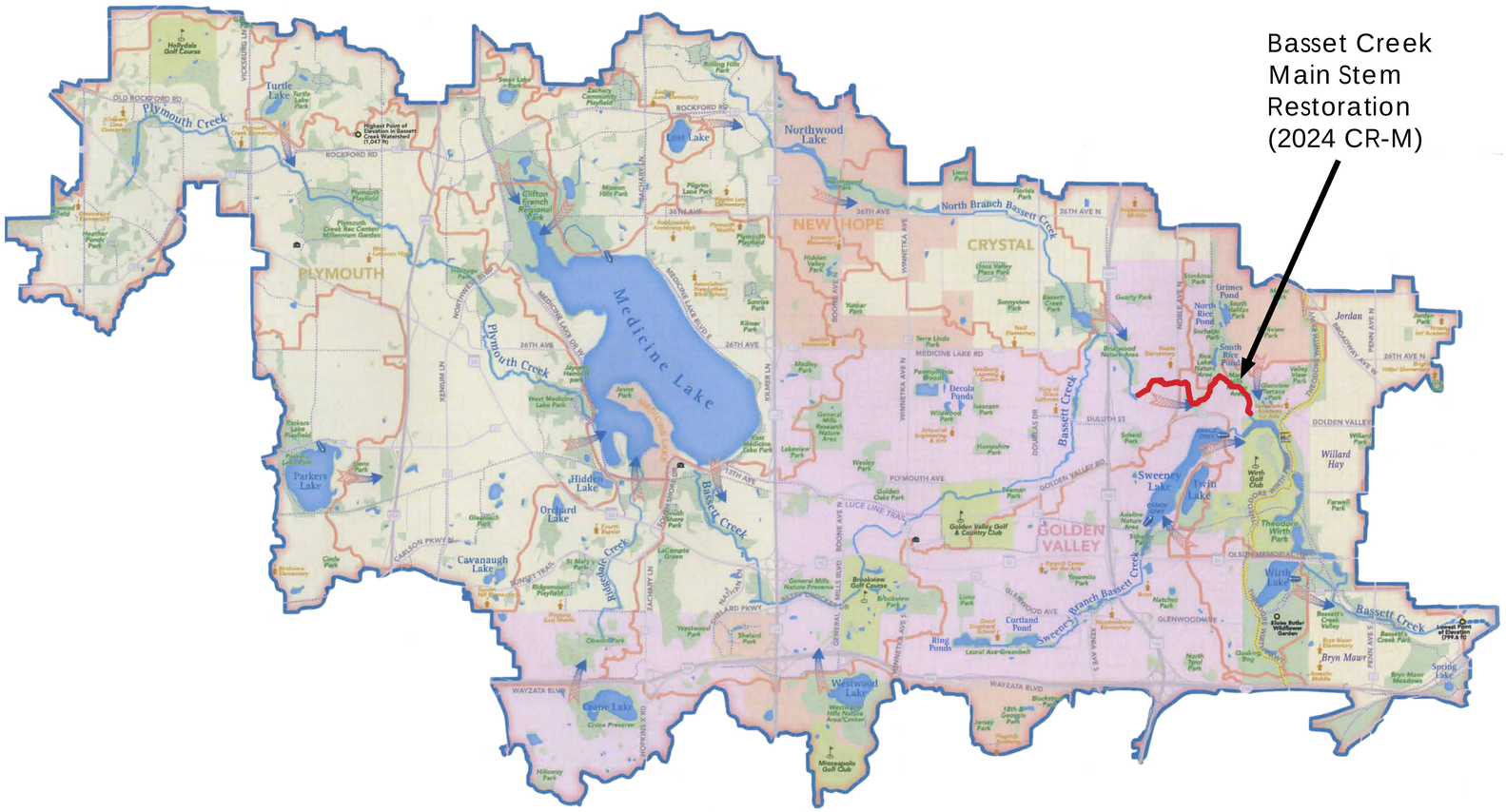
About the Bassett Creek Watershed Management Commission (BCWMC)

The vision: stewardship of water resources to protect and enhance our communities



About the BCWMC

- **Regional government organization** formed in 1969 to focus on flood control along Bassett Creek
- **Operates under 1982 Metropolitan Surface Water Management Act**
- **Focused on providing flood management and improving and protecting the water quality** of Bassett Creek and lakes/streams
- **Nine member cities:** Crystal, Golden Valley, Medicine Lake, Minneapolis, Minnetonka, New Hope, Plymouth, Robbinsdale, St. Louis Park,
- **Area:** approximately 40 square miles

Commission funding

- Contributions from nine member cities (approximately $600,000 per year)
- Hennepin County tax levy for major projects (approximately $1.5–2 million per year)
- Grant funds and application fees (varies)

Commission activities

- Implements capital improvement projects that reduce flooding and improve lakes, streams, and wetlands throughout the watershed
- Monitors water quality, performs studies, maps resources
- Provides water resource education and watershed-wide coordination
- Reviews developments for compliance with standards and requirements

EXAMPLE BCWMC CIP PROJECTS

Wirth Lake outlet

Basset Creek restoration

Basset Creek Main Stem Restoration Project

Bassett Creek Main Stem Erosion Issues and Restoration Prioritization

- Significant Trees
- Legacy Trees
- Bassett Creek
- Platted Easement
- Easement
- Private Parcel
- Public Parcel
- Existing Stabilization

Bank Erosion Hazard Index (BEHI)

- Very High
- High
- Moderate

Utilities

- Gravity Storm Sewer
- Culverts
- Draintile
- Other City
- County Storm
- Private Storm
- Private Draintile
- Abandoned City
- Abandoned Private
- Channels
- Sanitary Main
- Sanitary Lateral
- Other Sanitary Main

Streambank undercutting

Tributary erosion

Scour near culverts

Restoration Prioritization Factors

Several factors will impact prioritization of Bassett Creek Main Stem restoration locations, including:

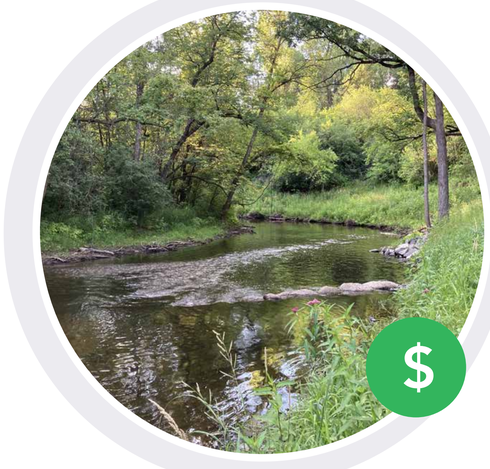
- Severity of existing erosion
- Public vs. private ownership
- Protection of existing infrastructure
- Impact to surrounding areas
- Public visibility / accessibility
- Potential for future erosion
- Opportunity for habitat creation or restoration
- Maintaining healthy trees (avoiding removal)
- Vegetation establishment potential (exposure to sunlight)
- Ease of construction access
- Consider proximity/possibility for other projects (e.g. new sediment trapping device in nearby storm drains)

Any type of erosion comes with the associated issues:

- Introduction of sediment to stream and downstream water bodies
- Degradation of bank vegetation and reduced potential for re-growth
- Degradation of in-stream and bank habitats
- Increased risk of continued erosion
- Changing of the stream shape and size overtime

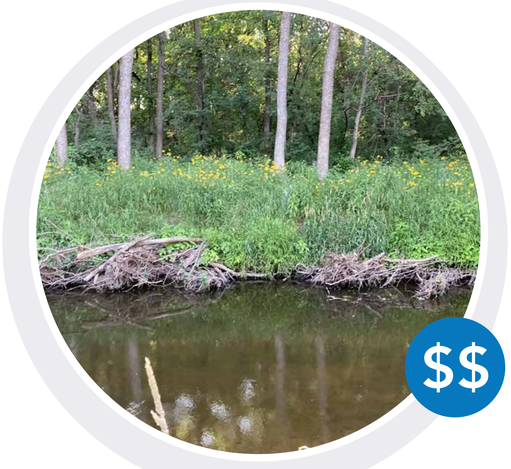
Alternate Design Concepts Summary

1



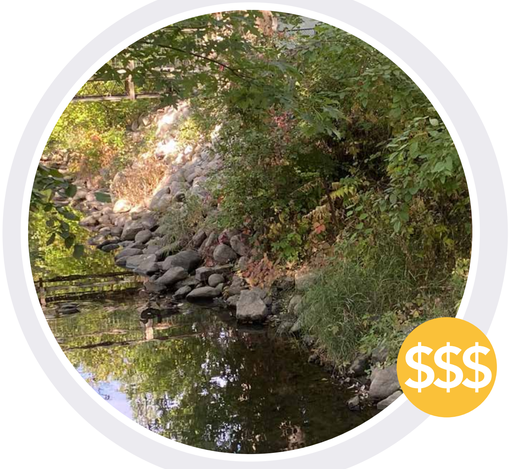
In stream structures

2



Toe stabilization with bioengineering methods

3



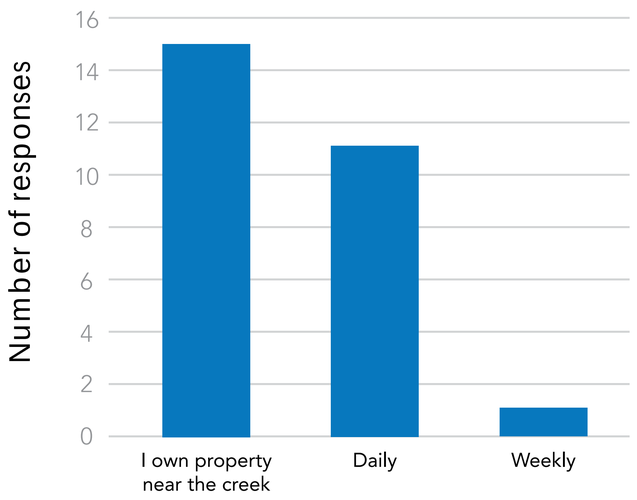
Bank grading with riprap and vegetation establishment

Pros	• Reduces near-bank stress • Minimal bank disturbance • Lowest construction cost • Diversified flow within stream, including energy dissipation pools • Features provide in-stream habitat	• More erosion protection along bank toe • Bioengineering and vegetation features can improve in-stream and bank habitat	• Riprap allows for the most protection against high shear stress flows • Immediate stabilization of eroding areas
Cons	• In stream features can be obstructed with sediment and debris • Continued erosion on unprotected bank toe outside the zone of influence of the structures	• Requires establishment period for vegetation features • Moderate grading can increase construction costs and bank disturbance, and potential tree removal	• Riprap provides minimal in-stream or bank habitat • Riprap and grading are more cost intensive • Most bank disturbance during construction, and potential tree removal

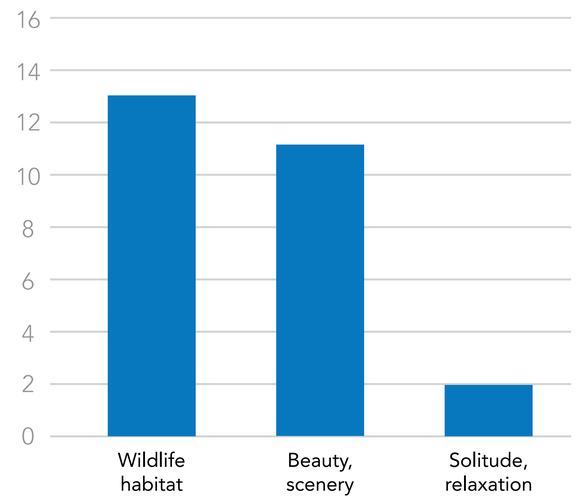
Survey Feedback

15 Responses

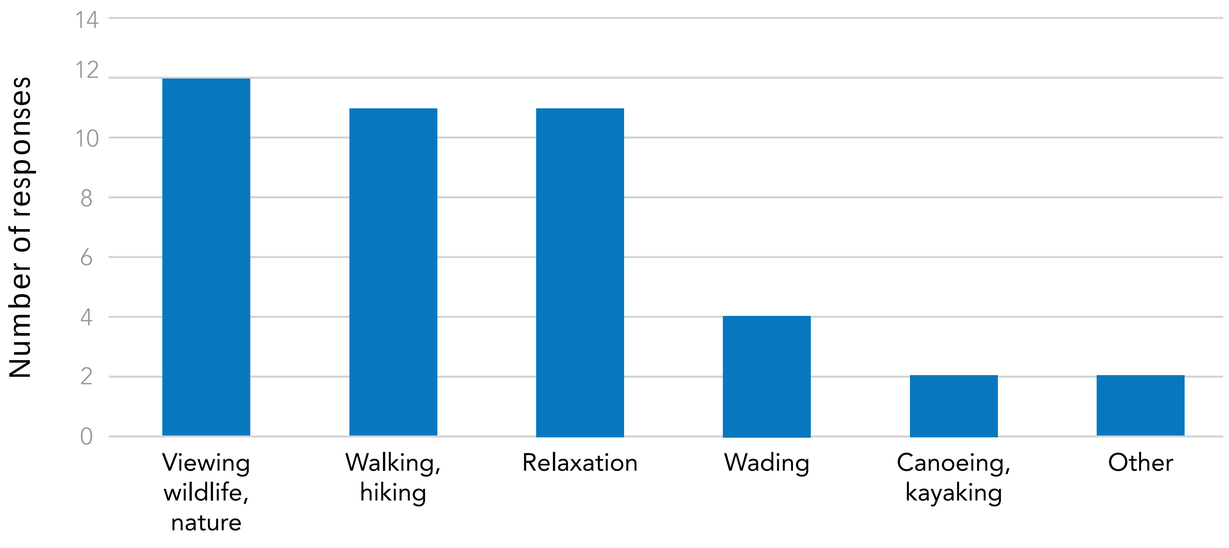
How often do you visit Basset Creek?



What do you appreciate about Basset Creek?



How do you interact with Basset Creek?

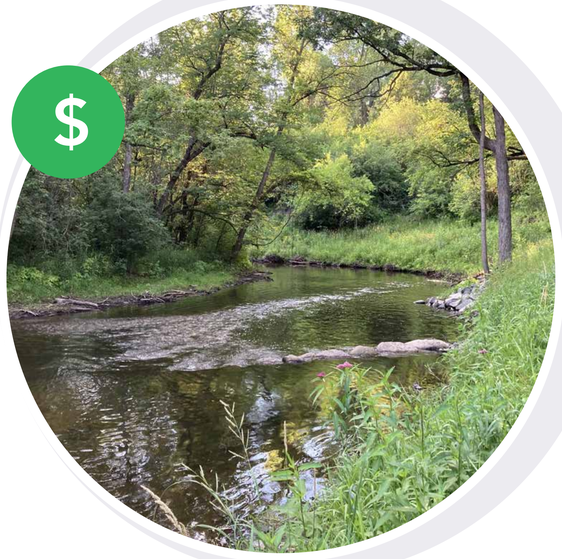


How can Basset Creek be improved as part of this project?
Mitigate erosion and stabilize channel banks.
Protect and preserve as many trees as possible.
Protect and improve wildlife habitat.
Control invasive species.
Mitigate flooding.
Remove debris clogging the channel.
Improve navigability.

Concern	Response
Tree removal and loss of wildlife habitat	Tree removal will be limited to only those trees essential to the project construction; our goal is to protect as many healthy trees as possible. The proposed stream restoration project will increase wildlife habitat by increasing native vegetation adjacent to streambanks, as well as by introducing woody habitat to the streams.
Property access and property damage	All areas disturbed during the stream restoration project will be restored with seeding.
Cost to adjacent property owners	The stream restoration project will be funded by BCWMC Capital Improvement Project funds which are paid for via a tax levied by Hennepin County over the entire Bassett Creek watershed.
Effects on the floodplain and flood risk to properties	The proposed restoration will not result in fill in the floodplain, therefore, flood risk will not increase.
Effects on utility lines	The project will be designed to avoid impacts to utility lines. A utility locate will occur during the design and construction process to ensure all utilities are avoiding during construction.
Concerns about the ability of fish to migrate upstream	Any in stream structure that spans the width of the creek (i.e. cross vanes) will be designed to allow fish passage during low and high flow events.
Ability to inform restoration design	Public input gathered via the online Story Map and public meetings will inform design decisions.

Restoration Design Concept

1 In stream structures



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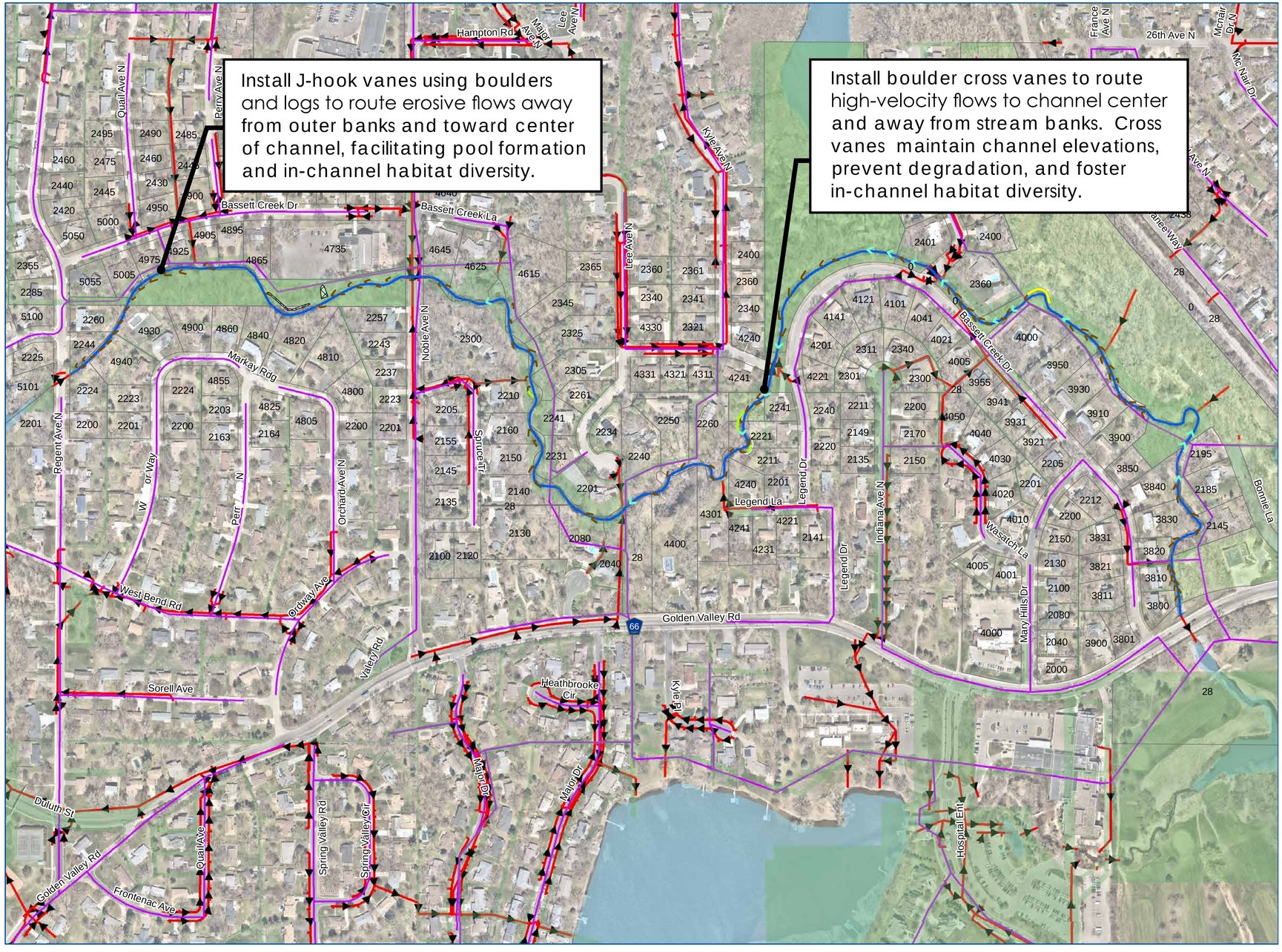
Significant Trees
Legacy Trees
Basset Creek
Easement
Sanitary Sewer
Storm Sewer
Toe Wood
Root Wad
J Hooks
Cross Vane
Riprap

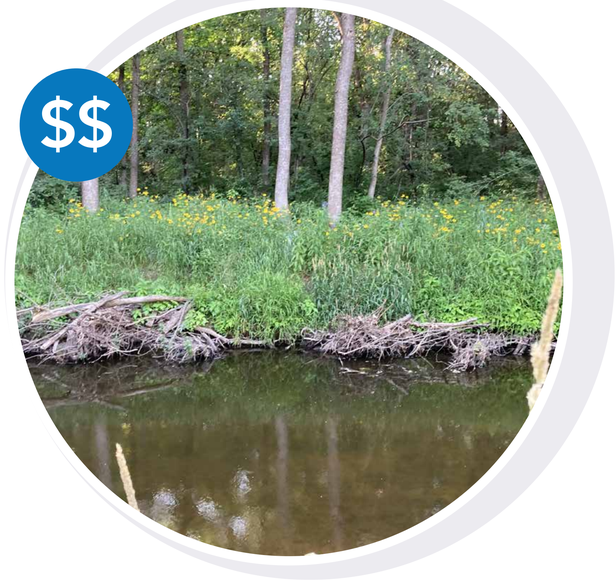
Vegetation Establishment



Basset Creek Main Stem Restoration Project

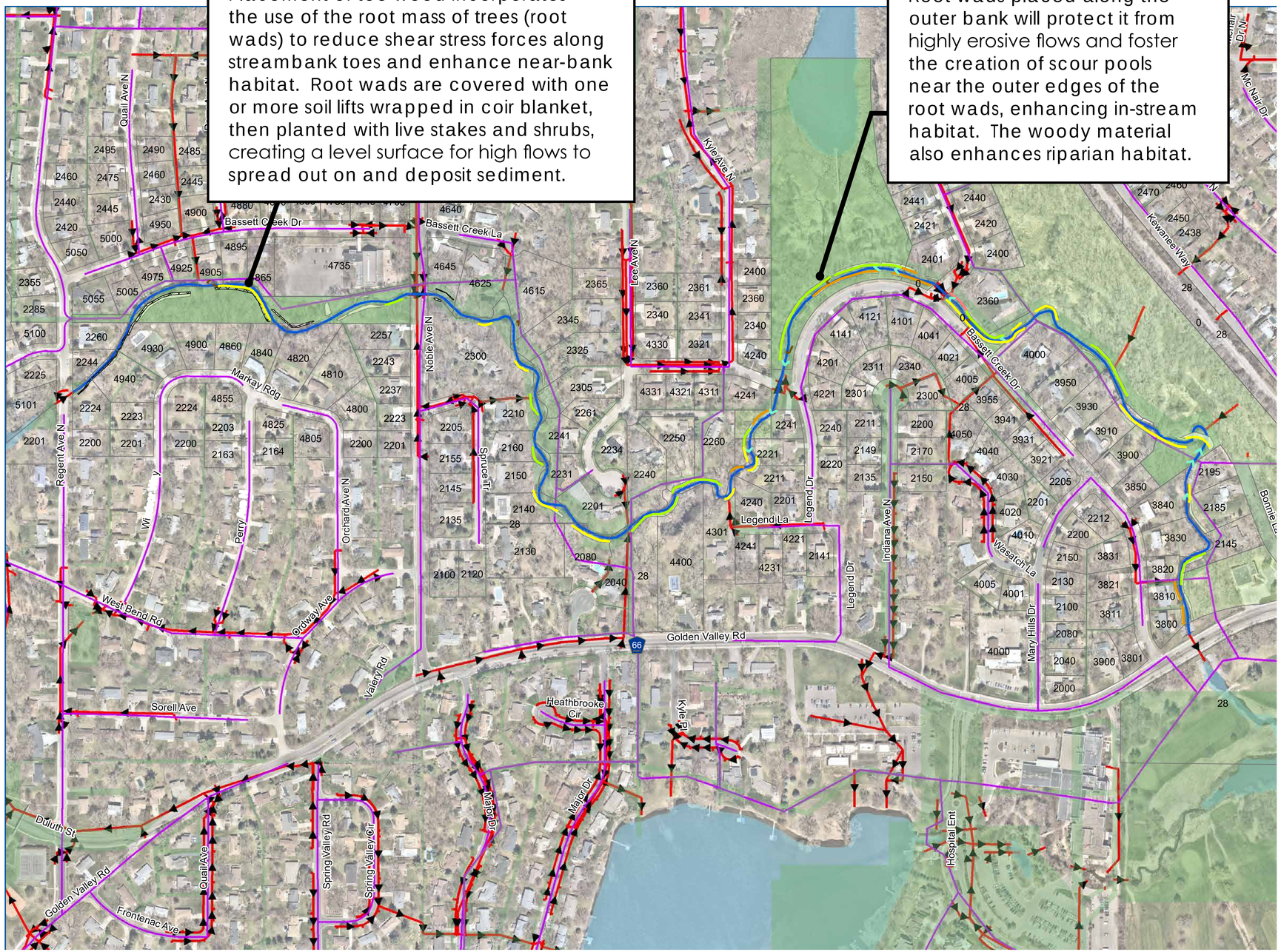
Restoration Design Concept

2 Toe stabilization with bioengineering methods



Placement of toe wood incorporates the use of the root mass of trees (root wads) to reduce shear stress forces along streambank toes and enhance near-bank habitat. Root wads are covered with one or more soil lifts wrapped in coir blanket, then planted with live stakes and shrubs, creating a level surface for high flows to spread out on and deposit sediment.

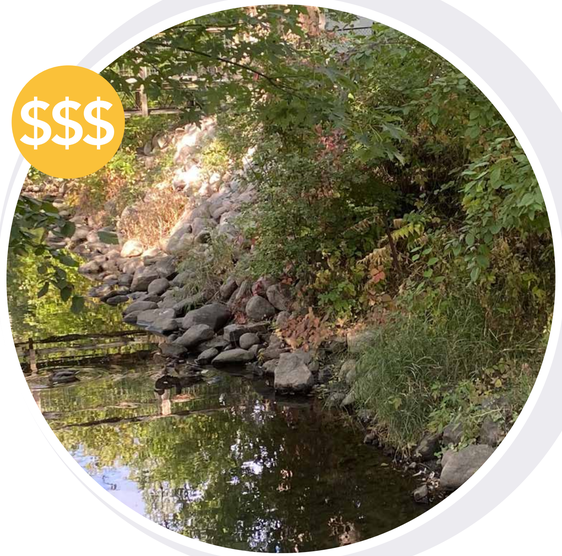
Root wads placed along the outer bank will protect it from highly erosive flows and foster the creation of scour pools near the outer edges of the root wads, enhancing in-stream habitat. The woody material also enhances riparian habitat.



- Significant Trees
- Legacy Trees
- Basset Creek
- Easement
- Sanitary Sewer
- Storm Sewer
- Toe Wood
- Root Wad
- J Hooks
- Cross Vane
- Coir Log
- Fascine
- Riprap
- Vegetation Establishment
- Bioengineering Features (coir log and/or fascine)

Restoration Design Concept

3 Bank grading with riprap and vegetation establishment



- Significant Trees
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