



# Environment and Natural Resources Trust Fund

M.L. 2024 Approved Work Plan

## General Information

**ID Number:** 2024-049

**Staff Lead:** Tom Dietrich

**Date this document submitted to LCCMR:** June 5, 2024

**Project Title:** Building Resilient Urban Forests for Climate Change

**Project Budget:** \$752,000

## Project Manager Information

**Name:** Todd Rexine

**Organization:** Great River Greening

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## Project Reporting

**Date Work Plan Approved by LCCMR:** June 20, 2024

**Reporting Schedule:** June 1 / December 1 of each year.

**Project Completion:** December 31, 2027

**Final Report Due Date:** February 14, 2028

## Legal Information

**Legal Citation:** M.L. 2024, Chp. 83, Sec. 2, Subd. 07b

**Appropriation Language:** \$752,000 the second year is from the trust fund to the commissioner of natural resources for an agreement with Great River Greening to partner with municipalities and school districts to create gravel-bed nurseries, conduct tree assessments and mapping, and plant climate-resilient tree species on public lands in St. Cloud, Mankato, and the Twin Cities region. This appropriation is available until June 30, 2028, by which time the project must be completed and final products delivered.

**Appropriation End Date:** June 30, 2028



## Narrative

**Project Summary:** We will partner with urban municipalities and school districts to support planting of climate-resilient tree species. Activities include planting trees, gravel bed nursery creation, tree assessment and mapping, and community.

**Describe the opportunity or problem your proposal seeks to address. Include any relevant background information.**

As our climate changes, heat increasingly threatens the quality of life and ecosystem health, particularly in urban areas. MN is getting warmer, leading to more extreme weather, including extreme heat and heat waves. Increased heat disproportionately impacts urban areas, which experience higher temperatures than surrounding rural areas, known as the "urban heat island" effect. Urban heat islands are caused by the concentration of heat-absorbing surfaces that absorb and retain heat combined with the lack of tree canopy and green spaces.

Climate change, urban heat islands coupled with Emerald Ash Borer now affecting 39 counties and counting, now is the time to look at our urban ecosystems and prepare them for a resilient future. Current trends show that by the end of the century, most tree species' range could shift 300 miles northward. This is the equivalent of having the climate of Nebraska or Kansas (Frontiers in Ecology and Environment, Frelich & Reich). With the loss of so many ash trees and possibly other species as threats arise, our urban ecosystem needs support over the next decade to diversify the urban forest with identified resilient trees to ensure a healthy, robust urban ecosystem for future Minnesotans.

**What is your proposed solution to the problem or opportunity discussed above? Introduce us to the work you are seeking funding to do. You will be asked to expand on this proposed solution in Activities & Milestones.**

Great River Greening (GRG) is partnering with cities and school districts in the St. Cloud, Mankato, and Twin City regions to expedite the planting of resilient urban tree canopies. The project would include an assessment of tree canopies, some removal and site prep as needed, planting, and maintenance.

**Assessment:** Site assessments will review the current tree canopy and locations for additional canopy enhancement on public land. The team will identify any ash trees that require removal as part of this program.

**Tree Removal:** There are concerns about addressing soon to be or currently diseased ash trees. GRG will contract to remove a small portion of trees and grind the stumps to prepare the space for replacement trees in areas where replanting is ahead of the current removal plan.

**Supply:** Partners have identified the need to build and maintain gravel nursery beds with community partner sites.

**Planting:** GRG will work with partners to create a timeline for planting a diverse mix of resilient tree species in either the spring or fall of the specific year.

**Maintenance:** Each tree will be staked, include a watering bag, and integrated into a post-planting watering schedule.

**What are the specific project outcomes as they relate to the public purpose of protection, conservation, preservation, and enhancement of the state's natural resources?**

Great River Greening will partner with cities in the St. Cloud, Mankato, and Twin City regions and School Districts to plant resilient, diverse tree species on public land. Planting additional trees in urban environments will benefit future generations of Minnesotans by reducing air pollution, reducing urban heat island effects, providing critical urban habitat, and storing and sequestering carbon.

- Engagement of 400 youth and community members through planting and education on urban forests.
- Plant 1200 trees with follow-up watering maintenance plans.

- Construction of up to four 10'x40' gravel bed nurseries, with community volunteers, to be used during the project and beyond.

## Project Location

**What is the best scale for describing where your work will take place?**

Region(s): Central, SW, Metro,

**What is the best scale to describe the area impacted by your work?**

Region(s): Central, Metro, SW,

**When will the work impact occur?**

During the Project and In the Future

## Activities and Milestones

### Activity 1: Plant Climate-Resilient Trees to Support a Diverse Urban Forest

**Activity Budget:** \$633,800

**Activity Description:**

After thoroughly assessing existing tree management plans and site assessments with partners, we will timeline the preparation needs and planting plan timeframe for all locations. The assessment will identify which sites will need any site preparation ahead of any planting activity. GRG will work with partners (St. Cloud, Brooklyn Center, Mankato, St. Paul schools) to map out planting dates and decide which sites are amendable to community planting events and which ones will need to be planted by field crews. Tree selection will be based on climate tree model tools for species that will be suited for a warmer climate in MN. Tools will include the USDA Climate Change Tree Atlas, Climate Change Response Network, and reference existing study plots in MN such as the MNRAA: Adaptive Silviculture for Climate Change. Intentionality will be given to native species projected to adapt to future conditions. Tree species that are on the fringe of their current historic growing range as well as looking at utilizing genetic material from a larger geography outside of MN, will also be considered. The goal is to select species that will support the urban forest ecosystem into the next half of this century.

**Activity Milestones:**

Description	Approximate Completion Date
Plant 100 trees (container)	November 30, 2024
Complete assessments of planting locations	June 30, 2025
Plant 450 trees (container and bare root), water and maintain planted stock	November 30, 2025
Plant 450 trees (container and bare root), water and maintain planted stock	November 30, 2026
Plant 200 trees (container and bare root), water and maintain planted stock	November 30, 2027

### Activity 2: Facilitate the Construction of Community Gravel Bed Nurseries

**Activity Budget:** \$118,200

**Activity Description:**

Gravel bed nurseries will be constructed with partnering entities to assist with the long-term installation of lower-cost bare root material. Gravel beds are constructed and planted with larger bare root stock that is nursed until ready for planting. Trees grow a healthy, developed root structure, promoting better success when planted.

We will engage with volunteers on the construction, planting, and watering of the equivalent of four 10'x40' gravel bed nurseries. Gravel beds will be a minimum of 10'x40', there is the possibility of beds to be larger and localized with distribution out to communities. As part of the engagement, volunteers will learn about the importance of creating a healthy root system, proper handling of bare root stock and the benefits of a healthy urban forest.

GRG will consult with MN DNR regarding the selection of any non-native tree species.

**Activity Milestones:**

Description	Approximate Completion Date
Assess possible locations of gravel beds with partners.	November 30, 2024
Source material	February 28, 2025
Construct gravel beds and plant first set of trees	May 31, 2025
Grow out second set of trees	September 30, 2026



## Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
City of Brooklyn Center	City	Landowning municipality that will be receiving tree plantings on public lands through this program.	Yes
City of Mankato	City	Landowning municipality that will be receiving tree plantings on public lands through this program.	Yes
City of St. Cloud	City	Landowning municipality that will be receiving tree plantings on public lands through this program.	Yes
St. Paul Public School District	Educational Institution	Public school district that will be receiving tree plantings and youth engagement on school district properties.	Yes

## Dissemination

**Describe your plans for dissemination, presentation, documentation, or sharing of data, results, samples, physical collections, and other products and how they will follow ENRTF Acknowledgement Requirements and Guidelines.**

Funding acknowledgments will be included in all outreach efforts, social media posts, and reporting. Acknowledgement will also be provided verbally at in-person events. Great River Greening will share information about each event with volunteers and youth engagement on our social media platforms, newsletter, and communications efforts. Feedback and demographic information will be tracked and reported on. This feedback will help us ensure we are meeting the needs of Minnesotans and adjusting as the project moves forward. We will continue to document our successes and lessons learned as we move forward. This project will provide Great River Greening with the foundation needed to continue engaging Minnesotans in environmental restoration.

## Long-Term Implementation and Funding

**Describe how the results will be implemented and how any ongoing effort will be funded. If not already addressed as part of the project, how will findings, results, and products developed be implemented after project completion? If additional work is needed, how will this work be funded?**

If funded and successful, Great River Greening sees this as a recurring program to assist public agencies in urban areas within the State. We anticipate that there will be a critical need and opportunity for future multiple phases, including multiple funding sources. Landowners are committed to the long-term maintenance and success of this program. Information will be disseminated, with grant assistance, with other interested entities, presentations at conservation group meetings and made available through Great River Greening's website and social media posts.

## Other ENRTF Appropriations Awarded in the Last Six Years

Name	Appropriation	Amount Awarded
Pollinator Central: Habitat Improvement with Citizen Monitoring	M.L. 2021, First Special Session, Chp. 6, Art. 5, Sec. 2, Subd. 08a	\$750,000
Pollinator Central II: Habitat Improvement With Community Monitoring	M.L. 2021, First Special Session, Chp. 6, Art. 6, Sec. 2, Subd. 08c	\$631,000
Engaging a Diverse Public in Environmental Stewardship	M.L. 2022, , Chp. 94, Art. , Sec. 2, Subd. 05d	\$300,000

## Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount
<b>Personnel</b>								
Grant Manager		Oversees Project Managers, Ecologists and Field Coordinator. Approves contracts, invoices and budgets.			21.83%	0.04		\$26,300
Ecologist		Manages day to day project execution, crew, contractors, project budget and timeline.			21.83%	0.14		\$38,400
Field Crew		Conducts on-site work to support project deliverables			21.83%	0.6		\$153,600
Events & Outreach		Manages all tasks related to volunteer acquisition, event development and event execution			21.83%	0.14		\$34,200
Grant Administration		Tracks grant and project budget compliance, develops status reports and amendments, develops documentation for reimbursement, and processes reimbursement requests.			21.83%	0.14		\$30,000
							<b>Sub Total</b>	<b>\$282,500</b>
<b>Contracts and Services</b>								
TBD	Professional or Technical Service Contract	Site Preparation and tree management: tree removal, stump grinding and/or watering maintenance				0.72		\$175,000
TBD	Professional or Technical Service Contract	Industry professional speaker(s) stipend for planting events				0.06		\$4,300
							<b>Sub Total</b>	<b>\$179,300</b>
<b>Equipment, Tools, and Supplies</b>								
	Equipment	Activity 1 Equipment Rental - Augers and related equipment, water tenders	Necessary rental equipment to assist planting and maintaining trees.					\$5,000
	Tools and Supplies	Activity 1 and 2 - Trees, mulch, water bags, tree stakes	Trees (700 #10-20 container - avg cost \$150/each, 500 lg bareroot - avg cost \$40), Water bags and stacking for 1200 trees,					\$210,600



	Tools and Supplies	Activity 2 supplies (timbers, gravel, irrigation lines, etc..)	Gravel bed material for activities conducted by GRG crew and volunteers.					\$20,000
	Tools and Supplies	Activity 1 and 2 Safety Equipment and Tools (shovels and other hand tools for planting, gloves, safety glasses, and hand tools for construction of gravel beds)	Safety equipment and tools for volunteers to assist in planting and building gravel beds.					\$9,000
							<b>Sub Total</b>	<b>\$244,600</b>
<b>Capital Expenditures</b>								
							<b>Sub Total</b>	-
<b>Acquisitions and Stewardship</b>								
							<b>Sub Total</b>	-
<b>Travel In Minnesota</b>								
	Miles/ Meals/ Lodging	Activity 1 travel - 100 trips	Support site visits as to accomplish deliverables					\$7,600
	Miles/ Meals/ Lodging	Activity 1 travel - 250 trips	Support weekly watering maintenance and monitoring of tree health of trees over 3 years.					\$18,800
	Miles/ Meals/ Lodging	Activity 2 travel - 42 trips	Support site visits as to accomplish deliverables					\$3,200
							<b>Sub Total</b>	<b>\$29,600</b>
<b>Travel Outside Minnesota</b>								
							<b>Sub Total</b>	-
<b>Printing and Publication</b>								
	Printing	Activity 1 printing	Promotional material for volunteer acquisition, signage for event site instructions and logistics.					\$1,000
	Printing	Acvity 2 printing	Promotional material for volunteer acquisition, signage for event site instructions and logistics.					\$1,000

							<b>Sub Total</b>	<b>\$2,000</b>
<b>Other Expenses</b>								
		Activity 1 Volunteer event related expenses	Tent, table, chairs, food, latrine, etc., as required to support project volunteer event deliverables and the promotion of LCCMR strategy and objectives to citizen volunteers.	X				\$12,000
		Activity 2 Volunteer event related expenses	Tent, table, chairs, food, latrine, etc., as required to support project volunteer event deliverables and the promotion of LCCMR strategy and objectives to citizen volunteers.	X				\$2,000
							<b>Sub Total</b>	<b>\$14,000</b>
							<b>Grand Total</b>	<b>\$752,000</b>

## Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request
Other Expenses		Activity 1 Volunteer event related expenses	Event-related expenses will support participant and volunteer hours needed to accomplish project deliverables and to provide education to participants and volunteers on the ecological benefits of the project and awareness of LCCMR's commitment and funding to this project.
Other Expenses		Activity 2 Volunteer event related expenses	Event-related expenses will support participant and volunteer hours needed to accomplish project deliverables and to provide education to participants and volunteers on the ecological benefits of the project and awareness of LCCMR's commitment and funding to this project.

## Non ENRTF Funds

Category	Specific Source	Use	Status	\$ Amount
<b>State</b>				
			<b>State Sub Total</b>	-
<b>Non-State</b>				
Cash	Great River Greening - cash match	GRG direct expenses required to do the work for this grant.	Pending	\$150,000
In-Kind	GRG administrative match	GRG staff indirect administrative expenses to do the work for this grant.	Secured	\$10,000
In-Kind	Municipal and other land owning partners.	A variety of expenses directly related to the individual landowner or partner sites, such as staff time, contracting, material purchase, or indirect expenses related to the management projects.	Pending	\$330,000
In-Kind	Volunteers	Volunteer labor directly related to the deliverables of the grant.	Potential	\$20,000
			<b>Non State Sub Total</b>	<b>\$510,000</b>
			<b>Funds Total</b>	<b>\$510,000</b>

## Attachments

### Required Attachments

#### *Visual Component*

File: [8bd379e6-e28.pdf](#)

#### *Alternate Text for Visual Component*

Summary of the Great River Greening Resilient Urban Forest grant proposal, including benefits of urban trees and outline of proposed activities....

#### *Financial Capacity*

File: [19b6f656-92b.pdf](#)

#### *Board Resolution or Letter*

Title	File
GRG Board Resolution Building Resilient Urban Forest for Climate Change 2024-049	<a href="#">d8a25a25-f78.pdf</a>

### Supplemental Attachments

#### *Capital Project Questionnaire, Budget Supplements, Support Letter, Photos, Media, Other*

Title	File
Letter of Support - City of Brooklyn Center	<a href="#">e617eabc-dd4.pdf</a>
Letter of Support - City of Mankato	<a href="#">c307e3d3-01a.pdf</a>
Letter of Support - City of St. Cloud	<a href="#">4530c2b7-90c.pdf</a>

### Difference between Proposal and Work Plan

#### *Describe changes from Proposal to Work Plan Stage*

Added watering to Activities and Milestones: Plant 450 trees (container and bare root), water and maintain planted stock vs Plant 450 trees (container and bare root) maintain planted stock. 3/8/2924 - Refined activities and budget descriptions in response to LCCMR staff comments.

## Additional Acknowledgements and Conditions:

The following are acknowledgements and conditions beyond those already included in the above workplan:

**Do you understand and acknowledge the ENRTF repayment requirements if the use of capital equipment changes?**

N/A

**Do you agree travel expenses must follow the "Commissioner's Plan" promulgated by the Commissioner of Management of Budget or, for University of Minnesota projects, the University of Minnesota plan?**

Yes, I agree to the Commissioner's Plan.

**Does your project have potential for royalties, copyrights, patents, sale of products and assets, or revenue generation?**

No

**Do you understand and acknowledge IP and revenue-return and sharing requirements in 116P.10?**

N/A

**Do you wish to request reinvestment of any revenues into your project instead of returning revenue to the ENRTF?**

N/A

**Does your project include original, hypothesis-driven research?**

No

**Does the organization have a fiscal agent for this project?**

No

**Does your project include the pre-design, design, construction, or renovation of a building, trail, campground, or other fixed capital asset costing \$10,000 or more or large-scale stream or wetland restoration?**

No

**Do you propose using an appropriation from the Environment and Natural Resources Trust Fund to conduct a project that provides children's services (as defined in Minnesota Statutes section 299C.61 Subd.7 as "the provision of care, treatment, education, training, instruction, or recreation to children")?**

Yes

**Do you certify that background checks are performed for background check crimes, as defined in Minnesota Statutes, section 299C.61, Subd. 2, on all employees, contractors, and volunteers who have or may have access to a child to whom children's services are provided by your organization?**

Yes