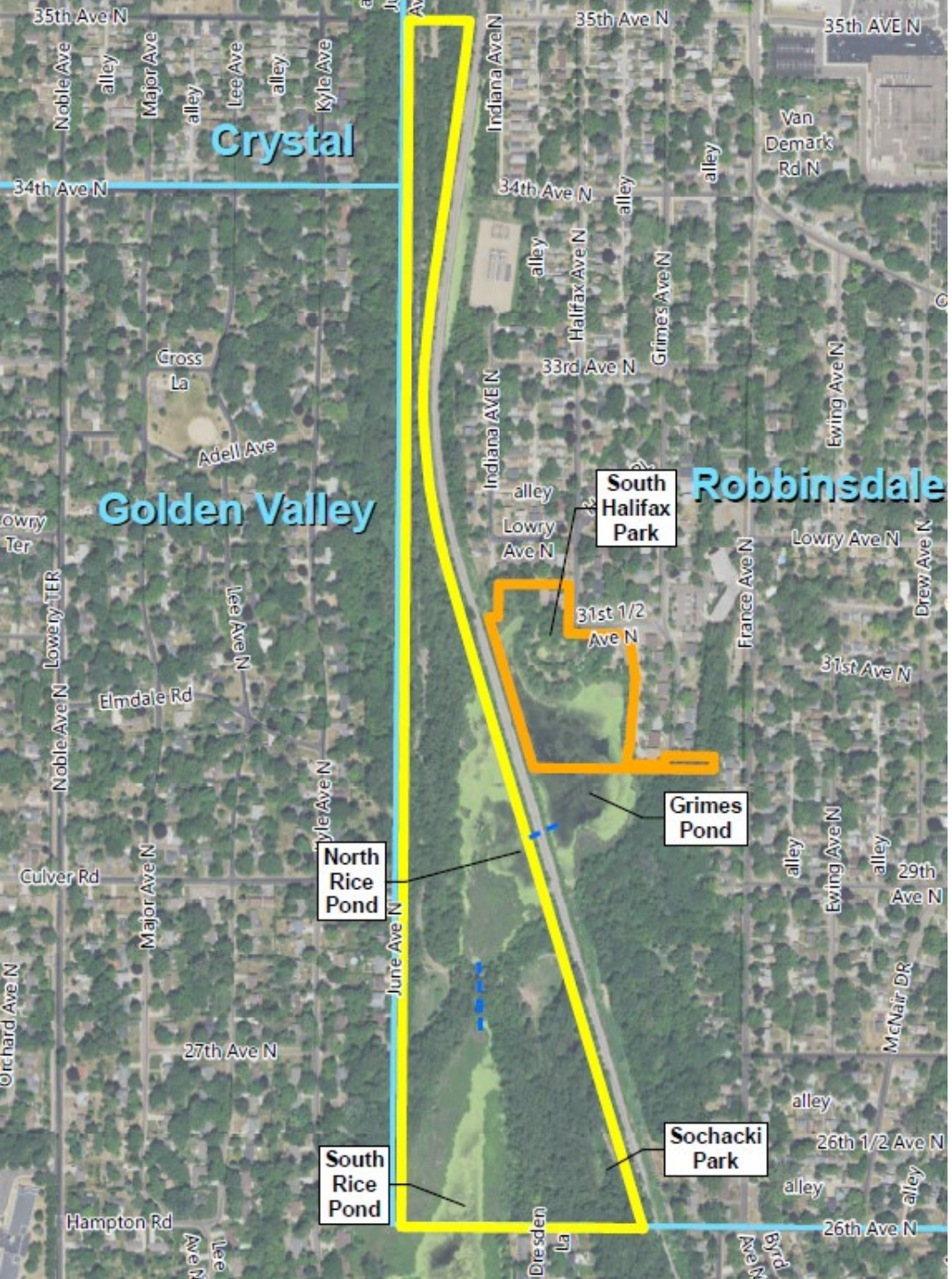

Sochacki Park Feasibility Study
September 2023

Prepared for Three Rivers Park District on behalf of the Bassett Creek Watershed Management Commission

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Bassett Creek Watershed Management Commission

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Questions/Comments/Suggestions Since August Meeting

- Better describe how project aligns with “gatekeeper” criteria
- How will project improve water quality, address Bassett Creek goals?
- Refine BMP designs to minimize
  - Impacts on wetlands & prairie
  - Excavation of contamination
  - Disturbance/alteration of park features
- Quantify impacts on trees
- Add funding sources that address soil contamination

"Gatekeeper" policy from BCWMC Plan

- 110. The BCWMC will consider including projects in the CIP that meet one or more of the following "gatekeeper" criteria.
  - ***Project is part of the BCWMC trunk system (see Section 2.8.1, Figure 2-14 and Figure 2-15 of the report)***
  - ***Project improves or protects water quality in a priority waterbody***
  - ***Project addresses an approved TMDL or watershed restoration and protection strategy (WRAPS)***
  - Project addresses flooding concern

"Gatekeeper" policy from BCWMC Plan (cont'd.)

- The BCWMC will use the following criteria…to aid in the prioritization of projects:
  - Project protects or restores previous Commission investments in infrastructure
  - Project addresses intercommunity drainage issues
  - ***Project addresses erosion and sedimentation issues***
  - ***Project will address multiple Commission goals (e.g., water quality, runoff volume, aesthetics, wildlife habitat, recreation, etc.)***
  - ***Subwatershed draining to project includes more than one community***
  - Addresses significant infrastructure or property damage concerns

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Project Goals and Considerations

- Improve water quality for Bassett Creek
  - 100 ug/L summer average total phosphorus, 40 ug/L chlorophyll-a for Priority 1 Stream
- Improve wetland water quality
  - Nutrient reductions to shift away from floating plant dominance
  - Consistent with BCWMC's (previous) 2004 water quality goals
    - 75 ug/L total phosphorus
    - 40 ug/L chlorophyll-a
    - 1 meter Secchi disc (water clarity)
- Enhance vegetative diversity and integrity
  - Control invasive species—including curly-leaf pondweed

Feasibility Study Desktop Assessments & Field Investigations

a. **Sediment sampling**
b. Phase 1 Environmental Site Assessment
c. Wetland delineations
d. Topographic and utility location survey
e. Tree location, diameter, species, and condition survey
f. Threatened and endangered species desktop review
g. Cultural and historical resources literature review
h. Confirm ownership and any potential easement needs

Recommended Wetland Improvement Options

- Structural BMPs
  - Two ponds in South Rice Pond watershed, one each in Grimes and North Rice Pond watersheds
  - Clear debris from inlets/outlets, remove sediment deposits, stabilize erosion
- In-pond BMPs to reduce internal phosphorus load
  - Conduct water level drawdowns—control invasives, shift floating plant dominance
  - Areal alum applications
- Revegetate and control soil erosion in upland areas
- Street sweeping—emphasis in untreated watersheds

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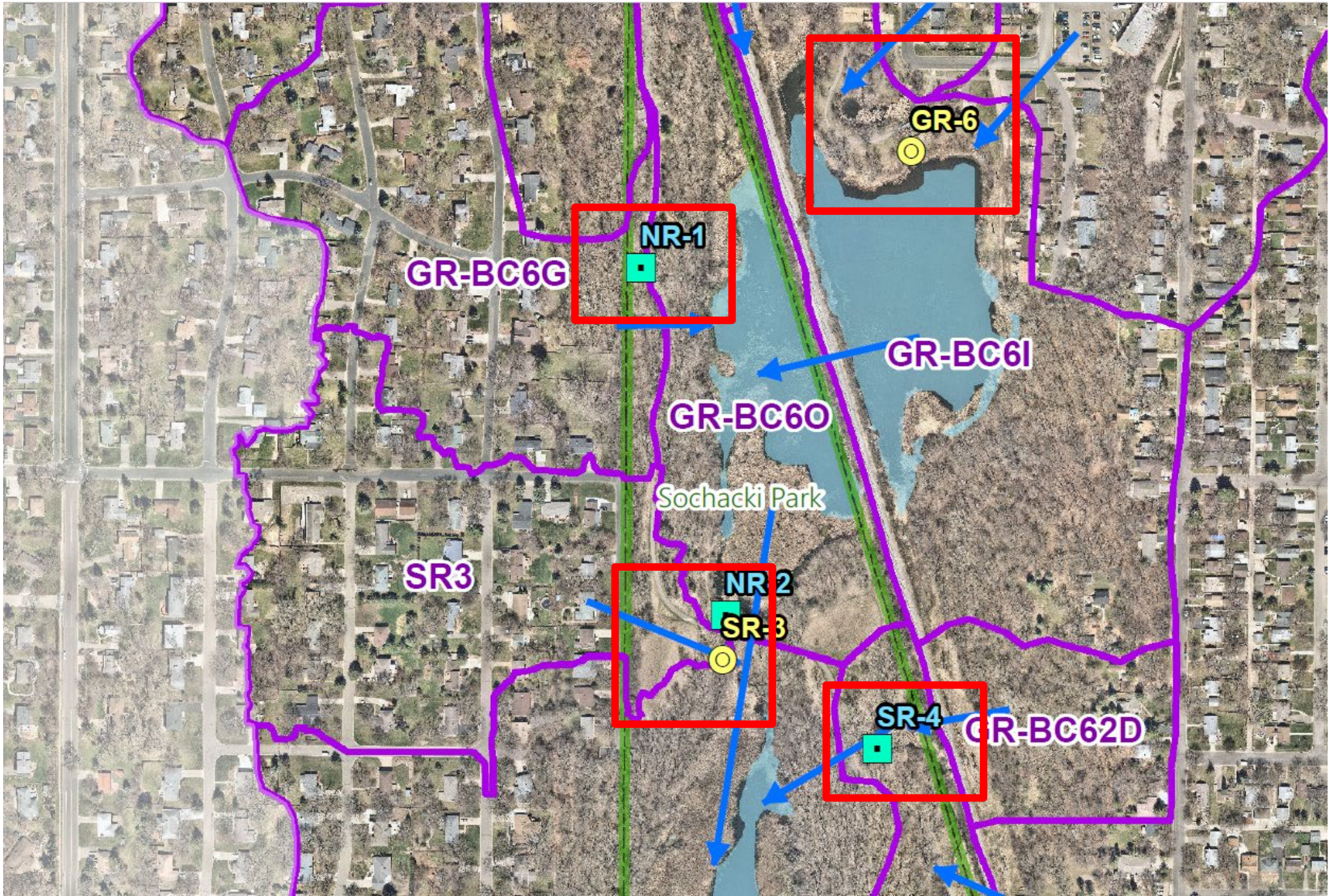
BMP Locations

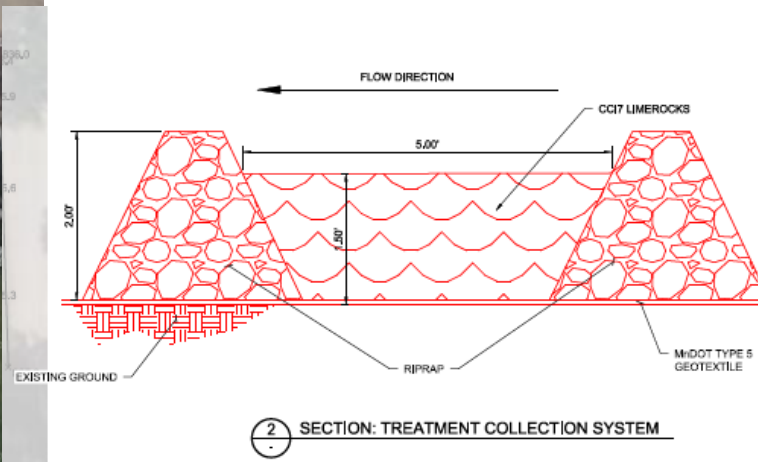


BMP NR-1(North Rice Watershed)
16.4-acre tributary watershed

BMP SR-3 (South Rice Watershed)
15.7-acre tributary watershed

BMP GR-6 (Grimes watershed)
46.4-acre tributary watershed

Grimes Pond



2 SECTION: TREATMENT COLLECTION SYSTEM

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BMP SR-4 (South Rice watershed)
204.3-acre tributary watershed

Proposed Structural BMP Descriptions

BMP ID/Name	BMP Location	BMP Description	Approximate Number of Tree Removals	Wetland/ Prairie Impacts	Annual TP Removal (lbs/yr)
Pond NR-1	Northwest portion of Sochacki Park, tributary to North Rice Pond	Construct new stormwater pond for untreated runoff from City of Golden Valley	70	None. Disturbance is limited to upland area.	3.6
Pond SR-3	West portion of Sochacki Park, tributary to South Rice Pond	Construct new stormwater pond for untreated runoff from City of Golden Valley	60	Negligible. Pond will be developed from wooded upland area.	3.3
BMP GR-6	South Halifax Park, tributary to Grimes Pond	Construct permeable filtration system with CC17 crushed limestone to better treat runoff from City of Robbinsdale	10	Approximately 0.2 acres of wetland area, below MnDNR OHWL, would be used to install permeable filtration system.	15.5
Pond SR-4	East portion of Sochacki Park, tributary to South Rice Pond	Dredge and expand existing pond to better treat runoff from City of Robbinsdale and stabilize outlet channel	100	None. Pond expansion is occurring in wooded upland area.	38.9

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Estimated Benefits

Monitoring/Modeling Scenario	Grimes Pond Avg. Summer TP	North Rice Pond Avg. Summer TP	South Rice Pond Avg. Summer TP	Avg. TP Entering Bassett Creek
Existing 2020 and 2021 Summer Average TP (µg/L)	168	104	230	230
Predicted Summer TP Concentration Following BMP Implementation (µg/L)	128	75	107	107
Percent TP Reduction Following BMP Implementation	24%	28%	53%	53%
Predicted Annual TP Load Reduction Following BMP Implementation (lbs/yr)				68.3

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Estimated Costs/Benefits and Recommended Sequencing

BMP ID/Location	Annual TP Removal (lbs/yr)	Planning Level Capital Cost Estimate	Annualized Cost-Benefit ($/lb TP Removed/yr)	Recommended Sequence for Implementation
Revegetate/control upland soil erosion	NA	$10,000	NA	1a
Street sweeping in untreated subwatersheds	NA	NA	NA	1b
Clear inlet/outlet debris, remove sediment deltas and stabilize erosion	NA	$100,000	NA	1c
Conduct pond water level drawdowns	NA	$182,000	NA	1d
Dredge/expand existing SR-4 pond and stabilize outlet channel	38.9	$471,000	$1,000	2a
Construct permeable filtration system at GR-6	15.5	$333,000	$1,800	2b
Construct stormwater pond at NR-1	3.6	$255,000	$5,900	2c
Construct stormwater pond at SR-3	3.3	$307,000	$7,700	2d
Alum treatment of Grimes, North and South Rice Ponds	11.2	$245,000	$1,800	3
Total	**72.5**	**$1,903,000**	**$2,200**	

Project Funding Options

- BCWMC CIP Funds ($600,000)
- BWSR Clean Water Funds
- Conservation Partners Legacy (for habitat components)
- Hennepin County Opportunity or Stewardship grants
- Hennepin County Environmental Response Fund
- Minnesota DEED Contamination Investigation and Response Action Plan Development Grant program
- MPCA grants and MN Public Facilities Authority funds
- MnDNR short term action request grants
- Partner CIP funds (for potential grant match)

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Questions?