rural drainage improvements focus on quality of life and positive neighborhood perception. Watersheds that have planned and maintained drainage infrastructures generally have higher resale values than those communities that are known to have a history of drainage problems.

For roadway drainage, the lack of an adequate drainage outlet can lead to standing water on the roadway surface resulting in traffic safety hazards as well as degradation of the roadway base and increased maintenance of the roadway surface.

Recommendations

Based on all the information gathered for this petition request, we believe the project should proceed. It is our opinion that the project is necessary, would be conducive to the public welfare, and that the benefits of the proposed petition exceed the estimated maintenance costs; however, the testimony of the landowners brought to the Joint Board of Commissioners should be given significant consideration in the decision to move forward with this project.

Should the Joint Board of Commissioners choose to move forward with this project and affirm the order to proceed, we would request a separate resolution that the James Joint County subsurface drain be accepted into the Delaware County Drainage Maintenance Program per the associated engineering plan, and that the schedule of maintenance base be approved and confirmed as submitted. It is also requested that a 5% collection rate be certified to the Delaware County Auditor for special assessments for the James Joint County project to begin in January 2026.

If the Board of Commissioners chooses to dismiss the petition, I would recommend a resolution reflecting that decision and that the costs for the proceedings, including the costs incurred by the Joint Board of Commissioners, the County Engineers, and the Delaware Soil and Water Conservation District in making the reports and schedules be distributed to the benefiting property owners in the same ratio as determined in the final schedule of maintenance base as presented at this hearing.

Approved by,

Chris Bauserman, P.E., P.S.
Delaware County Engineer

Approved by,

Bradley K. Irons, P.E., P.S.
Marion County Engineer

Prepared by,

Bret Bacon
Deputy Administrator
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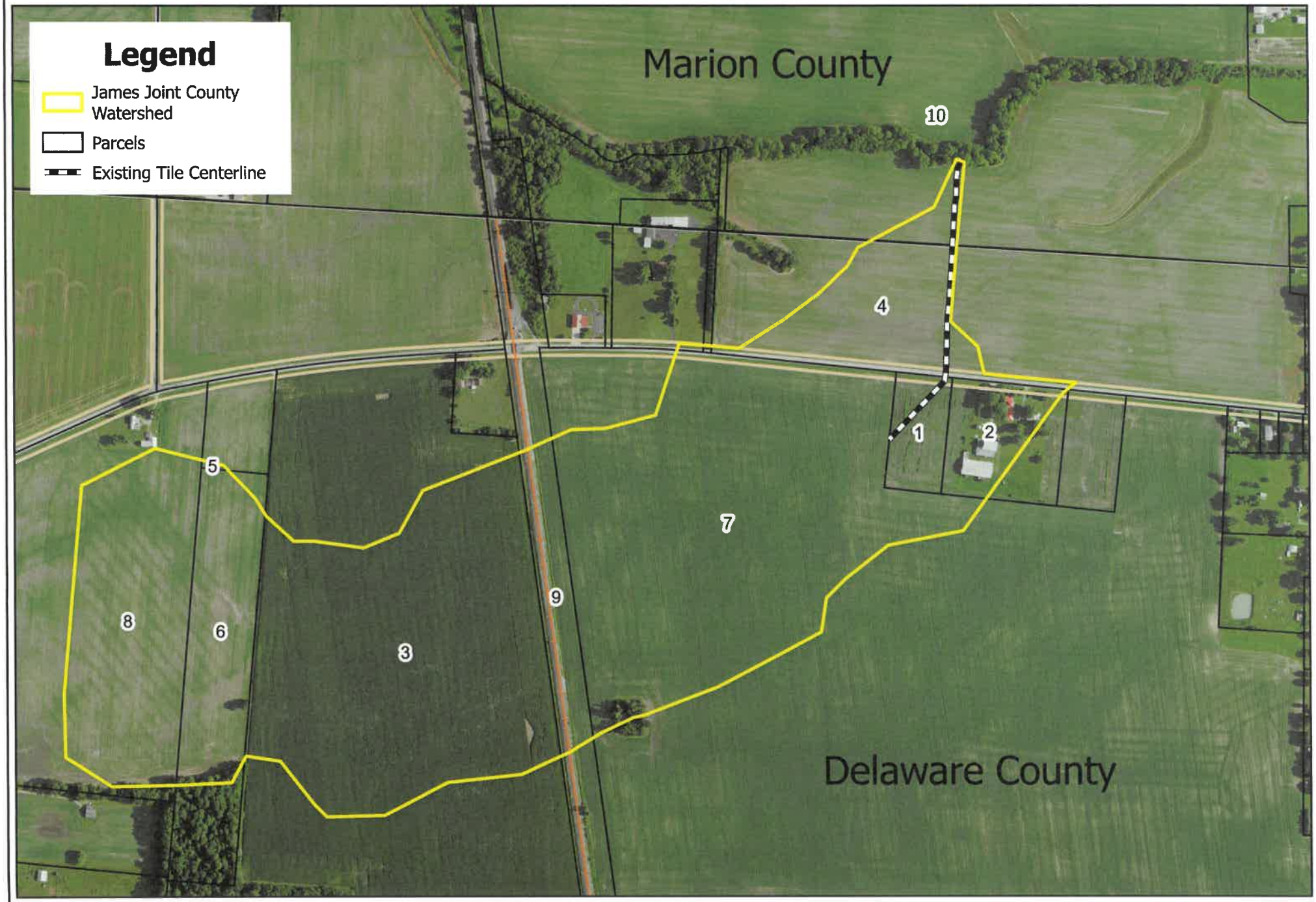
1/15/2025

JAMES JOINT COUNTY DRAINAGE IMPROVEMENT PETITION

Photo: 2023 Delaware



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Note: The Delaware SWCD makes no guarantee or warranty as to the accuracy of the information on this map.