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**Paul P. Huelskamp PE, PS • Miami County Engineer**

April 28, 2023

Bethel Township Trustees, Miami County  
8735 South Second Street, Brandt  
Tipp City, Ohio 45371

Re: West Charleston Road Maintenance Review

Dear Trustees:

As requested in email correspondence, our office has completed a review of eight (8) locations on West Charleston Road on April 10, 2023. A total of eight (8) locations were reviewed and discussed on site with Trustee Beth van Haaren and Township Administrator Andy Ehrhart. The various locations, observed conditions, and possible maintenance options are outlined below, as shown on your location map and beginning near the Miami River. The Ohio Revised Code Section 5575.01 'Maintenance and repair of roads by contract or force account' may be applicable for maintenance activities at these locations.

1. **Near 2380 and 2385 West Charleston Road: Motor vehicles leaving the improved portion of West Charleston Road and entering the Miami River.** The dedicated right-of-way and road record continue west from the improved asphalt roadway surface approximately 130-feet to the Miami River. This existing right-of-way is utilized periodically for maintenance of roadway drainage.
  - Consider consulting the Miami County Prosecutor's Office in regards to the jurisdictional authority, responsibility, etc. regarding motor vehicles entering the Miami River, i.e. "trespassing."
  - This dedicated right-of-way may limit the installation of objects that could be classified as obstructions within the road right-of-way.
  - The necessity of drainage channel maintenance may limit the ability to vacate this unimproved length of roadway.
  - The Manual of Uniform Traffic Control Devices (MUTCD) outlines the installation of 'Type 4 Object Markers' to delineate the end of roadways, see attached. The MCEO sign inventory indicates past installation of such object marker at this location, i.e. the end of the improved portion of West Charleston Road.



Note: The damage, theft, etc. of such object markers may necessitate a request for additional law enforcement patrol in this area.

2. **West of 2755 West Charleston Road: Limited roadway berm.** The existing concrete culvert and headwall located west of 2755 West Charleston is near the edge of the travelled roadway, with the closest portion only 3-feet (+/-) to the pavement edge. A change in topographic relief of 6-feet (+/-) exists between the roadway surface and outlet of the existing culvert and increases in the existing drainage flow pathway. Contact OUPS for utility location.
  - Obtain additional right-of-way, easement, work agreement as needed to extend existing pipe and fill-stabilize pipe extension areas adjacent to the roadway. MCEO typical berm width for ditch setback type projects is 6-feet and 4:1 fore slope (road side).
  - Install wing-walls at existing culvert headway, fill-stabilize area between roadway and wingwalls, evaluate for approach-guardrail after wingwall installation.
  - Install approach-guardrail rail at existing culvert location.  
Note: the installation of approach-guardrail rail in close proximity of the roadway may limit the described hazard, but create ongoing maintenance, and/or result in additional objects within the right-of-way.
  
3. **West of 2855 West Charleston Road: Pavement deterioration and berm erosion.** The existing roadway pavement has both edge-type and alligator-type cracking at this location. The existing berm area directly adjacent to the pavement is eroded and very little roadside drainage ditch exists. The pavement deterioration may be caused by roadway base failure, inadequacy, improper sub-drainage. Contact OUPS for utility location.
  - Obtain additional right-of-way, easement, work agreement as needed to establish positive surface drainage ditch adjacent to the roadway. Excavate the existing deteriorated pavement, base, and berm areas to install compacted aggregate and new asphalt pavement with aggregate berm. MCEO typical berm width for ditch setback type projects is 6-feet and 4:1 fore slope (road side).
  - Excavate and install aggregate berm and consider underdrain if surface drainage ditch not feasible to install. Underdrain installation will require a positive and acceptable outlet for the underdrain may be obtained.
  - Excavate the existing deteriorated pavement, base, and berm areas to install compacted aggregate, new asphalt pavement, and aggregate berm.
  
4. **West of 2992 West Charleston Road: Depressed and failing pavement areas within the travel lanes of the roadway.** The owner of 2992 West Charleston Road (John Foland) indicated sub-surface tile(s) crossed the road in the vicinity of the pavement depressions and outlet in the south ditch line. No record of petition drainage improvements (tile) are documented in MCEO records. Contact OUPS for utility location.



- Excavate adjacent to, and/or within the roadway to determine cause of depressions and/or existence of drainage tile.
  - Repair and/or replace any existing drainage tile crossing the roadway at this location
  - Excavate and install aggregate and/or sub-surface drainage tile if groundwater determined to be undermining the roadway.
  - Stabilize south side of roadway along ditch line as necessary.
5. **Near 4155 West Charleston Road: Roadway flooding.** Surface water runoff entering upon the roadway near the southeast corner of 4155 West Charleston Road was described as occurring during rainfall events. A cooperative effort between the Bethel Township Trustees and adjacent property owner(s) is encouraged.
- Install a surface culvert to outlet into existing open drainage ditch on south side of roadway. Grading will need to be completed to direct runoff to culvert inlet. An open, pipe-end inlet is suggested.
  - Additional surface grading-surface drain to be completed cooperatively by the owners on the north-east side of roadway at this location.
  - Install rip-rap stone stabilization at outlet of culvert.
  - Complete work in combination with item 6 below.
- Note: -installation of additional, and/or increasing the capacity of existing surface drainage culverts has the potential to negatively affect the downstream properties. The hazardous condition (and frequency) and potential liability a flooded roadway creates should also be considered when reviewing the capacity, functionality, and/or existence of surface drainage facilities.
6. **4210 West Charleston Road: Existing field entrance culverts are in close proximity to the roadway pavement.** The existing open drainage ditch on the south side of the roadway and field entrance culverts are in very close proximity to the south roadway pavement. The field entrance culverts are located at a nearly 90-degree turn in the roadway. During on site review the owner of the field entrance gave verbal permission to Bethel Township to remove the field entrance without replacement.
- Obtain additional right-of-way, easement, work agreement as needed to remove existing field entrance culverts and relocate existing drainage ditch away from roadway to provide berm area adjacent to roadway. MCEO typical berm width for ditch setback type projects is 6-feet and 4:1 fore slope (road side).
  - Stabilize roadside slope of work area and adjacent undisturbed roadside slope as needed to transition flow into improved area.
  - Install compacted aggregate and/or asphalt pavement-berm adjacent to existing roadway surface, 12"-18" width in area of curve and ditch setback.
7. **Between 4210 and 4155 West Charleston Road: Multiple holes adjacent to the roadway.** Multiple holes were noted in existing east right-of-way and ditch line



between the driveways of 4210 & 4155 West Charleston Road. Records and observations indicate an existing clay and steel sub-surface drainage tile cross the road in this vicinity. Contact OUPS for utility locate.

- Excavate holes on east side of roadway and determine material and condition beneath roadway. Replace based upon condition and install 2-2B type catch basin on east side of the roadway as part of replacement-repair of existing holes. The 2-2B is primarily for future inspection.
- Stabilize west ditch bank at outlet of the drainage tile.

8. **Adjacent to 4270, 4210, 4004, and 2992 West Charleston: Limited berm and slope erosion adjacent to the roadway.** Much of the existing open drainage ditch on the south-west side of West Charleston Road adjacent to 4270, 4210, 4004, and 2992 West Charleston Road has limited berm along the roadway and eroded slopes

- Obtain additional right-of-way, easement, work agreement as needed to remove existing field entrance culverts and relocate existing drainage ditch away from roadway to provide berm area adjacent to roadway. MCEO typical berm width for ditch setback type projects is 6-feet and 4:1 fore slope (road side).

The safety of the travelling public, severity and frequency of flooding upon the travel lanes of a roadway, structural integrity of the roadway pavement, etc. are primary considerations when MCEO evaluates roadway maintenance activities. Other alternative options for any of the above listed locations may also be considered by the Trustees. Due to the potential for negatively affecting downstream properties, relocation of drainage facilities should be cautiously evaluated. Direct involvement of adjacent property owners is strongly encouraged if the modification, relocation, addition, and/or 'new' installation of surface drainage culverts is planned by the Bethel Township Trustees and/or believed to have the potential to negatively affect existing facilities.

Questions concerning the applicability of ORC Sections, jurisdictional oversight, responsibility, etc. should be directed to the Miami County Prosecutor's Office.

Please contact Dan Baker at the Engineer's Office if you would like to discuss this matter further.

Sincerely,

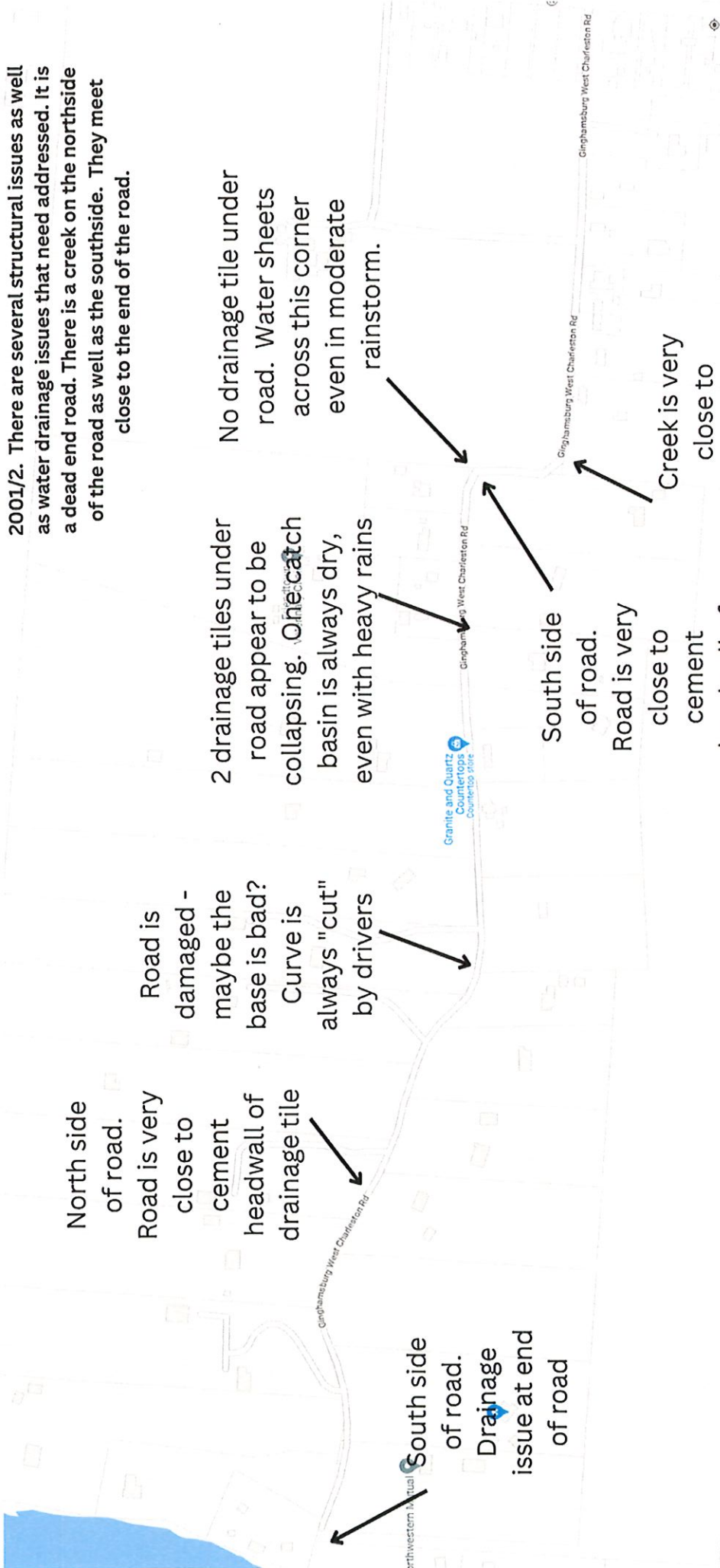


Paul P. Huelskamp, PE, PS  
Miami County Engineer

PPH/deb  
Cc: MCPO  
Enc.  
-Twp. Location Map  
-Excerpts from MUTCD

# West Charleston Road, Bethel Township Ohio

This road was first paved all the way to the end in 2001/2. There are several structural issues as well as water drainage issues that need addressed. It is a dead end road. There is a creek on the north side of the road as well as the southside. They meet close to the end of the road.



North side of road.

Road is very close to cement headwall of drainage tile

Road is damaged - maybe the base is bad? Curve is always "cut" by drivers

2 drainage tiles under road appear to be collapsing. One catch basin is always dry, even with heavy rains

No drainage tile under road. Water sheets across this corner even in moderate rainstorm.

South side of road. Drainage issue at end of road

South side of road. Road is very close to cement headwall of drainage tile

Creek is very close to edge of road.

Beth van Haaren, Bethel Township Trustee 937.477.0289  
 Andy Ehrhart, Bethel Township Administrator 937.845.8472