Stony Creek

Protecting our Water

Assessing the History for a Clean Future

Improve the Quality of Life

ID Hazardous Streambanks & Structures
Clean Water
Increase Land Value
Improving Water Features
Native Wildlife
Habitat Considerations
Reclaim Land & Water Access

“Look deep into nature and you will understand everything better.”

-Albert Einstein

FEASIBILITY STUDY

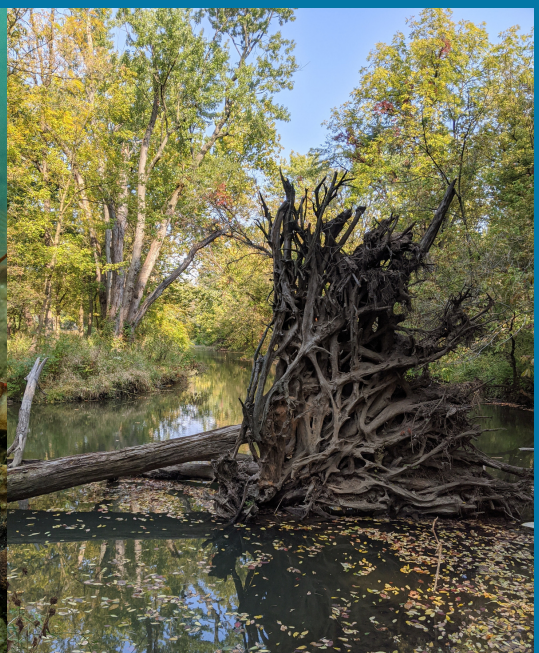
Scope of the Project

- Identification of Potential Improvement Sites
- Update & Find Information Gaps
- Preliminary Engineering & Hydraulic Calculations
- Facilitate Meetings
- Conceptual Drawings
- Preliminary Design, Project Estimates & Timelines
- Land Easements & Willingness
- Physical & Social Costs
- Determine Functionality & Impact of Proposed Project
- Wetland Functional Assessment & Vegetation Survey
- Bioassessment of Biological & Habitat Integrity
- Justification of Proposed Improvement Sites
- Funding Sources
- Permits & Report

FLATLAND RESOURCES

HAMILTON COUNTY Soil & Water CONSERVATION DISTRICT

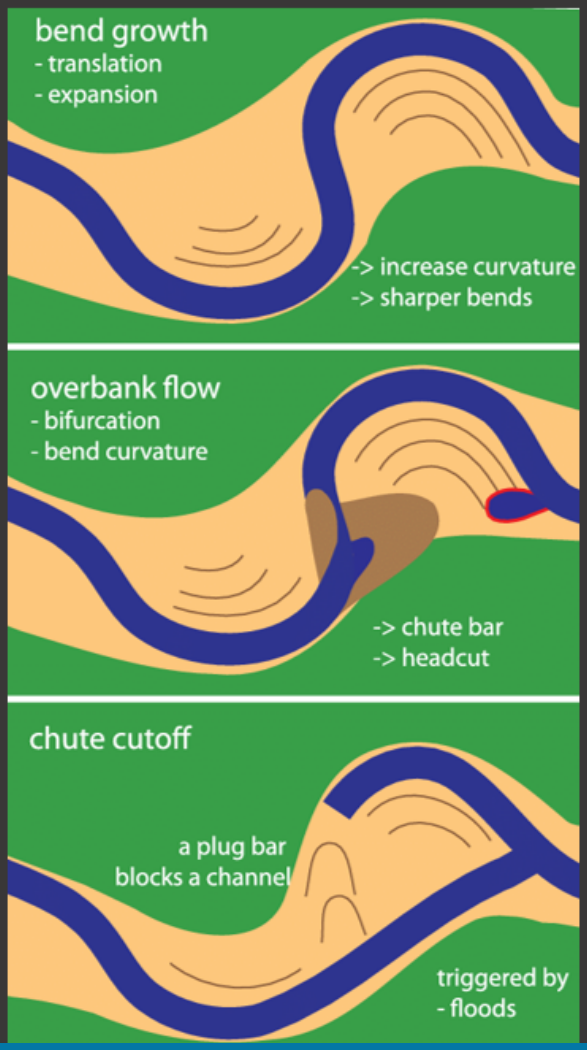
Donate: hamiltonswcd.salsalabs.org/stonycreekmatchingfunds
Email your feedback: Ginger.Davis@hamiltoncounty.in.gov
Official Website: hamiltonswcd.org/stonycreek.html



Why Look Further

Reasons for the grant

Stony Creek's main channel was blocked during a utility crossing and has progressively been further blocked over the years causing an unnatural meander cutoff to occur. Erosion of the side channel due to this realigned channel is a significant erosional feature. Additionally, shortening the main channel increased the speed of the stream which created more erosion with the continual loss of trees and other sources of bank stability.



Sediment in stream beds disrupts the natural food chain by destroying the habitat where the smallest stream organisms live and causing massive declines in fish populations. Sediment increases the cost of treating drinking water and can result in odor and taste problems.

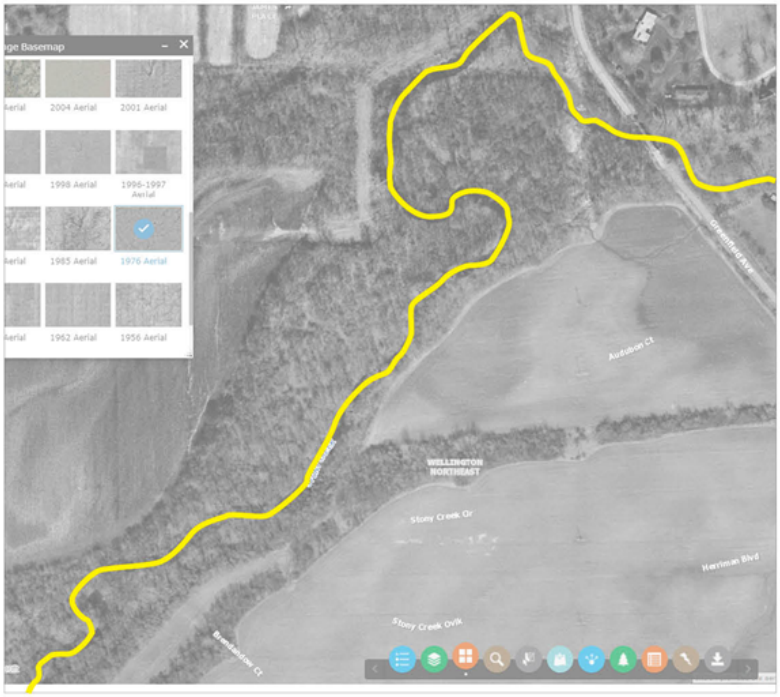


FIGURE 2.6-1 | Stoney Creek. 1976

HISTORICAL (CURRENT FOR THIS IMAGE, 1976) ALIGNMENT

FIGURE 2.6-2 | Stoney Creek. 1994.
Stream alignment change due to relocation of Greenville Ave. bridge.
New bridge constructed after 1985

HISTORICAL ALIGNMENT
CURRENT (1994) ALIGNMENT
CURRENT SIDE CHANNEL

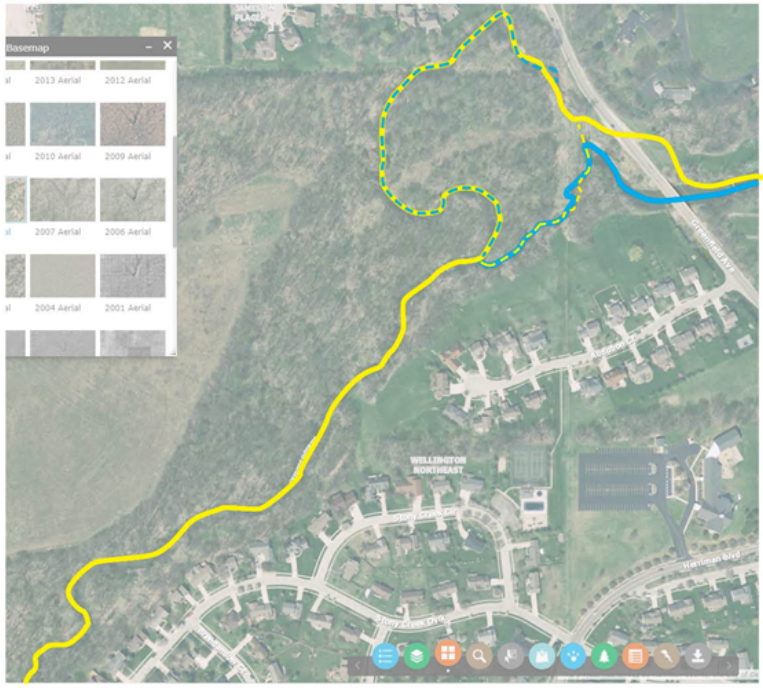


FIGURE 2.6-5 | Stoney Creek. 2008. Original Channel has been completely cut off from Stoney Creek during low flows.

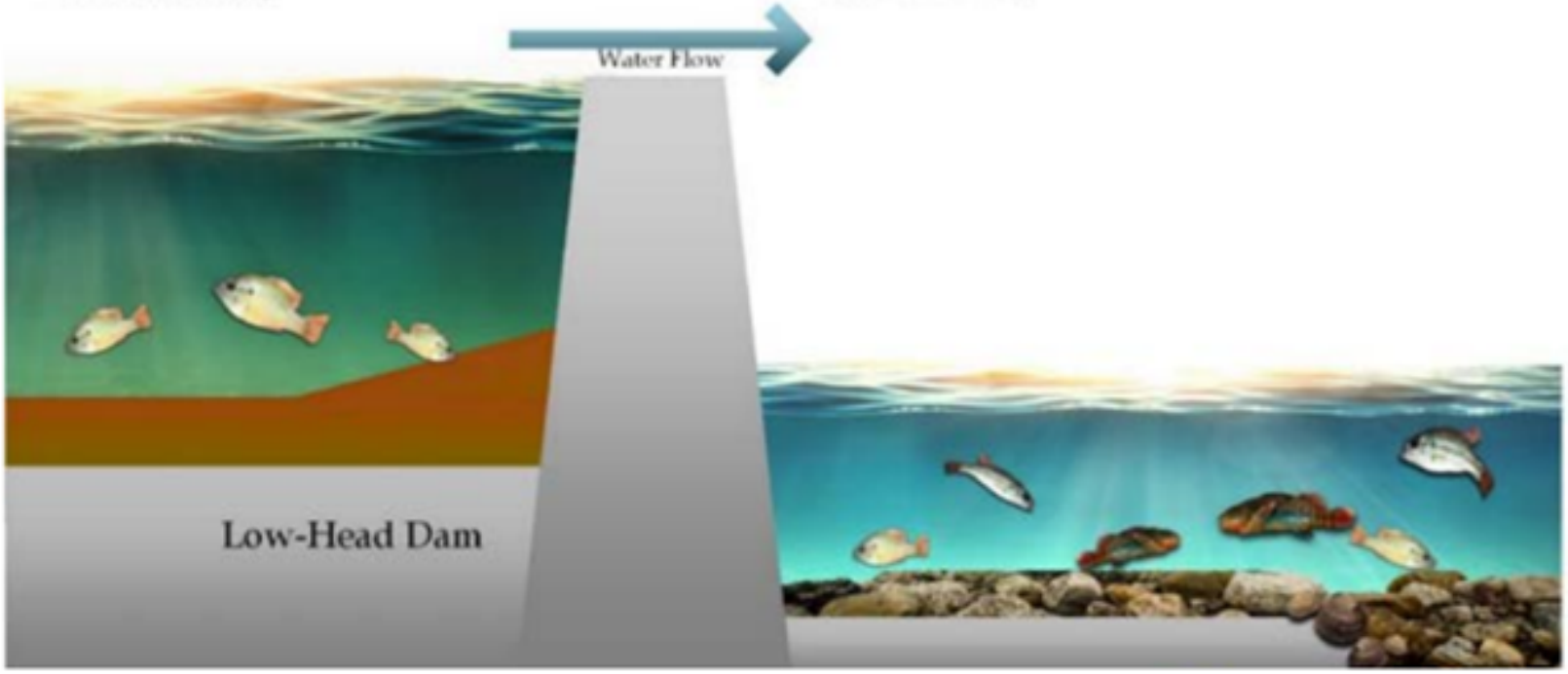
CURRENT ALIGNMENT
HISTORICAL ALIGNMENT
SIDE CHANNEL - CURRENT
SIDE CHANNEL - HISTORICAL

FIGURE 2.6-6 | Stoney Creek. 2019
Original channel only connected to Stoney Creek during extreme high water events.

CURRENT ALIGNMENT
HISTORICAL ALIGNMENT
SIDE CHANNEL - CURRENT
SIDE CHANNEL - HISTORICAL

Impact of Low Head Dams on Water Quality

Impounded Water	Free-Flowing Waters
• Lower water velocity • Higher water temperature • Lower dissolved oxygen concentrations • Excessive algal growth can be present • Higher nutrient concentrations and riverbed sedimentation • Degraded fish communities • Lower Biodiversity	• Higher water velocity • Cooler water temperature • Adequate dissolved oxygen concentrations • Higher sediment transport • Nutrients distributed efficiently • Larger mussel and macroinvertebrate populations • Higher Biodiversity



Streams Bring Life to a Watershed

A riparian stream corridor is an ecosystem that usually consists of three major elements:

- Stream channel
- Floodplain
- Transitional upland fringe

Together they function as dynamic and valued crossroads in the landscape.

Stony Creek is already a high value urban wildlife refuge with quality habitat along the shoreline and within the stream. The stream and the adjacent natural land functions as flood storage and water treatment. Both aquatic and land animals depend on this area as it is an important source of food and shelter.

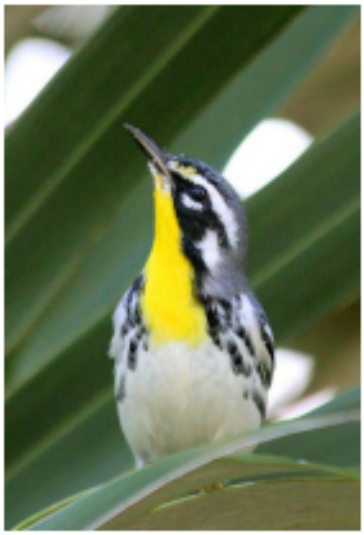
Riparian wooded corridors and streams are characterized as forests associated with river and stream banks. This habitat is often utilized as travel corridors by wildlife and affects in-stream habitat.

Representative Species of Riparian Wooded Corridors/Streams

The habitat guild for riparian wooded corridors/streams is represented by several species. These representative species "paint a reasonable mental picture" of riparian wooded corridors and streams.

Cerulean Warbler
Red-Shouldered Hawk
Yellow-Throated Warbler





From left to right: *Cerulean Warbler(MDF), Red-Shouldered Hawk (Ryan Wood), and Yellow-Throated Warbler (Amada Cuatrok)*

Species of Greatest Conservation Need (SGCN) in Riparian Wooded

SGCN are animal species whose populations are rare, declining, or vulnerable.

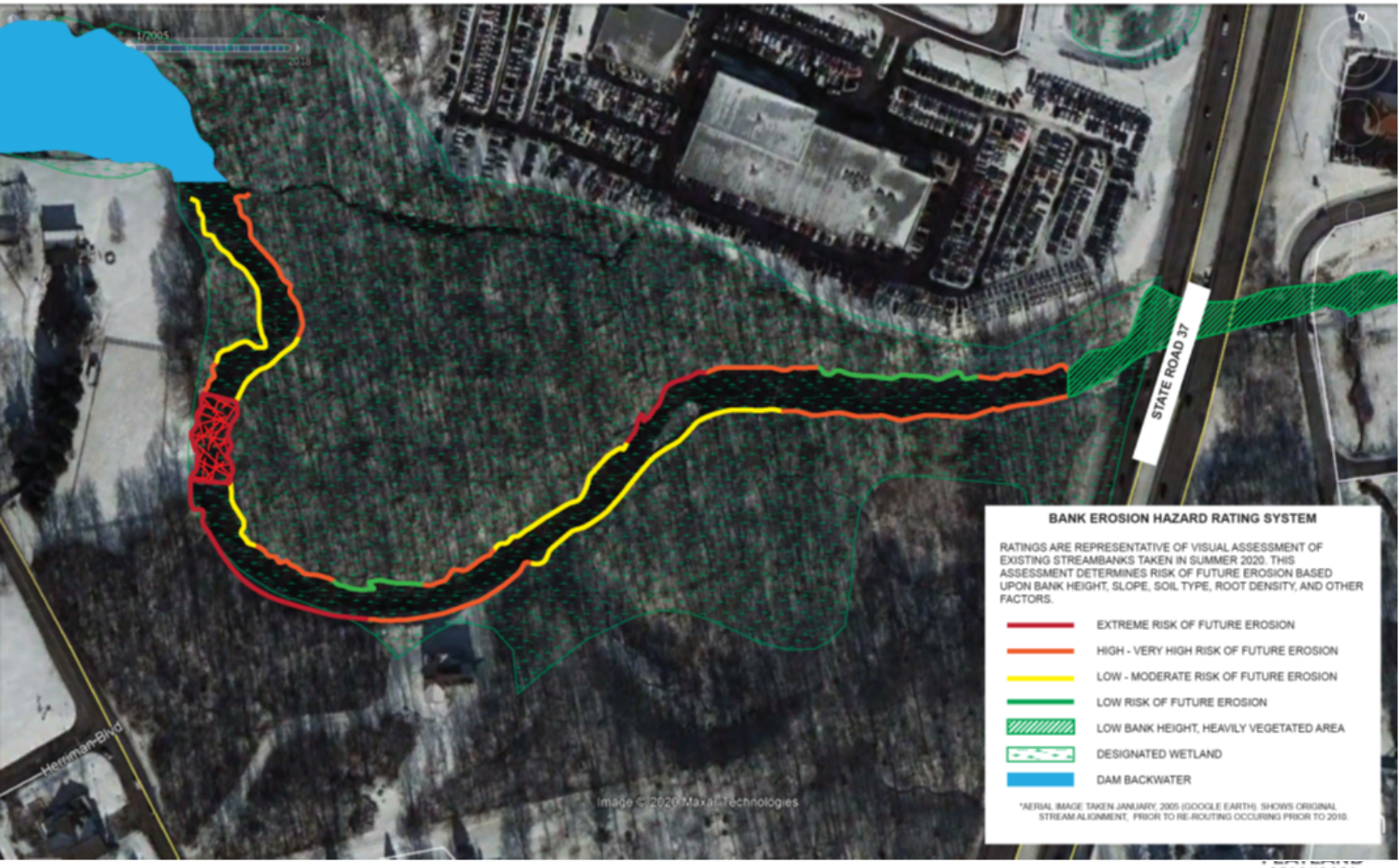
Gray Myotis	Black-crowned Night-heron	Great Egret
Red-shouldered Hawk	Bald Eagle	Osprey
Yellow-crowned Night-heron	Cerulean Warbler	



From left to right: *Black-crowned Night-heron, Great Egret, and Osprey*

STONY CREEK BEHI (BANK EROSION HAZARD INDEX) ANALYSIS
NOBLESVILLE, INDIANA

FLATLAND RESOURCES



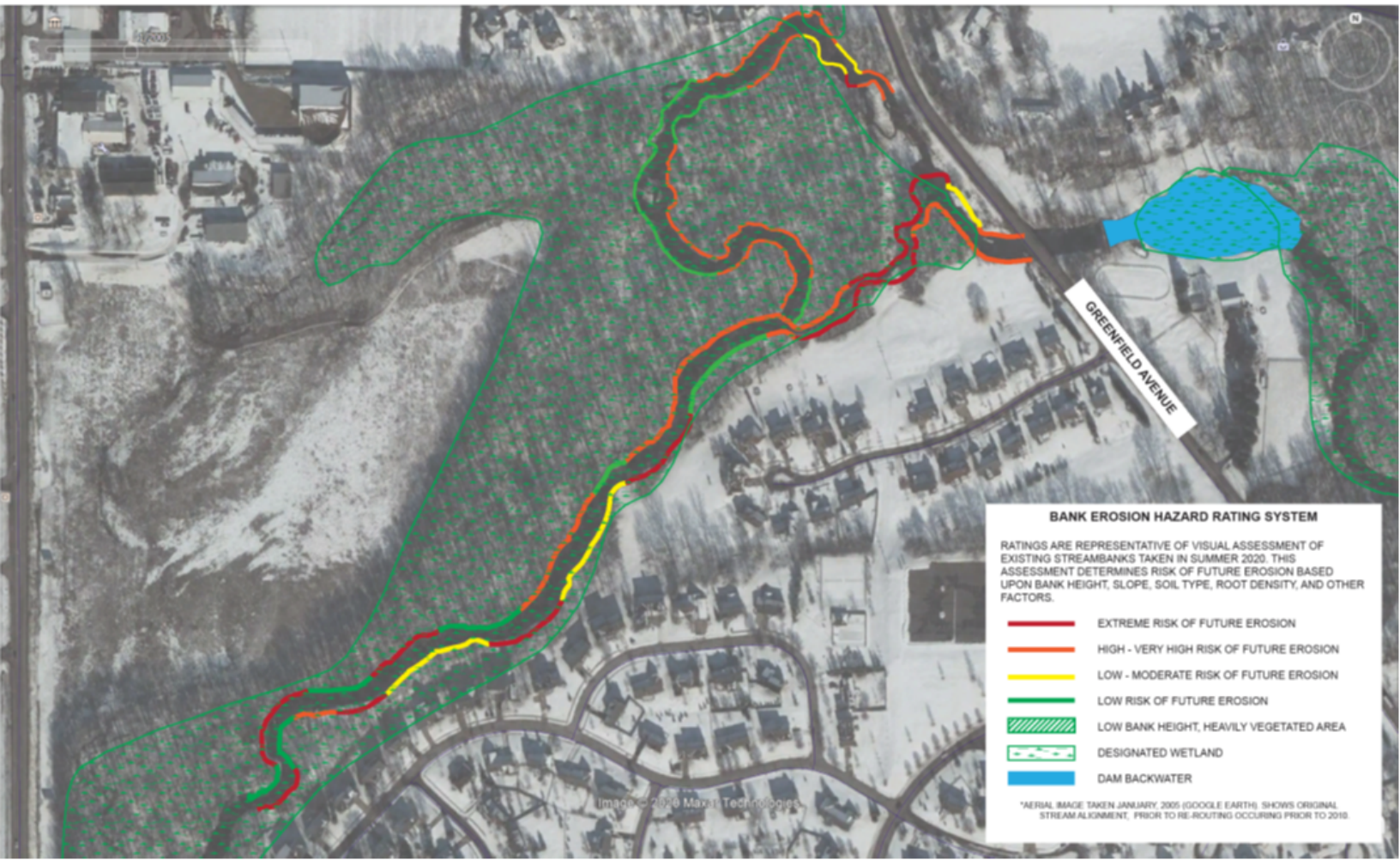
BANK EROSION HAZARD RATING SYSTEM

RATINGS ARE REPRESENTATIVE OF VISUAL ASSESSMENT OF EXISTING STREAMBANKS TAKEN IN SUMMER 2020. THIS ASSESSMENT DETERMINES RISK OF FUTURE EROSION BASED UPON BANK HEIGHT, SLOPE, SOIL TYPE, ROOT DENSITY, AND OTHER FACTORS.

- EXTREME RISK OF FUTURE EROSION
- HIGH - VERY HIGH RISK OF FUTURE EROSION
- LOW - MODERATE RISK OF FUTURE EROSION
- LOW RISK OF FUTURE EROSION
- LOW BANK HEIGHT, HEAVILY VEGETATED AREA
- DESIGNATED WETLAND
- DAM BACKWATER

*AERIAL IMAGE TAKEN JANUARY, 2005 (GOOGLE EARTH). SHOWS ORIGINAL STREAM ALIGNMENT, PRIOR TO RE-ROUTING OCCURING PRIOR TO 2010.

FLATLAND RESOURCES



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