

Winooski Basin Clean Water Service Provider

Date: 16 January 2024

To: Winooski Basin Water Quality Council

Re: Winooski Basin Clean Water Service Provider Staff recommendation: FY24 Round 2 Project Solicitation

This memo offers a staff recommendation for prioritizing funding for the five proposals received in response to the FY24 Round 2 Project Solicitation. Projects were evaluated using the following criteria: Cost effectiveness of phosphorous reduction (75 points), Project Risk (10 points), Design Life (5 points) and Co-benefits (10 points).

For a more detailed description of the Design- and Implementation-phase project proposal review process, refer to the [Co-benefits scoring methodology](#), the March 2023 Clean Water Service Provider [presentation](#) to the Winooski Basin Water Quality Council and the [minutes](#) from that meeting. Assessment / Identification and Development-phase projects are scored according to their likelihood of success in identifying cost-efficient, non-regulatory water quality improvement projects in the Winooski Basin.

The Winooski Clean Water Service Provider has ~\$840,200 of the FY23 Formula Grant Project Funding remaining. To date, \$44,604 of the total FY23 Formula Grant Project Funding has been awarded. The FY24 Formula Grant includes \$932,650 for Project Funding. None of this money has been awarded. The Winooski River Basin Clean Water Service Provider phosphorous-reduction target established by the Secretary of the Agency of Natural Resources is 69.6 kg / yr. *The Winooski Basin Water Quality Council should consider prioritizing projects with phosphorous-reduction cost effectiveness rate at or below \$15,000 / kg.*

Staff reviewed the following five projects:

1. Caledonia County Natural Resources Conservation District – Peacham Pond Access
2. Friends of the Winooski River – Nantanna Mill Stormwater Project
3. Friends of the Winooski River – Bull Run Tributary Restoration
4. Friends of the Winooski River – Coburn Road Floodplain Restoration
5. Friends of the Winooski River – Strategic Woody Addition

The details of each review can be found on the following pages. Please contact Brian Voigt (voigt@cvregion.com) with questions.

1. **Caledonia County Natural Resources Conservation District – Peacham Pond Access:** This stormwater implementation project seeks to address runoff and erosion at the Peacham Pond Department of Fish & Wildlife access point. Due to site constraints, the project area is quite limited, and so too is the amount of stormwater runoff that can be treated. The Best Management Practice for the site features a 10-year design life and would yield minimal phosphorous reduction relative to the amount of funding requested. The project cost effectiveness exceeds the rate required to achieve the phosphorous-reduction target for the basin. **Recommendation: Do not fund this proposal at this time.**¹

Table 1-1: Cost-Effectiveness Score

Criteria	Value
Funding Request	\$33,900
Future Funding Request	\$0
Total Cost	\$33,900
Phosphorous Reduction (kg / yr)	0.14
Design Life	10
Cost Effectiveness (\$ / kg)	\$363,214
Cost-Effectiveness Score	0
Cost Effectiveness Formula (\$ / kg / yr) = ((15 years / project design life) * (Total Cost)) / (Phosphorous Reduction (kg / yr))	
Maximum Design-Phase Cost-Effectiveness Score = 37.5 points	

Table 1-2: Project Risk Score

Risk Category	Points
Landowner Relations	2.5
Organizational Capacity	2.5
Operations & Maintenance	2.5
Permitting	2
Total Score	9.5
Maximum Total Score = 10 points	

¹ Given the low cost of project implementation and the potential for significant recreation benefit it may be possible to fund this project at a later date if the basin's p-reduction target is met for a fiscal year with Formula Grant funds remaining.

Table 1-3: Co-benefits Score

Co-benefit	Score	Weight	Weighted Score
Environmental Justice	0	17.78%	0
Income	0		
Race	0		
Language	0		
Ecological Benefits	6	30.44%	1.8264
Listed / Impaired Water Resource	3		
Priority Water Resource	3		
Habitat & Species Enhancement	0		
Ecosystem Services	0	23.78%	0
Flood Regulation	0		
Carbon Sequestration	0		
Community Building	4	15.78%	0.6312
Community Involvement	2		
Working Landscape	0		
Recreation	2		
Education	5	12.22%	0.611
Interpretive Signage	5		
Meetings & Workshops	0		
Co-benefits Score			3.0686
Maximum Weighted Score = 10 points			

Table 1-4: Total Project Score

Criteria	Score
Cost-Effectiveness Score	0
Project Risk Score	9.5
Design Life Score	0
Co-benefits Score	3.0686
Total Project Score	12.5686

2. **Friends of the Winooski River – Nantanna Mill Stormwater Project:** This final design proposal seeks to address stormwater runoff from the Nantanna Mill and adjacent drainage area. The project design will reduce stormwater runoff to the municipal combined sewer system thereby limiting the potential for future combined sewer overflow events. Although there are obvious public benefits to designing and implementing Best Management Practices at this site, the (extremely) high cost and low phosphorous-reduction return on investment render this project a poor choice to support with Formula Grant funds.
Recommendation: Do not fund this proposal.

Table 2-1: Cost-Effectiveness Score

Criteria	Value
Funding Request	\$35,439
Future Funding Request	\$485,000
Total Cost	\$520,439
Phosphorous Reduction (kg / yr)	0.74
Design Life	15
Cost Effectiveness (\$ / kg)	\$703,296
Cost-Effectiveness Score	0
Cost Effectiveness Formula (\$ / kg / yr) = ((15 years / project design life) * (Total Cost)) / (Phosphorous Reduction (kg / yr))	
Maximum Design-Phase Cost-Effectiveness Score = 37.5 points	

Table 2-2: Project Risk Score

Risk Category	Points
Landowner Relations	0
Organizational Capacity	2.5
Operations & Maintenance	0
Permitting	0
Total Score	2.5
Maximum Total Score = 10 points	

Table 2-3: Co-benefits Score

Co-benefit	Score	Weight	Weighted Score
Environmental Justice	0	17.78%	0
Income	0		
Race	0		
Language	0		
Ecological Benefits	0	30.44%	0
Listed / Impaired Water Resource	0		
Priority Water Resource	0		
Habitat & Species Enhancement	0		
Ecosystem Services	5	23.78%	1.189
Flood Regulation	5		
Carbon Sequestration	0		
Community Building	0	15.78%	0
Community Involvement	0		
Working Landscape	0		
Recreation	0		
Education	0	12.22%	0
Interpretive Signage	0		
Meetings & Workshops	0		
Co-benefits Score			1.189
Maximum Weighted Score = 10 points			

Table 2-4: Total Project Score

Criteria	Score
Cost-Effectiveness Score	0
Project Risk Score	2.5
Design Life Score	5
Co-benefits Score	1.189
Total Project Score	8.689

3. **Friends of the Winooski River – Bull Run Tributary Restoration:** This proposal seeks funds to restore the site of a completed dam removal project to its previously permitted state. Prior work at the site (stabilization and floodplain reconnection) was destroyed during the July 2023 flood event. The proposal requests funding for both Final Design and Implementation. (Note: the BWQC previously agreed to fund project phases individually to ensure satisfactory completion of deliverables and continued viability of the project.) The project cost effectiveness exceeds the rate necessary to achieve the phosphorous-reduction target for the basin. **Recommendation: Do not fund this proposal.**

Table 3-1: Cost-Effectiveness Score

Criteria	Value
Funding Request	\$97,261
Future Funding Request	\$0
Total Cost	\$97,261
Phosphorous Reduction (kg / yr)	0.9
Design Life	15
Cost Effectiveness (\$ / kg)	\$108,068
Cost-Effectiveness Score	0
Cost Effectiveness Formula (\$ / kg / yr) = ((15 years / project design life) * (Total Cost)) / (Phosphorous Reduction (kg / yr))	
Maximum Design-Phase Cost-Effectiveness Score = 37.5 points	

Table 3-2: Project Risk Score

Risk Category	Points
Landowner Relations	2.5
Organizational Capacity	2.5
Operations & Maintenance	0
Permitting	1.25
Total Score	6.25
Maximum Total Score = 10 points	

Table 3-3: Co-benefits Score

Co-benefit	Score	Weight	Weighted Score
Environmental Justice	7	17.78%	1.2446
Income	3		
Race	3		
Language	0		
Ecological Benefits	0	30.44%	0
Listed / Impaired Water Resource	0		
Priority Water Resource	0		
Habitat & Species Enhancement	0		
Ecosystem Services	5	23.78%	1.189
Flood Regulation	5		
Carbon Sequestration	0		
Community Building	2	15.78%	0.3156
Community Involvement	0		
Working Landscape	0		
Recreation	2		
Education	0	12.22%	0
Interpretive Signage	0		
Meetings & Workshops	0		
Co-benefits Score			2.7492
Maximum Weighted Score = 10 points			

Table 3-4: Total Project Score

Criteria	Score
Cost-Effectiveness Score	0
Project Risk Score	6.25
Design Life Score	5
Co-benefits Score	2.7492
Total Project Score	13.9992

4. **Friends of the Winooski River – Coburn Road Floodplain Restoration:**

This preliminary floodplain restoration design proposal seeks funding to address eroding banks along the upper Winooski River. Although a Design-phase project with unknown future implementation costs, the relatively high estimated annual phosphorous reduction justifies funding this project. Even with a significant future funding request (on the order of \$300,000), the overall cost-effectiveness of the project would be near or below the target cost per kilogram of phosphorous for the Basin. The total project score of 50.91 is *high* for a Design-phase project. **Recommendation: Prioritize funding this proposal.**

Table 4-1: Cost-Effectiveness Score

Criteria	Value
Funding Request	\$27,504
Future Funding Request	\$0
Total Cost	\$27,504
Phosphorous Reduction (kg / yr)	22.04
Design Life	15
Cost Effectiveness (\$ / kg)	\$1,248
Cost-Effectiveness Score	37.5
Cost Effectiveness Formula (\$ / kg / yr) = ((15 years / project design life) * (Total Cost)) / (Phosphorous Reduction (kg / yr))	
Maximum Design-Phase Cost-Effectiveness Score = 37.5 points	

Table 4-2: Project Risk Score

Risk Category	Points
Landowner Relations	2.5
Organizational Capacity	2.5
Operations & Maintenance	0
Permitting	1.25
Total Score	6.25
Maximum Total Score = 10 points	

Table 4-3: Co-benefits Score

Co-benefit	Score	Weight	Weighted Score
Environmental Justice	7	17.78%	1.2446
Income	3		
Race	0		
Language	3		
Ecological Benefits	3	30.44%	0.9132
Listed / Impaired Water Resource	3		
Priority Water Resource	0		
Habitat & Species Enhancement	0		
Ecosystem Services	0	23.78%	0
Flood Regulation	0		
Carbon Sequestration	0		
Community Building	0	15.78%	0
Community Involvement	0		
Working Landscape	0		
Recreation	0		
Education	0	12.22%	0
Interpretive Signage	0		
Meetings & Workshops	0		
Co-benefits Score			2.1578
Maximum Weighted Score = 10 points			

Table 4-4: Total Project Score

Criteria	Score
Cost-Effectiveness Score	37.5
Project Risk Score	6.25
Design Life Score	5
Co-benefits Score	2.1578
Total Project Score	50.9078

5. **Friends of the Winooski River – Strategic Woody Addition (4 sites):** This proposal seeks funding to complete a final design of strategic woody additions at four sites throughout the basin. Funding will support field verification and refinement of the preliminary p-reduction estimates. The high estimated annual phosphorous reduction justifies funding this phase of the project. When combined with the anticipated future funding need, the overall cost-effectiveness for implementing the proposed Best Management Practices would be significantly below the target cost per kilogram of phosphorous for the Basin. The total project score of 51.17 is *high* for a Design-phase project. **Recommendation: Prioritize funding this proposal.**

Table 5-1: Cost-Effectiveness Score

Criteria	Value
Funding Request	\$19,337
Future Funding Request	\$119,680
Total Cost	\$139,017
Phosphorous Reduction (kg / yr)	80.1
Design Life	15
Cost Effectiveness (\$ / kg)	\$1,736
Cost-Effectiveness Score	37.5
Cost Effectiveness Formula (\$ / kg / yr) = ((15 years / project design life) * (Total Cost)) / (Phosphorous Reduction (kg / yr))	
Maximum Design-Phase Cost-Effectiveness Score = 37.5 points	

Table 5-2: Project Risk Score

Risk Category	Points
Landowner Relations	1.25
Organizational Capacity	2.5
Operations & Maintenance	0
Permitting	1.25
Total Score	5
Maximum Total Score = 10 points	

Table 5-3: Co-benefits Score

Co-benefit	Score	Weight	Weighted Score
Environmental Justice	1.75	17.78%	0.31115
Income	0.75		
Race	0.75		
Language	0		
Ecological Benefits	3.5	30.44%	1.0654
Listed / Impaired Water Resource	3		
Priority Water Resource	0		
Habitat & Species Enhancement	0.5		
Ecosystem Services	5	23.78%	1.189
Flood Regulation	5		
Carbon Sequestration	0		
Community Building	7	15.78%	1.1046
Community Involvement	0		
Working Landscape	3		
Recreation	4		
Education	0	12.22%	0
Interpretive Signage	0		
Meetings & Workshops	0		
Co-benefits Score			2.1578
Maximum Weighted Score = 10 points			

Table 5-4: Total Project Score

Criteria	Score
Cost-Effectiveness Score	37.5
Project Risk Score	5
Design Life Score	5
Co-benefits Score	3.67015
Total Project Score	51.17015