First Hearing Report
Gorsuch Joint County Watershed
Drainage Petition per O.R.C. 6131
February 4, 2019

This report has been prepared for the preliminary hearing on a drainage improvement petition filed by the Harlem Township Trustees and others on August 21, 2018. The petition has been signed by representatives of 10 of the 73 parcels in the watershed.

The general location and course of the requested improvements is quoted from the petition as follows:

> *"In Delaware County, Harlem Township, within the Gorsuch Joint County #588 watershed following from and including the crossing of Montgomery Road, but not limited to the course and termini of the existing improvement at the Ford, Cook Joint County #46."*

The following is the nature of the work petitioned, as quoted from the petition:

> *"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."*

The petition was amended based on a request by Linda Allaby, 16277 Montgomery Road, received on January 2, 2019, and two further requests by Jefferey Smithberger, 16081 Montgomery Road, and Thelma Evans, 2242 S. Countyline Road, received on January 11, 2019. The amendment requests are to provide these parcels *"with a good and sufficient outlet for both surface and subsurface drainage."* The Joint Board accepted these requests for amendment on February 4, 2019.

Petition Process

This petition has been submitted according to Section 6133 of the Ohio Revised Code (O.R.C.), which authorizes The Joint Board of Commissioners to act on behalf of benefited property owners to make drainage improvements. If the Joint Board of Commissioners decides to proceed with a project, the costs related to the improvements and the development of plans, reports and schedules are assessed to the landowners in the watershed according to the benefit received to their watershed acreage. These special assessments will be added to the property taxes for each property and can be spread over a maximum of an 8-year period. Property owners may also choose to pay their assessment in a lump sum payment prior to placement on their property taxes. Additionally, the improvements will be placed on the Delaware County drainage maintenance program in perpetuity, per O.R.C. Section 6137, and the annual

maintenance assessment will appear on property tax statements as a special assessment in the same manner as the construction assessments. These annual maintenance assessments are generally in the range of two to three percent of the construction assessment.

It should be noted that property owners are only assessed for those improvements that are located downstream from their properties. No property is assessed for improvements located upstream. The public agencies that own rights of way for public roads and other public lands are also assessed for both construction and maintenance costs in the same manner as private property owners.

The decision to approve a petition project is a 3-step process. First, a viewing of the proposed improvement is conducted for the Joint Board to familiarize themselves with the watershed and general conditions. The Joint Board conducted the viewing for this project on November 5, 2018. Next, a preliminary hearing is held to consider the initial feasibility of the proposal. It is this preliminary First Hearing that is before us today. If this petition is approved, a final hearing will be conducted to further consider this petition. At that time, final details such as engineering plans and specifications, cost estimates, and a proposed schedule of assessments will be known.

Existing Conditions

The Delaware Soil & Water Conservation District, Delaware County Engineer's Office, and Licking County Engineer's Office have made the following observations of the watershed using onsite evaluation, and a review of available aerial photography, topographic mapping, and soils mapping.

The Gorsuch Joint County #588 watershed is approximately 449 acres. The predominant land uses within the watershed are agricultural and rural residential. There are 47 rural residential properties in the watershed.

The original improvements to the watershed were constructed in 1928. These improvements consisted of open channel construction and subsurface drain installation.

The drainage system does not appear to be functioning at or near optimum capacity due to a lack of comprehensive maintenance and the generally deteriorated condition of the infrastructure. The open channel also has a large amount of brush and debris on the banks and in the channel thus restricting flow. Numerous blowouts have been observed in the subsurface drainage system, and there is an absence of uniform surface grading that has resulted in areas of surface ponding. Additionally, the culvert under Montgomery Road lacks an adequate surface outlet.

In the area of the amendment requests, water is frequently ponded both outside and within the road right-of-way. There appears to be a lack of an adequate surface drainage outlet for this area, and the subsurface drainage system does not appear to functioning at full capacity.

These conditions are indicators of an aged, overburdened, and unmaintained drainage infrastructure. While the existing drainage system still provides some degree of drainage benefit, it does not appear to function as a good and sufficient outlet.

Estimate of Cost, Factors Favorable/Unfavorable, Benefit vs Cost

O.R.C. 6133 requires the County Engineers to state in a report factors favorable and unfavorable to a proposed project, estimate the cost of the project, and state an opinion as to whether the benefits of the project exceed the cost. The following information is presented for your consideration:

Construction Scope & Estimate

Project Scope

The project has been separated into two parts, Main and Lateral A, to more accurately reflect the areas of work and associated costs. The "Main" portion would begin at the junction of the Gorsuch Joint County watershed with the Cook Joint County Drainage Maintenance project #5801 and terminate at Montgomery Road. This reflects the work requested by the original petition. Items of work for the Main would include open channel construction, clearing and snagging, and private drive culvert replacements. "Lateral A" would begin at Montgomery Road and extend upstream to the properties represented by the amendment requests. Items of work for Lateral A would include reconstruction of the existing grassed waterway and replacement of the existing subsurface drain.

Project Estimate - Main	
Construction	$ 79,275.00
Drainage Maintenance (ORC 6137) first year start up (5% of construction estimate)	$ 3,963.75
Project Administration, Survey, and Engineering (15% of construction estimate)	$ 11,981.25
TOTAL ESTIMATE - MAIN	**$ 95,130.00**

Project Estimate – Lateral A	
Construction	$125,050.00
Drainage Maintenance (ORC 6137) first year start up (5% of construction estimate)	$ 6,252.50
Project Administration, Survey, and Engineering (15% of construction estimate)	$ 18,757.50
TOTAL ESTIMATE - LATERAL A	**$150,060.00**

NOTES:

- **It is important to understand that the above estimates are preliminary and made in the absence of a current detailed topographic survey of the project area.**
- **Should the project fail to be approved at the final hearing the benefiting land owners, as defined by O.R.C. 613, may still be responsible for the cost of project administration, survey, and engineering design.**
- **The above estimate does not include the estimated costs for installation of a road culvert in the Montgomery Road right-of-way. This cost is estimated at $10,000 and would be direct assessed to Harlem Township.**

Assessments

If the project moves forward to the second hearing, 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. O.R.C. 6133 states, as a reference to O.R.C. Section 6131 that *"uplands 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."* Benefits are further defined by the O.R.C. as "elimination or reduction of damage from flood; removal of water conditions that jeopardize public health, safety, or welfare; and increased value of land resulting from the improvement."

Individual parcel assessments are not calculated for the preliminary hearing and are only calculated if the petition moves forward to a second, or final, hearing.

Factors Favorable/Unfavorable

Factors favorable to the improvement:

1. Improved surface and subsurface drainage in the watershed.
2. Improved outlet for subsurface drainage components of household sewage treatment systems and for residential drainage systems.
3. Reduction of future deterioration of surface and subsurface drainage infrastructure.
4. Annual inspections and maintenance of the improvement in perpetuity.

Factors unfavorable to the improvement:

1. Temporary land use disruption during construction.
2. Cost of construction and maintenance may be a burden to some landowners.
3. Removal of existing trees and brush in improvement area.

Benefits versus Cost

Assessments for property within the watershed are calculated based on the benefits derived. 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%. The same study also analyzed the return on investment for installing subsurface drainage in a field. It found that for corn, $4 is returned for every $1 invested, and for soybeans, $3 is returned for every $1 invested. To state it generally, the benefits of drainage will equal the increased yield multiplied by the market price.

The increased value or benefit for residential properties is much more subjective and difficult to quantify. For residential properties, the lack of an adequate drainage outlet can negatively impact the condition of household sewage treatment systems potentially limiting the value of the home for resale. Should the existing system fail, the cost to perform repairs, or construct an alternate sewage treatment system, can range from the thousands to tens of thousands of dollars. It would also be reasonable to consider the cost of environmental degradation due to residential sewage treatment systems that may not be functioning properly. Other benefits that are commonly perceived as a result of drainage improvements focus on quality of life and positive neighborhood perception. Communities that have planned and maintained storm water drainage infrastructures generally have higher resale values than those communities that are known to have a history of drainage problems or flooding.

Conclusions

Based on all of the information gathered and generated for this project, we believe this project is technically feasible and would adequately serve the project area's drainage needs. However, the testimony brought to the Joint Board by the landowners as to whether the benefits of this project exceed the costs, should be given significant consideration in the decision to move forward with this project.

Should the current petition be approved to proceed to a final hearing, the petition bond will be returned and detailed plans, specifications, estimated costs, and a schedule of assessments would be prepared. Additionally, a benefit versus cost analysis will also be performed to further determine the feasibility of advancing this proposed project.

Prepared by,

Bret Bacon
Resource Conservation Program Coordinator
Delaware Soil & Water Conservation District

Approved by,

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

Jared Knerr, P.E., P.S.
Licking County Engineer