Lessard-Sams Outdoor Heritage Council

City of Delano - Crow River Restoration and Enhancement

ML 2026 Request for Funding

General Information

Date: 06/26/2025

Proposal Title: City of Delano - Crow River Restoration and Enhancement

Funds Requested: $2,050,000

Confirmed Leverage Funds: $300,000

Is this proposal Scalable?: Yes

Manager Information

Manager's Name: Shawn Louwagie
Title: City Engineer
Organization: City of Delano
Address: 234 2nd Street N
City: Delano, MN 55328
Email: slouwagie@delanomn.gov
Office Number: 763-972-0586
Mobile Number: 7012199901
Fax Number:
Website: www.delanomn.gov

Location Information

County Location(s):

Eco regions in which work will take place:

Metro / Urban

Activity types:

Enhance

Priority resources addressed by activity:

Habitat

Narrative

Abstract

This project will provide a holistic approach to improving South Fork Crow River in the City of Delano, leading to enhanced habitat for aquatic and upland wildlife, better water quality and biotic integrity, and flood resilience, providing an overall amenity for the city. The project will improve recreational water use opportunities through new and enhanced canoe and fishing access. Approximately 4,500 linear feet of the urbanized stream corridor will be enhanced through geomorphic and natural channel design techniques to connect large riparian areas upstream and downstream of the city.

Design and Scope of Work

This project will finalize and implement a comprehensive plan to stabilize a 4,500-foot reach of South Fork Crow River that flows through downtown Delano. Upstream and downstream of this reach the river meanders through a wide floodplain that provides significant water quality and habitat functions. Through the city, the river is confined to a deep, eroding channel that provides few water quality and habitat benefits and minimal opportunities for visitors to access and enjoy this amenity. Rather than simply hard-armoring the banks of the river to contain the river in an artificial channel, this project will use principles of natural channel design to provide a more holistic stabilization approach. The end result will be enhanced habitat for aquatic and upland wildlife, better water quality and biotic integrity, and flood resilience, providing an overall amenity for the city.

Over the last ten years the City has investigated options for improving this reach and has stabilized some key areas of degradation. A major project removed and remediated a former industrial site just north of downtown, eliminating a source of industrial contamination, and increasing the floodplain adjacent to the river. A pending project in 2025 will correct and stabilize a large bank washout adjacent to Riverway Park.

This proposed project was initiated in a 2023 survey of the corridor using the Natural Resources Conservation Service's (NRCS) Streambank Erosion method. Almost 25% of the streambank was classified as Severely Eroded and 23% was Moderately Eroded, contributing an estimated excess 497 tons of sediment and 99.5 pounds of phosphorus to the river each year. This reach of the South Fork is impaired for turbidity, nutrients, and both fish and macroinvertebrate biotic integrity.

Following the 2023 analysis, the City moved forward with a 30% stabilization design that fit within their current budget and focused heavily on hard-armoring stabilization. The preliminary design approach consisted of:

- Rock toe stabilization along moderate to very severely eroded stream banks.
- Outcropping stones for bank stabilization and improved recreational fishing access at key locations.
- Series of stone steps and rock toe for the existing canoe/kayak access ramp stabilization improvements.
- Native vegetation seeding and coir blanket on the upper banks to improve soil holding capacity and stabilization during larger stream flows.

Moving forward, this proposal would revisit that conceptual design using a geomorphic design approach. A fundamental tenet of geomorphic design is that it uses the channel's horizontal, vertical, and cross-section geometry to move sediment and water in a way to reduce the shear stress acting directly against the channel bank surface. The forces created by the river itself can be used to reduce the pressure on the banks as much as possible. This approach typically enables more extensive use of the vegetation, soil bioengineering, and woody debris. The current design can then be enhanced with natural channel design elements, including cover boulders, root wads and log toe, rock riffles, and one or two cross vanes, adding habitat complexity to address the biotic impairments.

Explain how the proposal addresses habitat protection, restoration, and/or enhancement for fish, game & wildlife, including threatened or endangered species conservation

The South Fork Crow River is impaired for benthic macroinvertebrates, fish, bacteria, nutrients and turbidity. Rivers balance sediment with available energy, but sediment aggradation disrupts channel equilibrium. This section of the river has poor in-channel habitat and bank erosion as a result of mid-channel bars and an over widened channel due to aggradation. As sediment accumulates, the channel becomes shallower, reducing its ability to transport sediment effectively, which worsens bank erosion problems. A 2023 NRCS bank erosion evaluation identified 1,513 linear feet of severely eroded bank, leading to an estimated 497 tons of soil eroding into the river annually, exacerbating downstream sediment issues.

Aggraded sediments lead to a lack of bed form diversity in channels. Natural, stable channels feature diverse habitats such as riffles and pools, which provide critical spawning grounds for fish and shelter for macroinvertebrates. Organic materials like wood and vegetation offer additional shelter and food sources, while large boulders create microhabitats for fish to hide and rest.

This project aims to use Natural Channel Design (NCD) methods to enhance in-channel habitat, incorporate woody elements, stabilize banks, improve riparian vegetation, and restore ecosystem functions. By stabilizing the banks with natural elements like toe wood instead of hard armoring, sediment input into the stream will be reduced, and in-channel habitat will be improved. Planting native vegetation along the riparian corridor will stabilize banks and provide habitat for pollinators, birds, and mammals.

Restoring stream and riparian functions is crucial for protecting species. Although no federally listed species are present, the project area potentially hosts proposed threatened species like the monarch butterfly and western regal fritillary, as well as Blanding's turtles in Wright County. Restoring the riparian corridor with native species will benefit these butterflies and provide a healthier passage for turtles and other semi-aquatic species to migrate between wetlands upstream and downstream of Delano.

What are the elements of this proposal that are critical from a timing perspective?

Bank erosion along this reach has come to the point where intervention is needed. The quickest and cheapest way to stabilize the banks would be to use hard armoring rip rap, for which a design has already been developed; however, this will not improve habitat. Delano has been purchasing lots along this corridor over the past few years in preparation for a bank stabilization project. A grant would allow this project to move forward with a design that incorporates NCD methods and restoration of riparian ecosystems.

Describe how the proposal expands habitat corridors or complexes and/or addresses habitat fragmentation:

This section of the South Fork Crow River was identified in the MNDNR's assessment identifying areas of ecological significance as a terrestrial and aquatic species route linking larger regional significant areas. The proposed project seeks to improve habitat within and along the South Fork Crow River. Upstream and downstream of the project reach the South Fork Crow River has natural riparian vegetation; the width of this vegetation varies but severely decreases as it flows through Delano. Reducing bank erosion by using natural elements within the reach will reduce the loss of riparian vegetation and increase the riparian width. Planting native vegetation along the newly restored banks will improve the corridor ecosystem providing a continuous corridor along the stream channel.

Which top 2 Conservation Plans referenced in MS97A.056, subd. 3a are most applicable to this project?

Minnesota Statewide Conservation & Preservation Plan

Other : South Fork Crow River Watershed Comprehensive Watershed Management Plan

Explain how this proposal will uniquely address habitat resilience to climate change and its anticipated effects on game, fish & wildlife species utilizing the protected or restored/enhanced habitat this proposal targets.

Climate change is expected to increase the intensity and frequency of floods. Designing stream restoration projects using natural elements to create a stable channel will help minimize the effects of floods and establish resiliency. Stable stream channels can withstand flooding better than unstable systems. NCD methods will be used to address existing bank erosion, bed form diversity issues, and improve ecosystem health. These methods are designed to use features found in naturally stable streams to improve stability in degraded systems in order to efficiently transport water and sediment while providing ecological benefits and improving water quality.

Which LSOHC section priorities are addressed in this proposal?

Metro / Urban

Protect habitat corridors, with emphasis on the Minnesota, Mississippi, and St. Croix rivers (bluff to floodplain)

Describe how this project/program will produce and demonstrate a significant and permanent conservation legacy and/or outcomes for fish, game, and wildlife, and if not permanent outcomes, why it is important to undertake at this time:

The upstream and downstream reaches of this river meander through a wide floodplain that provides significant water quality and habitat functions. Through the city, the river is confined to a deep, eroding channel that provides few water quality and habitat benefits and minimal opportunities for visitors to access and enjoy this amenity.

Hard armoring techniques used to stabilized streams are often presented as a permanent fix but often fail to provide that solution. NCD techniques use natural river elements, instead of working against the river, to provide long lasting solutions. Re-establishing a healthy riparian ecosystem will provide long-term benefit to the river, wildlife, pollinators and the public.

Additionally, this project proposes to improve access to the river to provide better public recreation opportunities. This section of river runs through the center of Delano and has multiple public access points, restoring the channel with natural elements and improving access points will create a destination for the public to enjoy the river.

Outcomes

Programs in metropolitan urbanizing region:

Improved aquatic habitat indicators ~ *Survey data will be used to quantify existing, proposed, and as-built stream functions using the MNWI Stream Quantification Tool. This tool is used for regulatory and non-regulatory stream restoration projects to evaluate stream function. The hydrology, hydraulics, and geomorphology functional categories will be measured to produce objective, verifiable, and repeatable results.*

What other dedicated funds may collaborate with or contribute to this proposal?

N/A

Per MS 97A.056, Subd. 24, Please explain whether the request is supplanting or is a substitution for any previous funding that was not from a legacy fund and was used for the same purpose.

No other Legacy funds have been used on the Crow river within Delano.

How will you sustain and/or maintain this work after the Outdoor Heritage Funds are expended?

To sustain and maintain this project for future years, we will develop smart, achievable goals for the project based on a comprehensive survey and assessment of the stream corridor condition. During the design process, we rely heavily on geomorphic design principles and the use of natural design techniques which are designed to create a self-sustaining stable stream channel. NCD uses the forces created by the river itself, instead of working against it, to reduce the pressure on the banks. The project will also include a three-year vegetative maintenance plan to ensure healthy riparian vegetation establishment which is vital to establishing bank stability. The city will continue to monitor and manage vegetation and invasive species, as needed, into the future.

The city of Delano also has future plans to purchase additional property, directly upstream of this project area, and convert floodplain cropland to perennially vegetated floodplain. Converting and protecting this land will help reduce additional sediment inputs and allow for additional riparian improvements further enhancing and extending the habitat.

Provide an assessment of how your program may celebrate cultural diversity or reach diverse communities in Minnesota, including reaching low- and moderate-income households:

Clean water and fishing opportunities are hallmarks of life in Minnesota for individuals of all backgrounds. Many cultures of people who inhabit Minnesota value fishing, the proposed project will help improve instream habitat and access to the river allowing people to fish. Within Delano 17% of households have incomes less than the 200% federal poverty level. Improving the natural environment and river access in the center of Delano will provide outdoor opportunities for these individuals without the burden of long distance driving.

Activity Details

Requirements

Will restoration and enhancement work follow best management practices including MS 84.973 Pollinator Habitat Program?
Yes

Is the restoration and enhancement activity on permanently protected land per 97A.056, Subd 13(f), tribal lands, and/or public waters per MS 103G.005, Subd. 15 or on lands to be acquired in this program?
Yes

Where does the activity take place?

County/Municipal

Public Waters

Land Use

Will there be planting of any crop on OHF land purchased or restored in this program, either by the proposer or the end owner of the property, outside of the initial restoration of the land?
No

Will insecticides or fungicides (including neonicotinoid and fungicide treated seed) be used within any activities of this proposal either in the process of restoration or use as food plots?
No

Other OHF Appropriation Awards

Have you received OHF dollars through LSOHC in the past?
No

Timeline

Activity Name	Estimated Completion Date
Geomorphic stream assessment, bathymetric survey, and topographic survey	September 2026
Geomorphic stream restoration design	December 2026
Stream restoration construction complete	March 2028
Three-year vegetative maintenance plan	December 2031

Budget

Totals

Item	Funding Request	Total Leverage	Leverage Source	Total
Personnel	-	-	-	-
Contracts	$1,800,000	$250,000	City CIP & Local TIF	$2,050,000
Fee Acquisition w/ PILT	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-
Easement Acquisition	-	-	-	-
Easement Stewardship	-	-	-	-
Travel	-	-	-	-
Professional Services	$250,000	$50,000	City CIP & Local TIF	$300,000
Direct Support Services	-	-	-	-
DNR Land Acquisition Costs	-	-	-	-
Capital Equipment	-	-	-	-
Other Equipment/Tools	-	-	-	-
Supplies/Materials	-	-	-	-
DNR IDP	-	-	-	-
Grand Total	**$2,050,000**	**$300,000**	**-**	**$2,350,000**

Amount of Request: $2,050,000
Amount of Leverage: $300,000
Leverage as a percent of the Request: 14.63%
DSS + Personnel: -
As a % of the total request: 0.0%
Easement Stewardship: -
As a % of the Easement Acquisition: -

Total Leverage (from above)	Amount Confirmed	% of Total Leverage	Amount Anticipated	% of Total Leverage
$300,000	$300,000	100.0%	-	0.0%

Detail leverage sources and confirmation of funds:
The City maintains a Capital Improvement fund which budgets and plans for major projects, which can be used for the proposed improvements. Additionally the City created a TIF district in 2020 to fund necessary infrastructure and adjacent improvements to the riverbank. These funds are also available.

Does this proposal have the ability to be scalable?
Yes

If the project received 50% of the requested funding

Describe how the scaling would affect acres/activities and if not proportionately reduced, why?
If awarded less than requested, we will responsibly scale the project while preserving its core objectives. We will prioritize key components to ensure impact, while seeking additional support or phased implementation to uphold long-term goals without compromising quality or intent.

Describe how personnel and DSS expenses would be adjusted and if not proportionately reduced, why?
No funding personnel or DSS expenses are being requested.

If the project received 30% of the requested funding

Describe how the scaling would affect acres/activities and if not proportionately reduced, why?
If awarded less than requested, we will responsibly scale the project while preserving its core objectives. We will prioritize key components to ensure impact, while seeking additional support or phased implementation to uphold long-term goals without compromising quality or intent.

Describe how personnel and DSS expenses would be adjusted and if not proportionately reduced, why?
No funding personnel or DSS expenses are being requested.

Contracts

What is included in the contracts line?
Hiring of a contractor to complete the proposed improvements.

Professional Services

What is included in the Professional Services line?

Design/Engineering

Surveys

Federal Funds

Do you anticipate federal funds as a match for this program?
No

Output Tables

Acres by Resource Type (Table 1)

Type	Wetland	Prairie	Forest	Habitat	Total Acres
Restore	0	0	0	0	0
Protect in Fee with State PILT Liability	0	0	0	0	0
Protect in Fee w/o State PILT Liability	0	0	0	0	0
Protect in Easement	0	0	0	0	0
Enhance	0	0	0	14	14
Total	**0**	**0**	**0**	**14**	**14**

Restoration/Enhancement Acres Breakdown of Existing Protected Lands (Table 1a.2)

	RESTORE		ENHANCE	
	Lands acquired with OHF	Lands NOT acquired with OHF	Lands acquired with OHF	Lands NOT acquired with OHF
DNR Lands (WMA, State Forests, etc)	-	-	-	-
Non-DNR Lands (city, state, federal, etc.)	-	-	-	14
Easements	-	-	-	-
Total	**-**	**-**	**-**	**14**

Total Requested Funding by Resource Type (Table 2)

Type	Wetland	Prairie	Forest	Habitat	Total Funding
Restore	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	-	-	-	$2,050,000	$2,050,000
Total	**-**	**-**	**-**	**$2,050,000**	**$2,050,000**

Acres within each Ecological Section (Table 3)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Acres
Restore	0	0	0	0	0	0
Protect in Fee with State PILT Liability	0	0	0	0	0	0
Protect in Fee w/o State PILT Liability	0	0	0	0	0	0
Protect in Easement	0	0	0	0	0	0
Enhance	14	0	0	0	0	14
Total	**14**	**0**	**0**	**0**	**0**	**14**

Total Requested Funding within each Ecological Section (Table 4)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Funding
Restore	-	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-
Enhance	$2,050,000	-	-	-	-	$2,050,000
Total	**$2,050,000**	**-**	**-**	**-**	**-**	**$2,050,000**

Average Cost per Acre by Resource Type (Table 5)

Type	Wetland	Prairie	Forest	Habitat
Restore	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-
Protect in Easement	-	-	-	-
Enhance	-	-	-	$146,428

Average Cost per Acre by Ecological Section (Table 6)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest
Restore	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	$146,428	-	-	-	-

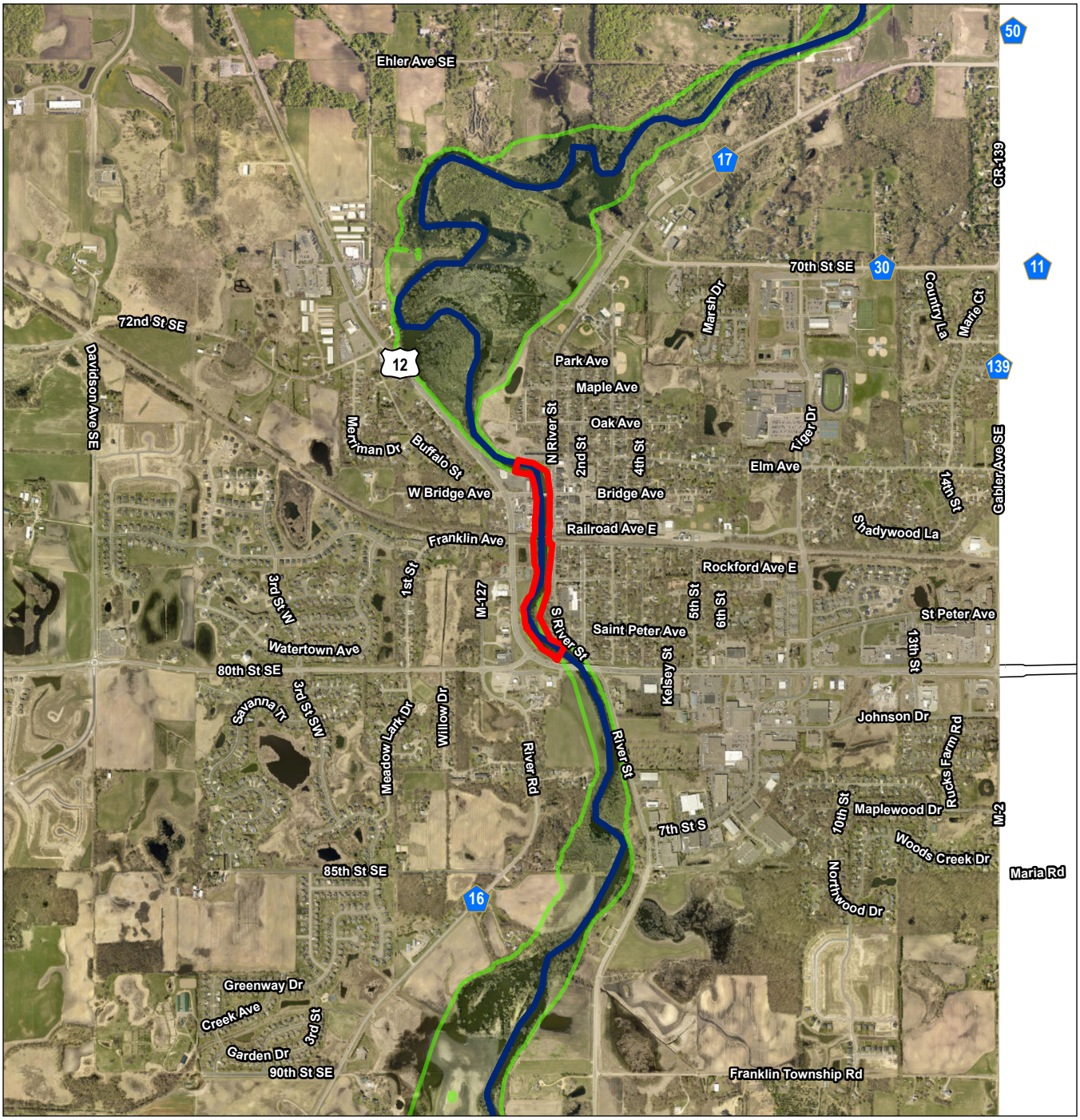
Target Lake/Stream/River Feet or Miles

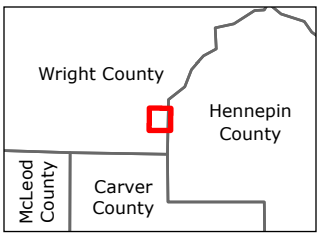
4,500 lineal feet

Parcels

Sign-up Criteria?
Yes - Sign up criteria is attached

Explain the process used to identify, prioritize, and select the parcels on your list:
The parcel listed is located near the center point of the project area and directly abuts the river corridor.





Legend

- Project Area
- Minnesota Water Trail
- Crow River, South Fork (M-064-005)

FEMA Flood Hazards

- Regulatory Floodway

0 1,000 2,000 Feet

(At original document size of 8.5x11)
1:24,000

N

Notes

1. Coordinate System: NAD 1983 HARN Adj MN Wright Feet
2. Data Sources: Stantec, MnDNR, MnDOT, FEMA, USGS, OSA, MnHPO
3. Background: 2023 Wright Co.

Stantec

Project Location
T118N, R25W, S11
Delano, Wright Co., MN

Prepared by BS on 2025-05-22

Client/Project
City of Delano, MN
Crow River Conceptual Design
Environmental Screening Memo

227703799

Figure No.
1

Title
Project Area