

Peterson Road Drain Preliminary Engineering Summary



Peterson Road Drain
Board of Determination
Muskegon County Drain
Commissioner
September 22, 2020

Peterson Road Drain

Preliminary Engineering Summary



PURPOSE OF ENGINEERING REVIEW:

- Application from landowners to Muskegon County Drain Commissioner for Laying Out and Designating a County Drainage District & Petition to Locate, Establish & Construct a New County Drain
- Determine the lands drained (“Drainage District”) by the proposed Peterson Road Drain
- Field review of the proposed Peterson Road Drain system as well as any proposed branches/extensions
- Identify any potential drainage problems within the proposed Drainage District
- Provide an independent and unbiased assessment of the storm water conditions within the Drainage District
- Summarize all information and report on those findings to a Board of Determination



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DISTRICT BOUNDARY OVERVIEW:

District Boundaries:

How Determined:

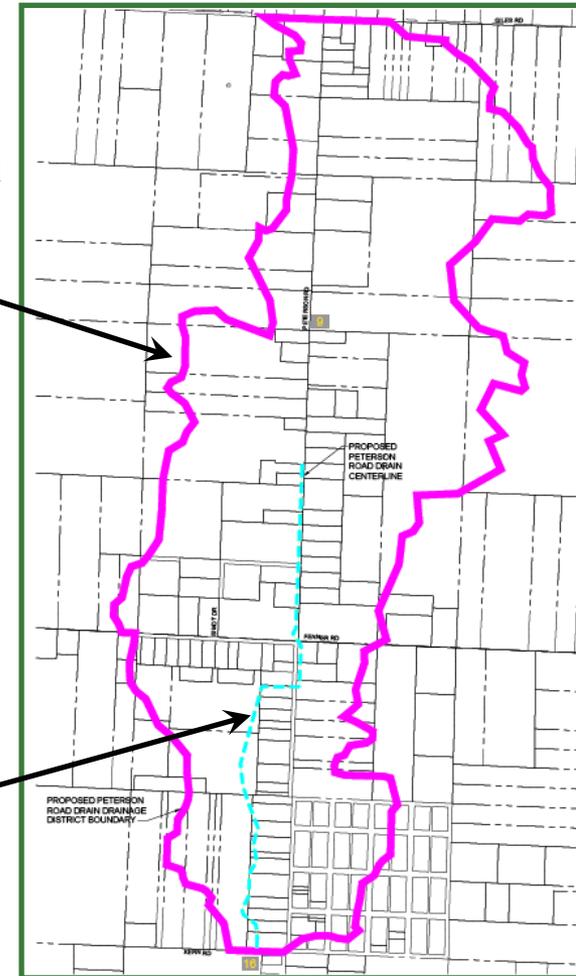
- Topographic Maps
- Muskegon County GIS
- Culvert, Storm Sewer, and Runoff Review
- Site Inspections

Drainage District Boundary Information:

- Proposed Drainage District Boundary = 422 Acres +/-
- Resides entirely in Laketon Township

Proposed Peterson Road Drainage District Boundary

Proposed Route & Course (Drain Centerline)

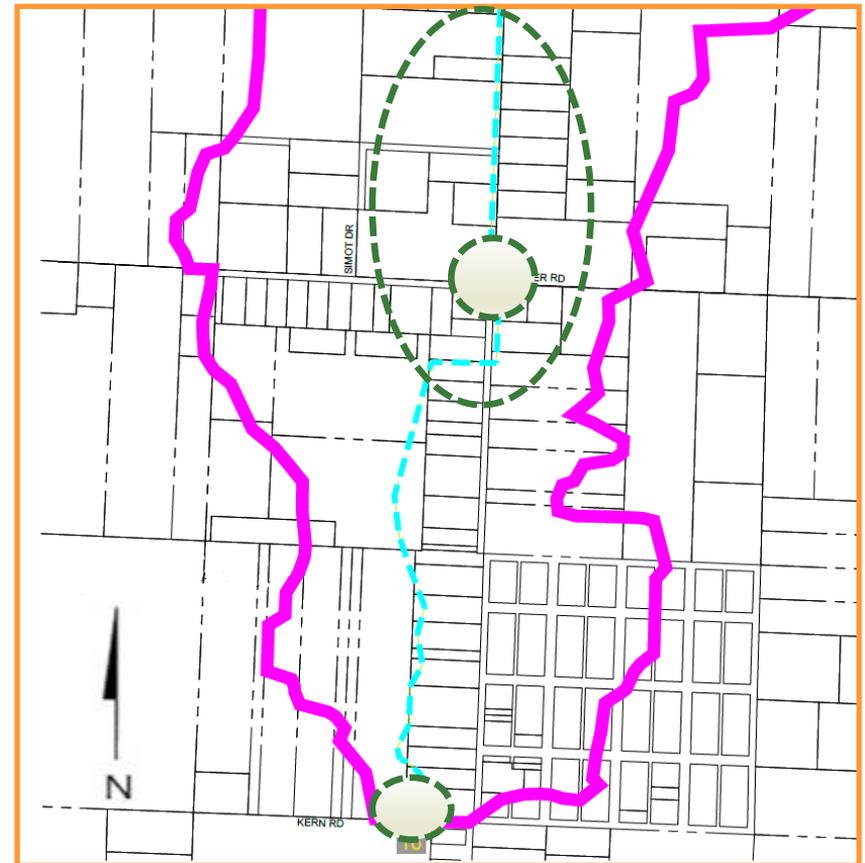


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EXISTING DRAINAGE CONDITIONS OVERVIEW

- Large contributing area and inadequate conveyance system
- Culvert restrictions and sizing issues
- Significant flooding
- Lack of maintenance in existing watercourse
- Downstream culvert undersized and obstructions further impacting capacity



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EXISTING DRAINAGE CONDITIONS



Existing open drain section looking north of Kern Road west of Peterson Road

Kern Road culvert blocked by obstructions and restricting flow



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EXISTING DRAINAGE CONDITIONS



Intersection of Fenner Road and Peterson Road looking west

Flooding on north side of the roadway



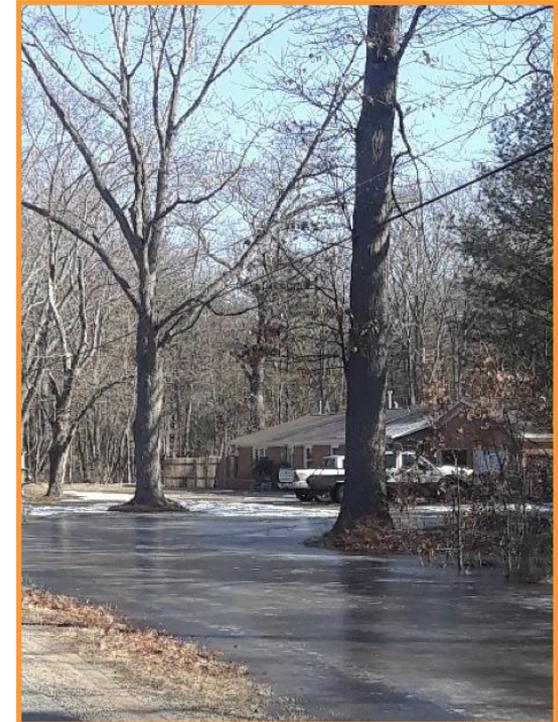
Intersection of Fenner Road and Peterson Road looking north. Cross culvert and open ditches exceeding capacity



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EXISTING DRAINAGE CONDITIONS



Existing road ditches along Peterson Road exceeding capacity and flooding front yards and properties.

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EXISTING DRAINAGE CONDITIONS



Rear yard flooding on
Fenner Road west of
Peterson Road



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EXISTING DRAINAGE CONDITIONS OVERVIEW



Flooded area at northwest corner
of Peterson Road and Fenner Road

Summary:

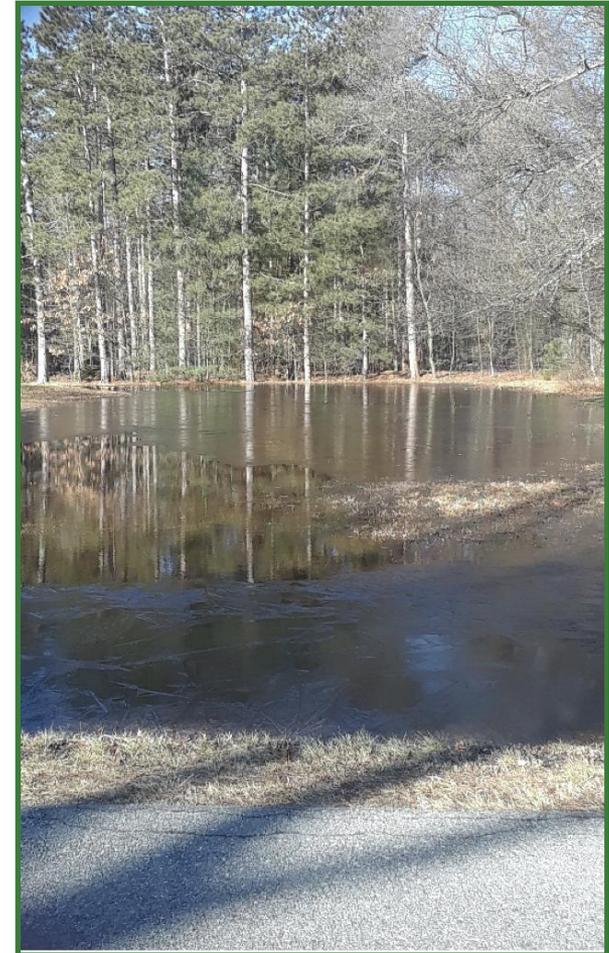
- Widespread drainage and flooding issues along Peterson Road
- Lack of adequate storm water infrastructure and properly designed conveyance systems to alleviate drainage issues along and across Peterson Road and Fenner Road
- Lack of past maintenance to the existing open drain between Kern Road and Fenner Road

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NEXT STEPS

- **Public Testimony**
- **Board to Determine Necessity of Petition**
- **If project found not necessary:**
 - Project ends
- **If project found necessary:**
 - Evaluate scope of project and design alternatives
 - Scope meeting to discuss design with property owners and municipalities
 - Finalize design (obtain easements and permits, if necessary, and prepare bid plans)



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