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The Board of Logan County Commissioners  
117 E. Columbus Avenue, Suite 100  
Bellefontaine, OH 43311

November 13, 2025

**Re: Engineer's Preliminary Report for the Short Ditch 2025 petition**

The following Preliminary Report was created in accordance with Ohio Revised Code (ORC) 6131.09. In addition to evaluating the as-petitioned ditch improvement, we evaluated an alternative proposal that generally runs along the right-of-way east of Township Road (TR) 204 from County Road (CR) 11 to Blue Jacket Creek. For both options, we're recommending a buried tile system that can handle five-year storm demands.

**Background**

- Early April '25: Mr. Daryl Gebby visits the Logan County Engineer's Office (LCEO) to discuss flooding on his property and roadway flooding near the intersection of County Road 11 and Township Road 204.
- May 27, '25: Per Mr. Gebby's request and ORC 6131.04, the LCEO prepared petition documents for Mr. Gebby and met at his residence to discuss the drainage issues and deliver the petition documents. LCEO provided him with a for-informational-purposes-only cost estimate based on the linear feet of the proposed project and an assessment schedule based upon the acres each landowner owned within the watershed.
- October 13, '25: Viewing of petitioned project
- November 18, '25: First hearing

**Preliminary estimates**

**As-Petitioned**

<b>Construction</b>	\$137,974
<b>Engineering, Surveying and Inspection</b>	\$6,500
<b>Administration</b>	\$1,000
<b>Estimated Cost: As-Petitioned Total</b>	<b>\$ 145,474</b>

### **Alternate Proposal**

<b>Construction</b>	\$99,754
<b>Engineering, Surveying and Inspection</b>	\$6,500
<b>Administration</b>	\$1,000
<b>Estimated Cost – Alternate Proposal Total</b>	<b>\$ 107,254</b>

### **Feasibility of the project**

From a construction and long-term maintenance standpoint, the alternative proposal is a more feasible project. Construction-wise, not needing to remove a line of trees along the as-petitioned route saves a substantial amount of money. Future ditch inspections and future ditch maintenance would be aided by the proximity of the proposed ditch to TR 204.

### **Favorable and unfavorable factors**

- Favorable: - Decrease frequency of flooding of properties and roadways
- Increase residential property values that are prone to water ponding
- Increase agricultural production
- Unfavorable: - Financial burden on landowners who didn't file the petition

### **Financial Benefits**

#### Agricultural land

Multiple studies have been performed evaluating the increased crop production that come with drainage improvements. In 2011, Ohio State University researchers stated they performed a 25-year study on corn and soybean yields and they found the average corn and soybean yield to increase by 30% with drainage improvements. Per a 2024 research paper by Perdue University which analyzed various studies on the yield benefits that came from drainage improvements in Indiana, a 37-year study showed an average corn yield increase of 14% and another article analyzed soybeans for a 25-year period (13 of these years being soybean-growing years) and they found soybean yields were not increased. We averaged the results of these studies [(30% corn + 30% soybean + 14% corn + 0% soybean) ÷ 4] and used an expected average yield increase of 18.5% for both corn and soybeans in our calculations. Using October 2025 cash prices and bushel yield data from Ohio Ag Net for Logan County, we calculated that an agricultural field composed of 50% corn and 50% soybeans would have an income of approximately \$802/acre and have costs of approximately \$402/acre and therefore profit approximately \$400/acre. With an 18.5% yield increase, the estimated income would be \$950/acre and there'd be a \$148/acre increase in profit.

Acres of farmland in the as-petitioned project watershed: 27.45

Year 1 total profit increase: 27.45 ac \* \$148/ac = \$4,062

Approximate farmland cost to do project = (27.45/53.3) \* (\$145,474 - Direct Assessments of \$51,525) = \$48,385

Cost per acre = \$48,385 ÷ 27.45 = \$1,763/ac

Benefit/Cost = \$148/ac ÷ \$1,763/ac = 0.08

Years until farmland profits outweigh the costs: \$48,385/\$4,062 = 12 years

<b>Estimated Agricultural Benefits: As-Petitioned (first year after improvements)</b>	\$ 4,062
<b>Estimated Agricultural Benefits (10 years after improvements)</b>	\$ 40,620
<b>Estimated Agricultural Benefits (20 years after improvements)</b>	\$ 81,240

Acres of farmland in the alternate proposal watershed: 18.95

Year 1 total profit increase: 18.95 ac \* \$148/ac = \$2,805

Approximate farmland cost to do ditch project = (18.95/44.05) \* (\$107,254- Direct Assessments of \$56,025) = \$22,039

Cost per acre = \$22,039 ÷ 18.95 = \$1,163/ac

Benefit/Cost = \$148/ac ÷ \$1,163/ac = 0.13

Years until farmland profits outweigh the costs: \$22,039/\$2,805= 8 years

<b>Estimated Agricultural Benefits: Alternate (first year after improvements)</b>	\$ 2,805
<b>Estimated Agricultural Benefits (10 years after improvements)</b>	\$ 28,050
<b>Estimated Agricultural Benefits (20 years after improvements)</b>	\$ 56,100

Residential properties

With regards to estimated financial benefits to residential properties, a 2024 Preliminary Ditch Report in Defiance County estimated home values decrease by up to 30% if a residential property has severe standing water issues during heavy rain events. Per the contours and aerial imagery, there appears to be two residential properties within the watershed that would experience high water issues near residential structures. These properties would seemingly receive a direct financial benefit from this improvement and these residential financial benefits are estimated in this table:

Parcel number	Owner	County Auditor Appraisal Amount	Estimated percent decrease in property value	Financial Benefit
08-090-00-00-046-005	GEBBY DARYL L	\$234,100	15%	\$35,115
08-090-00-00-046-003	LAMBERT LAWRENCE D ETUX	\$204,680	3%	\$6,140

Total financial benefit for the above owners is \$41,255.

<b>Estimated Residential Benefits (1 year after improvements)</b>	\$ 41,255
<b>Estimated Residential Benefits (10 years after improvements; assuming 4% rise in housing prices for next 10 years)</b>	\$ 61,068
<b>Estimated Residential Benefits (20 years after improvements; assuming 4% rise in housing prices for next 20 years)</b>	\$ 90,395

Road Users

The Ohio Department of Transportation’s ‘Road User Cost’ spreadsheet was used to calculate the financial benefit to road users if the proposed project reduced the flooding of CR 11 between TR 204 and CR 32 by one day a year and this cost was \$406. Even with the proposed drainage project, the roadway will likely experience flooding during major rain events.

<b>Estimated CR 11 Road User Benefits (1 year after improvements)</b>	\$ 406
<b>Estimated CR 11 Road User Benefits (10 years after improvements; assuming every year the proposed project reduces the length of a CR 11 closure by 1 day)</b>	\$ 4,060
<b>Estimated CR 11 Road User Benefits (20 years after improvements)</b>	\$ 8,120

Assessments

With regards to the final assessment schedule that would be presented at the final hearing, assessment calculations will be modeled after a procedure first developed by the Preble County Soil and Water Conservation District in 1981. This procedure takes into consideration the following four physical features of a watershed: benefitted acres, land use, soils, and topography. Direct assessments will also be levied for any work which directly benefits “that particular parcel only and not the remainder of parcels in the watershed” (ORC 6131.15).

In order to best levy assessments based on estimated benefits, our office recommends that the schedule of assessments include a direct assessment to any residential landowner who is determined to be receiving a direct financial benefit to their property. As of now, these direct assessments would be levied to those two parcels shown in the residential financial benefits table.

Per ORC 6131.22, “an assessment found to benefit county roads or highways shall be assessed against the county payable from motor vehicle revenues” and thus I’d recommend the \$8,120 roadway benefit be directly assessed and paid from motor vehicle revenues.

Direct assessments would also be levied to properties where the proposed tile crosses a driveway in order pay for the costs associated with replacing any driveway section that is removed to install the tile.

As with any county ditch petition project, we take these assessments very seriously and will do our best to adhere to ORC guidelines and to create the final assessment schedule “according to benefits”. If the Commissioners proceed with this petition, the Engineer will proceed to develop an assessment schedule for the final hearing and property owners will be notified of their estimated assessment via mail when they are notified about the final hearing.

**Engineer's opinion**

The development of the six residential lots bordering the east side of TR 204 just south of the TR 204/CR 11 intersection from 1988 to 1989 was done without adequate consideration for storm water drainage needs and without adequate consideration for protecting and/or improving the drainage system that was installed in 1890. This has led to drainage problems for multiple lots within the watershed and has likely led to an increased frequency of roadway flooding.

Developments to lot number 08-090-00-00-046-005 (owner Daryl Gebby) since Mr. Gebby purchased the property in 2016 include building a new barn in 2021 and enclosing the TR 204 roadside ditch with two unpermitted driveways (which will be addressed outside of this ditch petition process). These recent developments have seemingly exacerbated the storm water problems for lot number 08-090-00-00-046-005.

We're proposing the buried tile system be designed to carry five-year storm demands, which is what our subdivision regulations require for new subdivisions.

Financially, the short term estimated costs are greater than the estimated benefits but the long-term estimated benefits are greater than the estimated costs.

If the Commissioners vote to proceed with this project, my opinion is that the final schedule of landowners should include the direct assessments detailed earlier in this report.

It is my opinion that the completion of the project would reduce flooding issues for the most common storm events and provide a sufficient outlet for all of the landowners within the watershed. I believe the alternate proposal is the most feasible route to accomplish the purpose of the improvement and that this project would be conducive to the public welfare.

Respectfully submitted,



Scott C. Coleman, P.E., P.S.  
Logan County Engineer

SCC/mjk

cc: File; Logan County Auditor; Logan County Soil and Water (sent via email  
Steve.Searson@oh.nacdnet.net)