Restoring a Native Creek Buffer Through a Residential Neighborhood: Approach, Challenges, and Lessons Learned

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Project Location
Background

- Identified in 2003 Stream Assessment
- Goals:
  - Stabilize banks
  - Improve riparian vegetation
  - Improve habitat
- Site conditions:
  - Hard armoring
  - Turf grass
  - Reed canary grass
Project Parameters

- Voluntary participation
- 57 properties
  - Goal = 20 participants
- 10-20 ft native buffer
- Funding available through District levy
- Declaration/easement
Homeowner Survey

- Are you interested?
- Reasons for?
- Reasons against?
- How wide?
- Access path?
- Willing to contribute $?
- Willing to sign declaration?

Minnehaha Creek Reach 14 Streambank Improvement Project Survey

Resident name: ___________________ Address: ___________________

Project summary: The MCWD is proposing a streambank improvement project along Minnehaha Creek from West 54th Street to France Avenue in the City of Edina. The project would be on a strictly voluntary basis and would involve the installation of native plants along the streambank for the purposes of preventing bank erosion, improving water quality, and enhancing wildlife habitat.

Please complete the survey by circling the applicable response or filling in the blank provided.

1. What is the current condition of your streambank?
   - Tast of grass or shrubs
   - Native vegetation
   - Rock/rock or retaining wall

2. Are you interested in participating in the proposed streambank restoration project?
   - Yes
   - No (skip to #3)
   - Maybe

3. Is your streambank primarily in the sun or shade?
   - Sun
   - Shade
   - Not sure

4. How steep is your existing streambank? (Note: 3:1 means 3 ft horizontal to 1 ft vertical)
   - Less than 3:1
   - Greater than 3:1

5. The proposed plantings would consist primarily of native grasses with some flowers, shrubs, and/or trees depending on resident preferences. Enclosed is a proposed seed mix with a list of shrubs and trees on the back side. If you have preferences for the types of plants to be used, please note these on the list.

6. The proposed design includes a 10-20 ft buffer of native plantings that would provide water quality and habitat benefits. MCWD’s goal would be to have a buffer that is at least 20 ft wide on average. What is the maximum buffer width that you could accommodate on your property? ______ ft

7. The proposed design would include a path where mowing would be allowed to provide access to the creek. However, a narrow path of 5-10 ft in width would be preferred. How wide of an access path would you want to have on your property? ______ ft

8. If you have existing rock or a retaining wall on your streambank, would you be willing to allow it to be removed and replaced with native plantings?
   - Yes
   - No
   - Not applicable

(Continued on back side)
Survey Results

- Are you interested?  → 16 yes, 8 no, 6 maybe
- Reasons for?  → reduce erosion, improve water quality, visual appeal, provide habitat
- Reasons against?  → loss of yard space, blocked views
- How wide?  → 4 ≤ 5 ft, 4 = 5-10 ft, 4 = 15-20 ft, 5 ≥ 20 ft
- Access path?  → 16 yes, 4 no
- Willing to contribute $?  → 11 yes, 8 no
- Willing to sign declaration?  → 19 yes, 1 no, 2 unsure
Approach

- Managed/intentional look
- Individualized plans
- Homeowner participation
- Control costs
Homeowner Plant Guide

Partial Sun to Full Shade

Buffer Planting Seed Mix

- **Fowl Bluegrass** ([Poa palustris])
  - Height: 2’
  - Growth Habit: Bunching, slow spreading by seed

- **Jack-in-the-Pulpit** ([Arisaema triphyllum])
  - Height: 2’
  - Growth Habit: Slow spreading

- **Drummond’s Aster** ([Aster drummondii])
  - Height: 3’
  - Growth Habit: Slow spreading by seed

- **Large-leaved Aster** ([Aster macrophyllus])
  - Height: 1’
  - Growth Habit: Moderate spreading

- **Beggarticks** ([Bidens frondosa])
  - Height: 3’
  - Growth Habit: Moderate spreading by seed

- **Tall Bellflower** ([Campanula americana])
  - Height: 5’
  - Growth Habit: Slow spreading by seed

- **Wild Geranium** ([Geranium maculatum])
  - Height: 3’
  - Growth Habit: Moderate spreading by seed

- **Woodland Sunflower** ([Helianthus strumosus])
  - Height: 3’
  - Growth Habit: Moderate to rapid spreading

Buffer Landscaping (Homeowner Preference)

- **Maidenhair Fern** ([Adiantum pedatum])
  - Height: 2’
  - Growth Habit: Moderate spreading

- **Columbine** ([Aquilegia canadensis])
  - Height: 2’
  - Growth Habit: Slow spreading by seed

- **Palm Sedge** ([Carex muskingumensis])
  - Height: 2’
  - Growth Habit: Bunching, slow spreading

- **Sun Sedge** ([Carex pensylvanica])
  - Height: 1’
  - Growth Habit: Slow spreading

- **Astríle** ([Astríle spp.])
  - Height: 3’
  - Growth Habit: Slow spreading

- **Turtlehead** ([Chelone glabra])
  - Height: 3’
  - Growth Habit: Slow spreading

- **Lady Fern** ([Athyrium filix-femina])
  - Height: 3’
  - Growth Habit: Moderate spreading

- **Little Joe Pye Weed** ([Eupatorium dubium ’Little Joe’])
  - Height: 4’
  - Growth Habit: Clumping, moderate spreading
Refined Parameters

- Buffer width = 10 ft minimum
- Access path ≤ 20 ft or 20%
- Plant height ≤ 5 ft
- Funding:
  - MCWD - design, construction, and 3 yr establishment
  - Homeowners pay for “extras”
- Easement:
  - First 10 ft from top of bank
  - Allows modifications
Implementation

• Process:
  • Letter of intent
  • Individual site visits
  • Preliminary design review
  • Finalize designs
  • Execute easements
• 16 participants
• Worked with MN Native Landscapes
• Completed – October 2013
• Cost = $265,000
Results
Next Steps

- 3 year maintenance period
  - Homeowner maintenance workshops
- Use as demonstration site and promote cost share program
  - Newsletters/articles
  - Website
  - Open house/garden party
  - Highlighted on creek tours
  - Potential signage and markers
Lessons Learned

• Challenges:
  • Lots of staff and consultant time
  • Homeowner commitment/responsiveness
  • Declaration/easement
  • Site access
  • Weather
  • Homeowner patience during establishment
Lessons Learned

- What worked well:
  - Survey tool
  - Neighborhood champions
  - Clear expectations
  - Frequent communication
  - Seed/plug combination
  - Landscaped border
  - Homeowner participation in design
Questions?