

**No. 52 Drain
Board of Determination
August 3, 2020**

Ottawa County Water Resources Commissioner

Joe Bush – Water Resources Commissioner



Ottawa County
Where You Belong®



Presentation Overview

- Why Are We Here?
- Drain Overview
- Drain History
- Drainage Issues
- What Happens Next?

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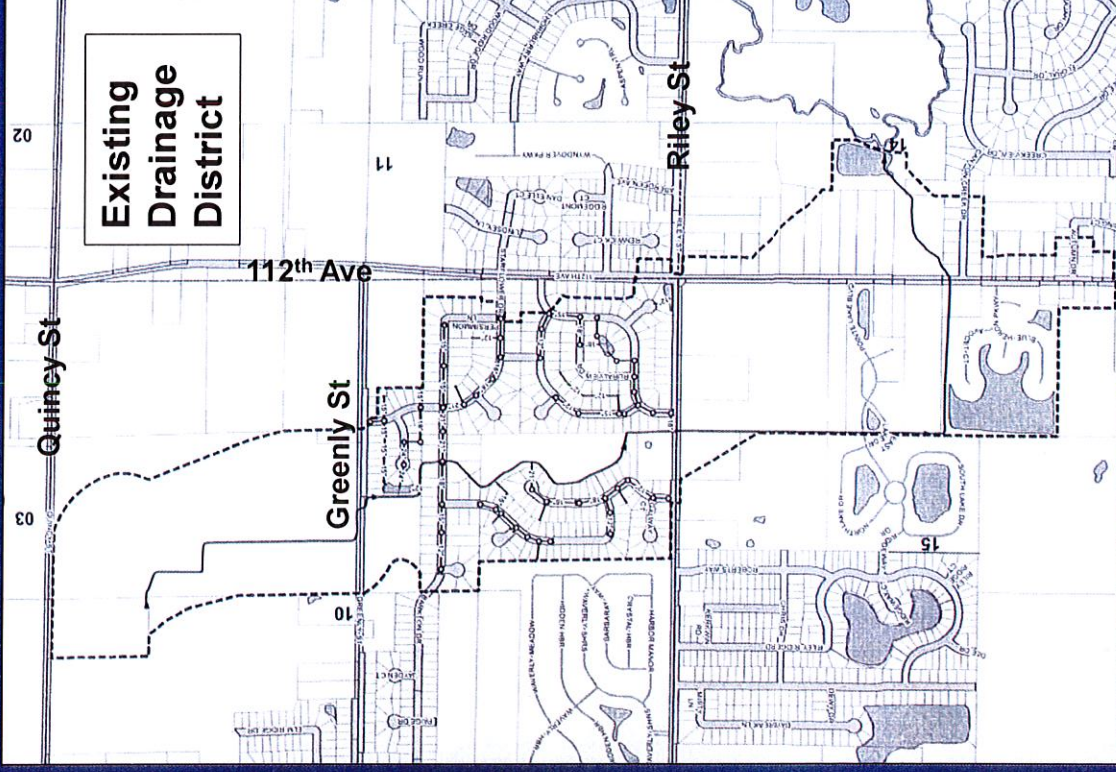
Why Are We Here?

- Ottawa County Water Resources Commissioner (OCWRC) received a petition from 11 freeholders of land to Improve and Maintain the No. 52 Drain in accordance with Chapter 8 of the Michigan Drain Code, Public Act 40 of 1956, as amended.
- Specifically, the residents requested the existing Drain be improved, extended or branches added (along Noordeloos Creek) to alleviate flooding in Section 23 & 24 of Holland Township & City of Zeeland.
- Michigan Drain Code mandates that as part of the petition process, the Drain Commissioner must schedule and hold a Board of Determination (BOD).
- BOD will hear all testimony and determine if a project is necessary based on public health, welfare or convenience.

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Drain Overview

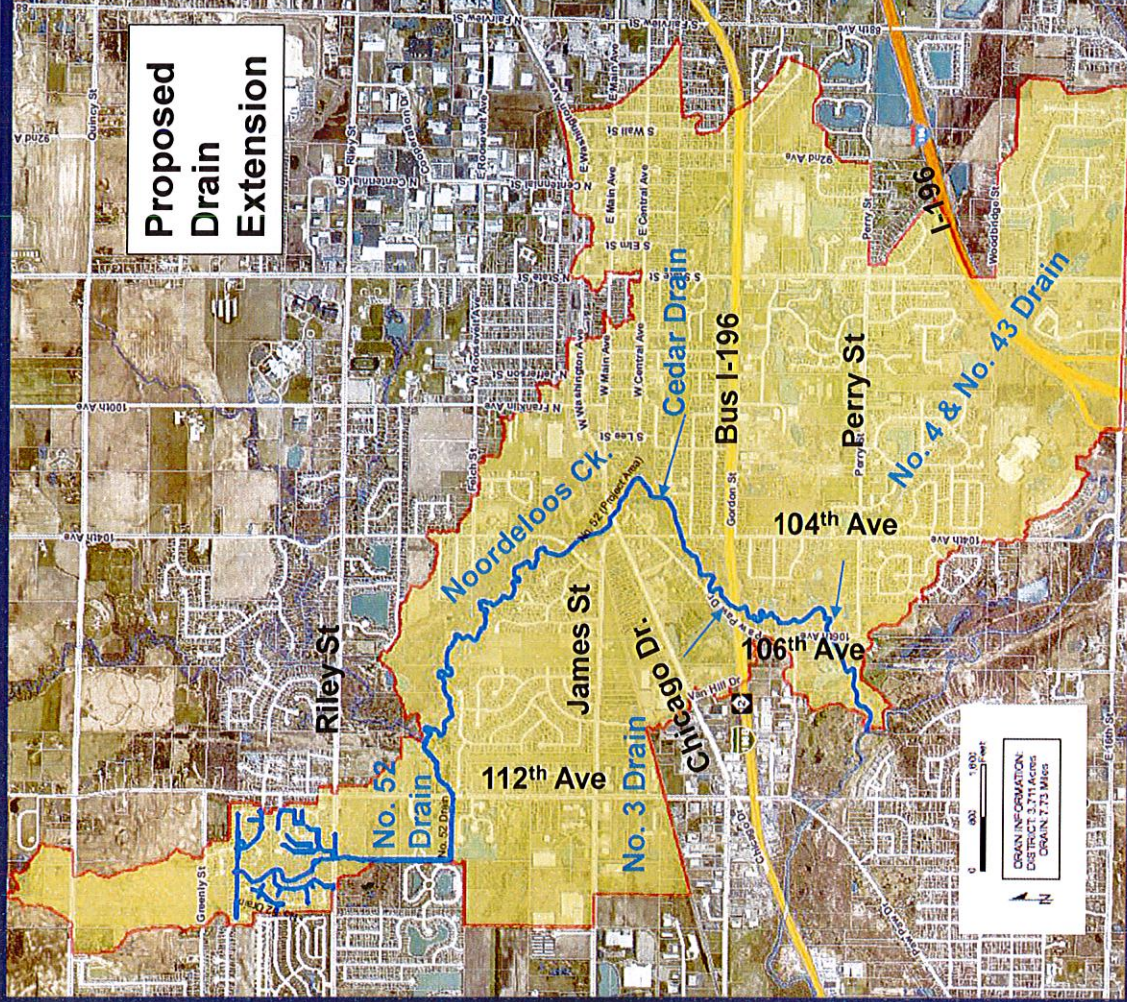
- No. 52 Drain Established in 1893.
- Tributary to Noordeloos Creek.
- Petitioned in 1988, 2012 and 2020.
- Periodic maintenance performed over the years on the 52 Drain.
- Developing watershed w/ mix of land use:
 - Agricultural
 - Residential



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Drain Overview

- Petition includes extending No. 52 Drain downstream along the Noordeloos Creek to the Macatawa River/Black Creek.



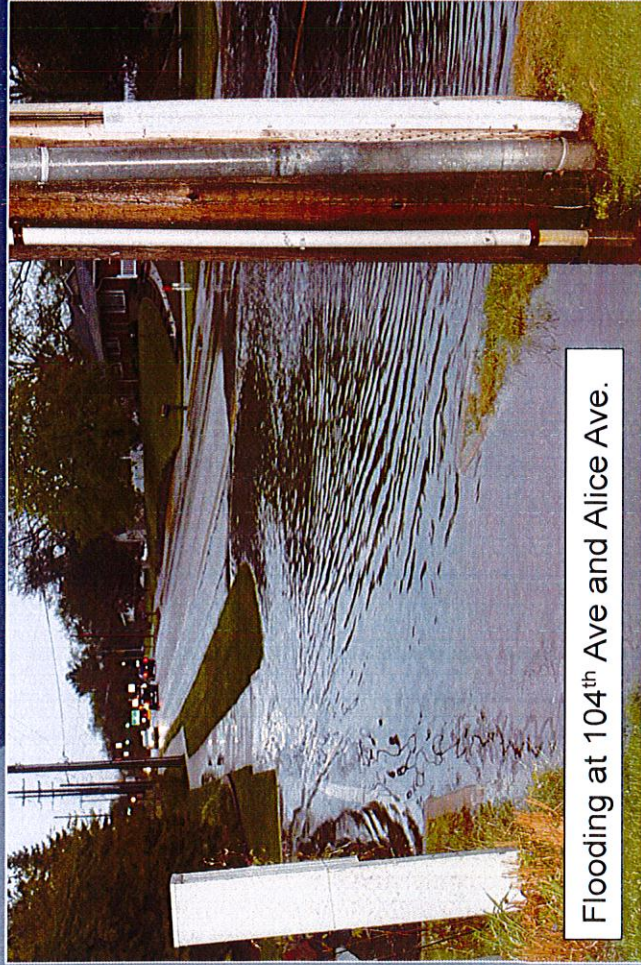
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Drainage Issues

- Public Health, Convenience or Welfare Issues:
 - Land use conversion (development) reduces natural infiltration resulting in higher peak flows (flashy flows) and subsequent flooding and channel instability.
 - Emergency Access becomes difficult when floodwaters overtop driveways and roadways.
 - Woody Debris Obstructions especially near existing civil infrastructure (bridges, etc.), backing up water and causing flooding.
 - Bank Erosion increasing sediment/pollutant loading into Macatawa River/Lake Macatawa and reducing hydraulic capacity of channel.

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Drainage Issues



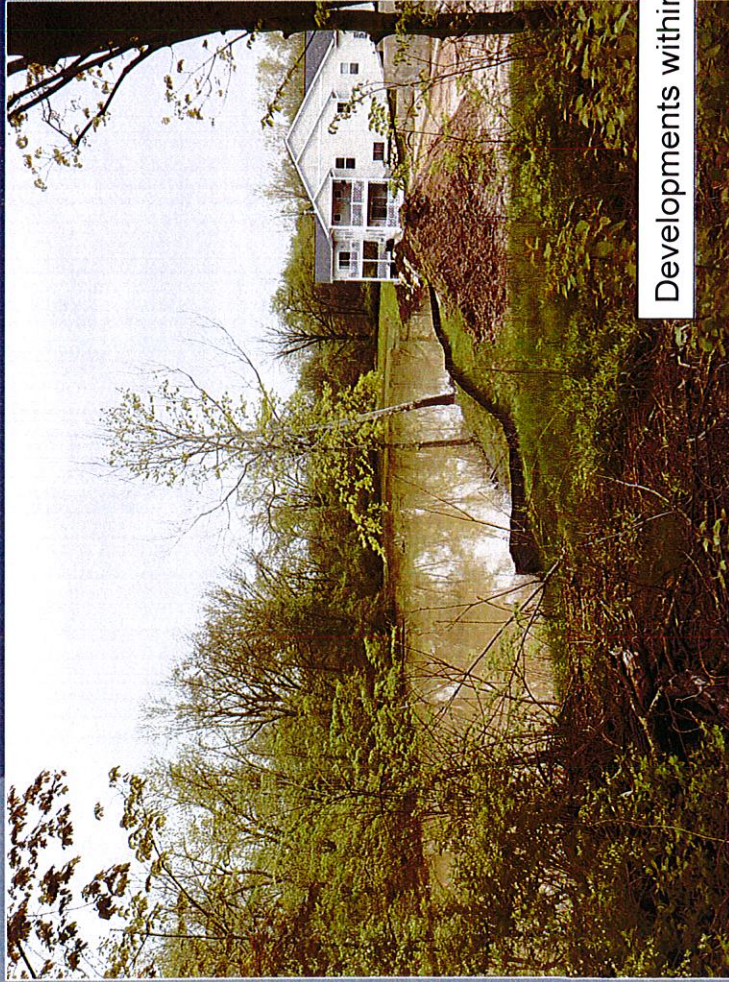
Flooding at 104th Ave and Alice Ave.



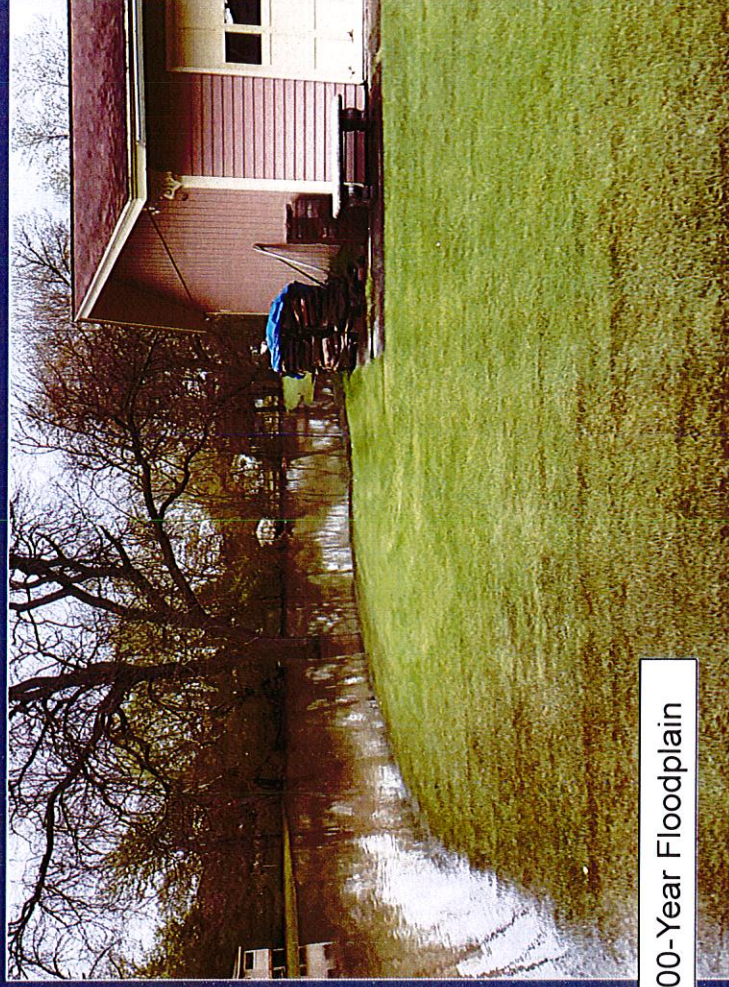
Flooding at 104th Ave.
looking downstream

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Drainage Issues



Developments within 100-Year Floodplain



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Drainage Issues

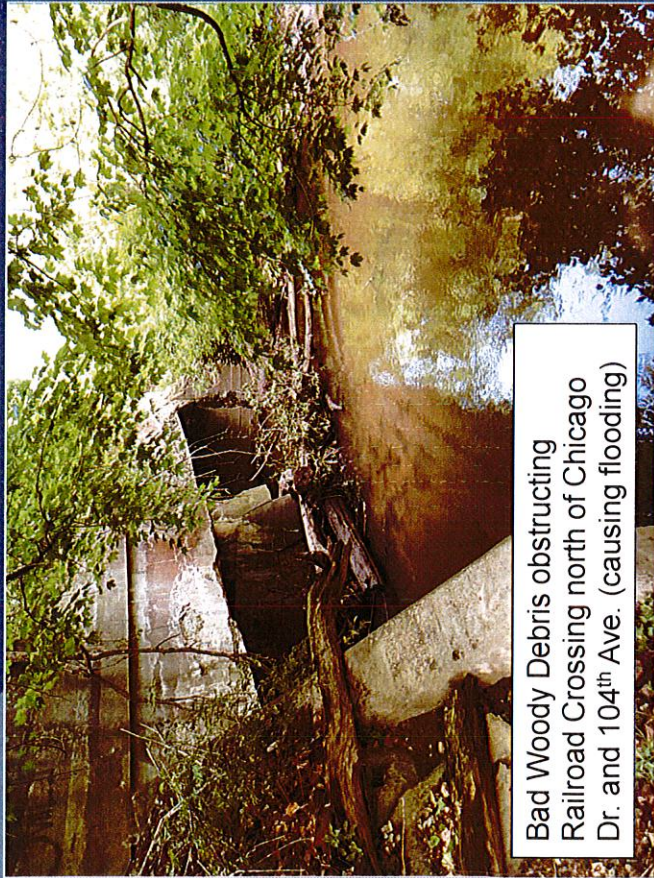
- Developments within historic floodplain
- Hydraulic restrictions / debris buildup at road & rail crossings



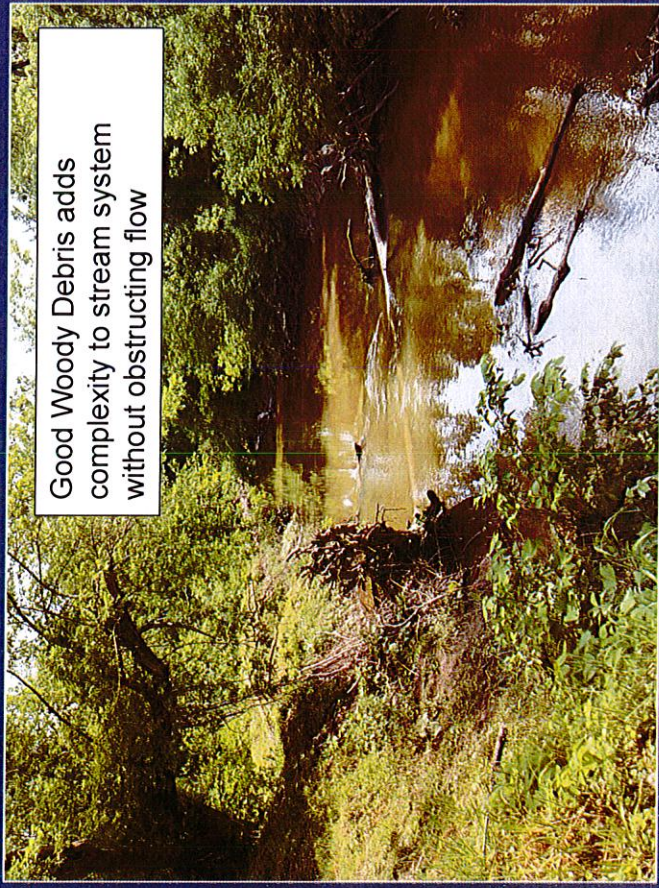
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Drainage Issues

- Woody Debris Obstructions
- Bad Obstructions vs Good Woody Debris

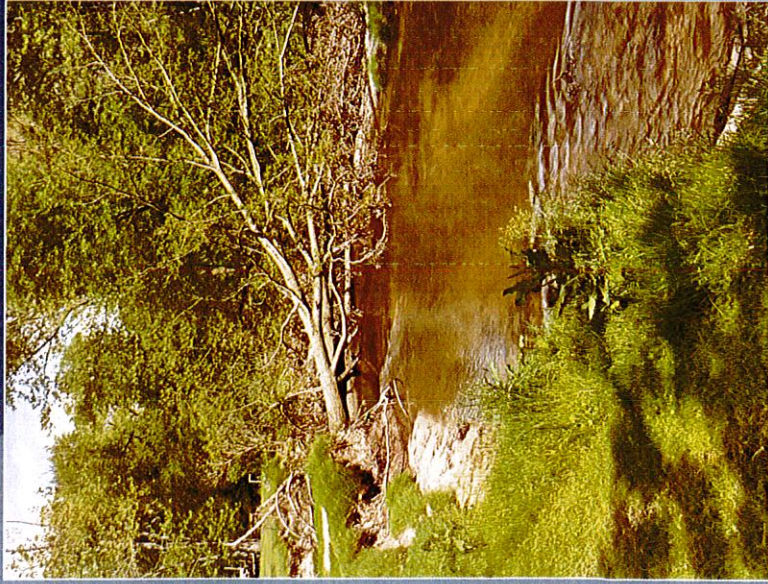


Bad Woody Debris obstructing Railroad Crossing north of Chicago Dr. and 104th Ave. (causing flooding)



Good Woody Debris adds complexity to stream system without obstructing flow

Drainage Issues



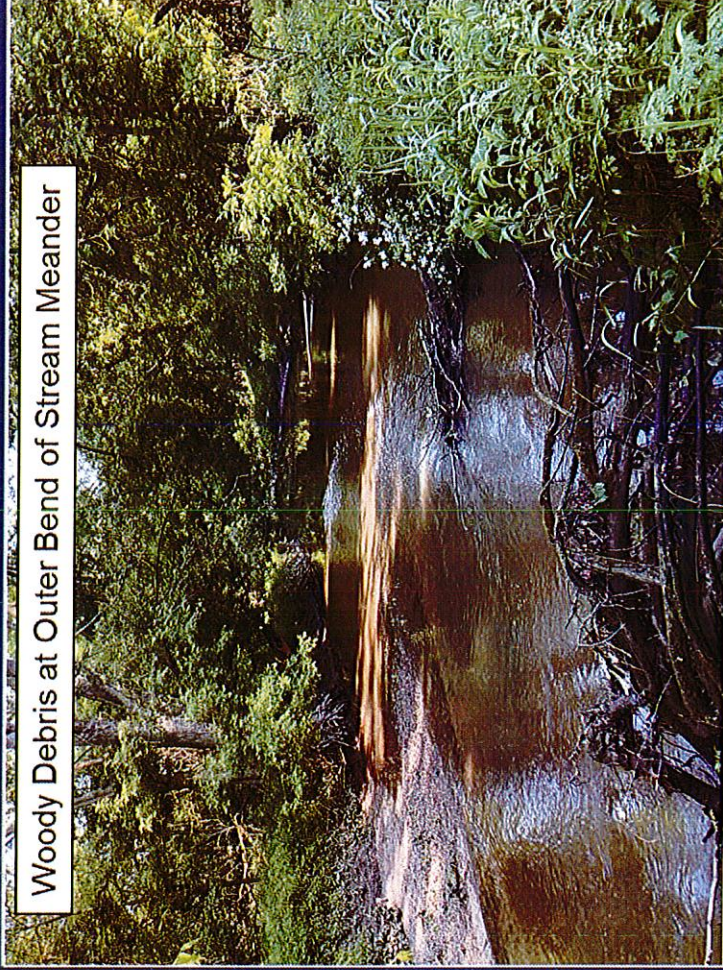
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Erosion, Log Jams and Sedimentation near Vollink Property 10600 Paw Paw Drive

Drainage Issues

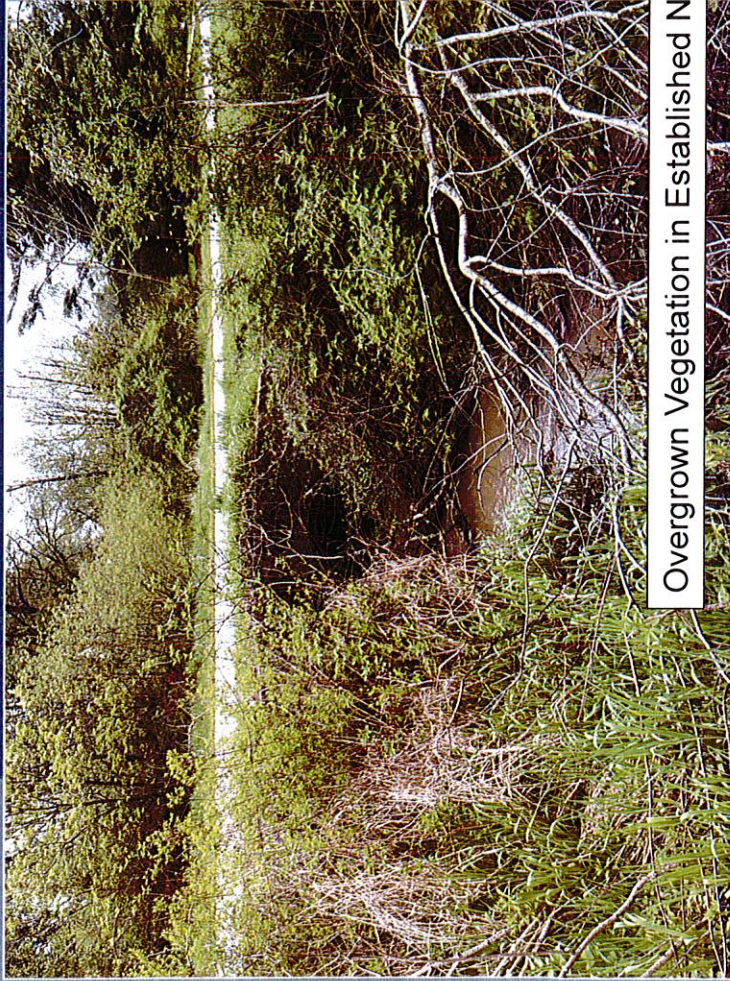


Woody Debris near Bridge at Paw Paw Park East



Woody Debris at Outer Bend of Stream Meander

Drainage Issues



Overgrown Vegetation in Established No. 52 Drain that Obstructs Flow / Causes Flooding



Drainage Issues

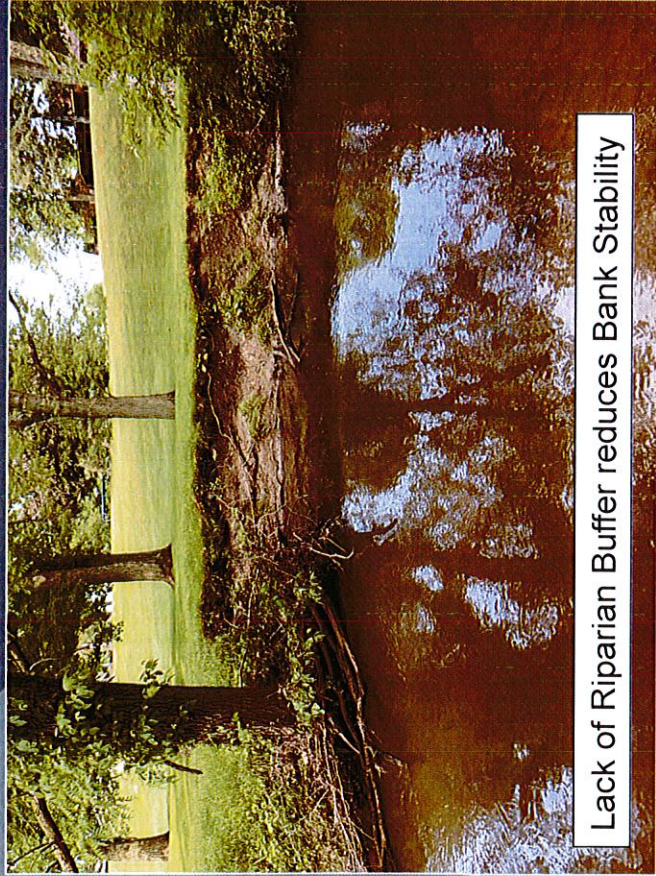
- Incised Channel / Bank Erosion causes Sedimentation / Obstructions



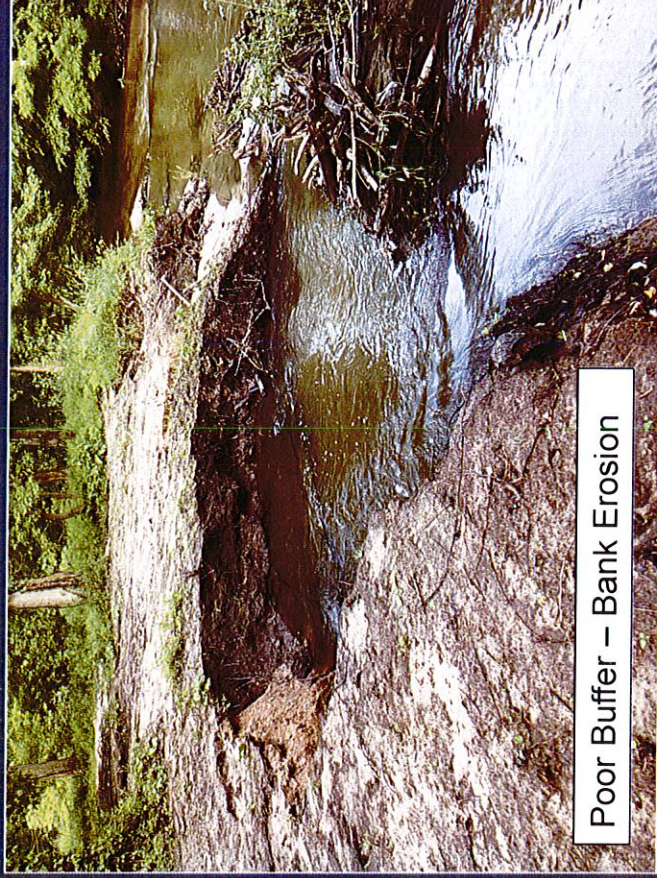
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Drainage Issues

- Lack of Riparian Buffers
- Bank Erosion



Lack of Riparian Buffer reduces Bank Stability



Poor Buffer – Bank Erosion

What Happens Next?

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 (the scope of which will be defined later). Each project is unique, however, in accordance with the Drain Code, the following tasks must be completed:
 1. Complete Engineering Design
 2. Obtain Easements (if necessary)
 3. Apply for Permits (if necessary)
 4. Bid Project
 5. Hold "Day of Review"
 6. Construct Project

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The End

THANK YOU

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