Erickson Drain
Board of Determination
November 28, 2018

Muskegon County Drain Commissioner
Brenda M. Moore (Drain Commissioner)
Stephanie Barrett (Deputy Drain Commissioner)
Presentation Overview

• Drain Overview
• Drain History
• Drainage Issues
• Next Steps
Drain Overview

• Tributary to Bear Creek (Bear Lake)
• 1,196 Acre Watershed
• Sandy Soils
• Drain Length: 2.4 Miles
• Easement Width: 50 feet, 25 feet each side of centerline
Drain History

- 1916 – Drain Established
- 1944 – Branch Added
- 2012/13 – Preliminary Drain Study
- 2015 – Drainage District Boundary Updated
- 2017 – Emergency Culvert Replacement (4673 Putnam Road – DeYoung Property)
Drainage Issues

- Impaired Culverts
- Sediment Deposition in Drain
- Flooding within District
- Lack of Drainage Outlet (request for Branch)
Drainage Issues

• Public Health, Convenience or Welfare Issues:
  • Flooding due to hydraulic restrictions
  • Emergency access becomes difficult when floodwaters overtop driveways and public roads
  • Poor drainage can elevate groundwater levels thereby impacting performance of septic fields
  • Poor drainage can damage roadways
  • Stagnant water creates a breeding ground for mosquitos
  • Crop damage
Impaired Culverts

- Impairments Include:
  - Improperly set (too high or too low relative to channel bottom)
  - Poor condition (structurally deteriorated / damaged)
  - Undersized (too small)
  - Flow obstruction (filled with sediment or debris)
  - May cause flooding
Impaired Culverts

Culverts Filled with Sediment along Putnam Road – Reducing Culvert Capacity & Creating Stagnant Water
Sediment Deposition

- Impairments Include:
  - Reduces hydraulic capacity of channel and culverts
  - Flow obstruction
  - May cause flooding

Drain Plan and Profile along Riley-Thompson Road, West of Anderson Road
Sediment Deposition

Drain along Riley Thompson Road, East of Putnam Road (Sediment and Vegetation) (4/17)

Sediment in Drain Reduces Hydraulic Capacity and Allows for In-Stream Vegetation to Grow and Further Reduce Channel Capacity.

Drain along Riley Thompson Road at Anderson Road (Sediment and Vegetation) (11/18)
Sediment Deposition

Sediment in Drain Impedes Flow
Causing Flooding and Stagnant
Water Increases Mosquitos.

Drain along Putnam Road, North of 4763
(Sediment and Vegetation) (4/17)

Drain along Putnam Road, North of 4957
(Sediment and Vegetation) (4/17)
Flooding w/in District

• Impairments Include:
  • Flooding along public roads and private property both along Drain and tributaries (including road ditches)

Grow Blue LLC (S. of Riley Thompson Rd)
– Flooding / Crop Damage
Flooding w/in District

Flooding along Putnam Rd. – Strait Property (1/17)
Flooding w/in District

Flooding along Putnam Rd. - looking north from 4763 Putnam Rd. (1/17)
Flooding w/in District

Portions of Erickson Drain do not have capacity to convey 5-yr peak discharge (3.25” of rain over 24-hours); thereby causing FLOODING.

Water Surface Profile of Erickson Drain for 10-yr and 50-yr Storm Event
Lack of Drainage Outlet

• Impairments Include:
  • Flooding and crop damage due to lack of adequate drainage outlet from Grow Blue LLC property (61-07-022-100-0003-10) along Putnam Road.

• Property Owner requesting a Branch
Lack of Drainage Outlet

- Grow Blue LLC property (61-07-022-100-0003-10 requesting a Branch
  - Typical Elevation of Property 674-ft +/-
  - Several Potential Branch Alignments Exist
  - 3 to 4-ft of Fall to Drain (Drain Elevation 670-ft to 671-ft).
Next Steps

• BOD to decide if petition is necessary:
  • If the BOD finds that the petition is not necessary, the project ceases immediately and no petition can be heard for the same project until 12 months have passed.
  • If the BOD finds that the petition is necessary based on health, welfare or convenience, the Drain Commissioner proceeds with a project. Each project is unique, however, in accordance with the Drain Code, the following tasks must be completed:
    1. Complete Topographic Survey / Engineering Design
    2. Obtain Easements (if necessary)
    3. Apply for Permits (if necessary)
    4. Bid Project
    5. Hold “Day of Review”
    6. Construct Project