



## Environment and Natural Resources Trust Fund

### 2026 Request for Proposal

#### General Information

**Proposal ID:** 2026-187

**Proposal Title:** Wood Based Biochar for Water or Soil Improvements

#### Project Manager Information

**Name:** Tyler Dale

**Organization:** Washington County

**Office Telephone:** (651) 275-7482

**Email:** tyler.dale@washingtoncountymn.gov

#### Project Basic Information

**Project Summary:** This project expands Washington County's wood waste utilization program for biochar production for local surface water quality and soil health projects and analyzes beneficial biochar uses and life cycle.

**ENRTF Funds Requested:** \$2,083,000

**Proposed Project Completion:** December 31, 2027

**LCCMR Funding Category:** Water (B)

#### Project Location

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

Region(s): Metro

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

Region(s): Metro

**When will the work impact occur?**

During the Project and In the Future

## Narrative

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

Due to surging volumes of wood waste resulting from Emerald Ash Borer and MPCA requirements, Washington County is establishing a system of wood waste utilization leveraging existing transfer sites and expanding operations to new sites. This system will recover suitable logs when feasible for use in wood products and woody material which cannot be recovered will be pyrolyzed into biochar using biochar production equipment. The benefits of the county's wood utilization program include the prevention of open burning of valuable natural biomass resources and prevention of injuries from do-it-yourself tree work through the stabilization of ballooning tree trimming and removal costs caused by lack of disposal option.

Washington County also has a history of environmental media being contaminate with per- and polyfluoralkyl substances (PFAS). The main source of PFAS contamination resulted from 3M's disposal of PFAS waste at various locations in Washington County. The treatment of contaminated environmental media is both expensive and technical.

This project seeks to determine the potential benefits for improving local surface water and soil health by using biochar produced from woody material that would have otherwise been opened burned. Analysis of biochar benefits and life cycle will inform potential future uses.

**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.**

Washington County will partner with Great Plains Institute, Washington Conservation District, a local watershed district(s), and contracted wood processing service and equipment providers to make biochar from clean woody material collected by wood recovery facilities managed by the county. The biochar will be deployed in settings such as surface water filtration or as an agricultural and urban soil amendment. Collaborators will complete analysis of data from biochar and environmental media samples to evaluate its effectiveness at capturing contaminants or improving soil and water quality.

LCCMR funds will be used for purchase of additional biochar processing equipment, woody material preparation equipment for loading the processing equipment, and hourly operating costs to produce the biochar. Funds will also be used for environmental and biochar sampling as well as county and collaborator staff time for project task completion and data analysis.

Despite a high level of interest in the product there is limited local availability of biochar, and there is an overabundance of woody material from tree debris. Washington County seeks to protect the public's health and environment through the beneficial uses of biochar efficiently and cleanly created from nearby local woody natural resources which have become a burden on air quality.

**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?**

Project outcomes will include validating practical applications for biochar which protects local water quality through removal of contaminants and enhancement of local soils through preservation of soil amendment nutrients and the reduction of contaminate runoff.

## Activities and Milestones

### Activity 1: Procure Equipment and Scope Contracted Services

**Activity Budget:** \$1,050,750

**Activity Description:**

A biochar processing unit and loader will be purchased from existing equipment supplier contracts, or more sophisticated equipment than what is currently available will be considered. Washington County's central wood yard site will be prepared and made ready for delivery of new equipment and staging areas for collected woody material. A contract with Washington County's existing biochar equipment processing service provider will be amended or new agreement established for operation of the biochar and loading equipment sufficient to achieve a production output of approximately 6000 cubic yards of biochar. Funding for this activity will primarily go towards equipment purchases and limited county staff time for contract management and purchasing.

**Activity Milestones:**

Description	Approximate Completion Date
Identify processing equipment for purchase	July 31, 2026
Purchase equipment	August 31, 2026
Scope biochar equipment operating agreements with contractors.	September 30, 2026
Prepare central wood sorting site and receive equipment delivery.	October 31, 2026

### Activity 2: Produce Biochar and Deploy in Water and Soil Quality Demonstration Settings

**Activity Budget:** \$731,250

**Activity Description:**

Biochar will be processed at hourly rates and post-process handling will be scoped with existing contracted service providers; these handling agreements will consider the necessary form in which the biochar needs to be transported to the water quality project site (such as stormwater/sediment filter socks, permeable sacks, or other easy-to-handle formats). Biochar will be deployed in forms, quantities and locations identified in collaboration with Washington Conservation District and Washington County Public Works and Parks Departments. Biochar used as filtration media will be monitored periodically to determine integrity and functionality for intended use, lab sampling of biochar characteristics will be conducted. Seasonal staff will be hired to conduct the sampling of influent and effluent as scoped in coordination with project partners.

**Activity Milestones:**

Description	Approximate Completion Date
Scope biochar deployment setting as guided by Washington Conservation District and a local watershed.	February 28, 2027
Produce ~6000 cubic yards of biochar between Nov 2026-April 2027 and prepare for deployment.	April 30, 2027
Deploy biochar and commence biochar sampling and water/soil sampling.	May 31, 2027

### Activity 3: Analyze Effectiveness of Biochar Application in Contaminate Removal and Conduct a Related Life Cycle Analysis

**Activity Budget:** \$301,000

**Activity Description:**

County staff will complete in-field sampling of biochar and soil/water sources where deployed and transmit lab results to collaborators. Partners at Great Plains Institute will analyze the data from biochar sampling and influent/effluent and any applicable soil samples to determine the effectiveness of contaminate removal, and the levels of adsorption on the biochar filter media. Additionally, a life cycle analysis will be completed to establish a business-as-usual wood waste scenario and determine the sustainability of implementing filtration media using biochar produced locally from naturally available woody biomass. If biochar filter media is determined to be at the end of its effective life as a filter media and laden with PFAS or other contaminants it will be responsibly disposed of in coordination with any applicable responsible parties, and where responsible parties are unknown it will be disposed using Washington County's existing hazardous waste disposal contractor resources.

**Activity Milestones:**

Description	Approximate Completion Date
Conduct biochar sampling once weekly and soil or water media sampling twice weekly.	September 30, 2027
Analyze sample results and product life cycle.	December 31, 2027
Responsibly dispose of any PFAS laden biochar.	December 31, 2027

## Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
Hannah Haas	Great Plains Institute	Collaborator completing the biochar and media sampling data and product life cycle analyses.	Yes
Jay Riggs	Washington Conservation District	Providing guidance and scoping assistance related to the deployment of biochar in settings which are suitable for improving soil health or water quality.	Yes

## 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?**

To effectively minimize the excessive woody material in the area, Washington County aims to achieve an annual biochar production volume of 10,000 cubic yards or more through organized delivery of woody material from local tree care companies. The results of this project will include new information about viable future uses of the biochar and potentially significant soil and health improvements through the application of project biochar. Based on the findings of this project, the county will be able to prioritize distribution of biochar for the highest and best local environmental and public health benefits.

## Project Manager and Organization Qualifications

**Project Manager Name:** Tyler Dale

**Job Title:** Sr. Environmental Specialist

**Provide description of the project manager's qualifications to manage the proposed project.**

Project manager, Tyler Dale, is submitting this application on behalf of Caleb Johnson, a senior leadership level staff at the Washington County Department of Public Health and Environment with authority to expend budget and guide Washington County staff work, and has experience managing cross-functional teams and developing and implementing policies and protocols which guide county work. Caleb Johnson is the organizational leader responsible for overseeing the Department of Public Health and Environment team leading this project as well as related county teams who will help guide the work from a solid waste planning and regulatory compliance perspective.

**Organization:** Washington County

**Organization Description:**

Local government unit (county), specifically the Department of Public Health & Environment which is the acting body for the Washington County local community health board.

## Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount
<b>Personnel</b>								
County hourly labor		Time for procurement of equipment			30%	0.01		\$750
County hourly labor		Labor associated with biochar production and deployment			30%	0.5		\$47,250
County hourly labor		Labor associated with sampling biochar weekly and water/soil media twice weekly.			30%	0.1		\$6,000
							<b>Sub Total</b>	<b>\$54,000</b>
<b>Contracts and Services</b>								
Not Yet Public	Service Contract	A service provider will product biochar using the biochar processing equipment purchased by the county and delivered to the central wood yard site, the processing agreement is hourly rate setting.				1.5		\$498,000
Washington Conservation District	Service Contract	Project advising regarding suitable biochar deployment locations and sampling protocols.				0.15		\$6,000
Great Plains Institute	Service Contract	Partners at the Great Plains Institute would complete the life cycle and product/media lab data analyses to report the project benefits.				0.5		\$102,000
Not Yet Public	Service Contract	Post-production biochar preparation and transportation to deployment site.				0.5		\$180,000
							<b>Sub Total</b>	<b>\$786,000</b>
<b>Equipment, Tools, and Supplies</b>								
	Equipment	One piece of biochar processing equipment, available through existing supplier contracts established by Washington County or from new service providers which may be identified before project commencement.	Biochar production equipment					\$850,000
	Equipment	Loading equipment, such as a heel boom loader or equivalent, to feed clean woody material into the biochar processing equipment.	Wood processing equipment					\$200,000

							<b>Sub Total</b>	<b>\$1,050,000</b>
<b>Capital Expenditures</b>								
							<b>Sub Total</b>	<b>-</b>
<b>Acquisitions and Stewardship</b>								
							<b>Sub Total</b>	<b>-</b>
<b>Travel In Minnesota</b>								
							<b>Sub Total</b>	<b>-</b>
<b>Travel Outside Minnesota</b>								
							<b>Sub Total</b>	<b>-</b>
<b>Printing and Publication</b>								
							<b>Sub Total</b>	<b>-</b>
<b>Other Expenses</b>								
		Biochar product sample analysis	50 biochar product sample analysis					\$25,000
		Study sampling	156 project soil or water sample analysis					\$78,000
		Biochar disposal cost (Only If Necessary)	Dispose of used biochar after study using the county's existing contracted service for hazardous waste disposal, if necessary.					\$90,000
							<b>Sub Total</b>	<b>\$193,000</b>
							<b>Grand Total</b>	<b>\$2,083,000</b>

Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request
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## Non ENRTF Funds

Category	Specific Source	Use	Status	Amount
<b>State</b>				
In-Kind	Requested 2025 Bonding Funds (House File 1078)	Washington County is currently seeking bonding funds during the 2025 legislative session to finance site procurement and development of a wood recovery facility centrally located within the county.	Potential	\$4,000,000
			<b>State Sub Total</b>	<b>\$4,000,000</b>
<b>Non-State</b>				
In-Kind	County Environmental Charge	The county intends to contribute program resources (land acquisition, staff, contractor services, equipment, etc.) to the wood waste management program which are not included in this project budget but necessary for establishing and maintaining the program necessary to enable this project. These resources are funded by the Washington County Environmental Charge for the purposes of implementing the county's solid waste management plan.	Secured	\$1,600,000
			<b>Non State Sub Total</b>	<b>\$1,600,000</b>
			<b>Funds Total</b>	<b>\$5,600,000</b>

**Total Project Cost: \$7,683,000**

**This amount accurately reflects total project cost?**

Yes

## Attachments

### Required Attachments

#### *Visual Component*

File: [3393e72c-910.pdf](#)

#### *Alternate Text for Visual Component*

An overhead map showing different areas of a Washington County Central Wood Recovery Site, including where the biochar production will likely take place at the site....

#### *Financial Capacity*

Title	File
Washington County Solid Waste Fund Financial Statement 2024	<a href="#">7467eb15-03e.docx</a>
Washington County 2023 Annual Comprehensive Financial Report	<a href="#">d16fd13c-795.pdf</a>

#### *Board Resolution or Letter*

Title	File
Washington County Grant Request Form-Approved	<a href="#">7f10523c-1b7.pdf</a>
Washington County Board Letter	<a href="#">e83ed6d4-2f9.pdf</a>

## Administrative Use

**Does your project include restoration or acquisition of land rights?**

No

**Do you understand that travel expenses are only approved if they follow the "Commissioner's Plan" promulgated by the Commissioner of Management of Budget or, for University of Minnesota projects, the University of Minnesota plan?**

N/A

**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?**

Yes, Washington County

**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")?**

No

**Provide the name(s) and organization(s) of additional individuals assisting in the completion of this proposal:**

Caleb Johnson

**Do you understand that a named service contract does not constitute a funder-designated subrecipient or approval of a sole-source contract? In other words, a service contract entity is only approved if it has been selected according to the contracting rules identified in state law and policy for organizations that receive ENRTF funds through direct appropriations, or in the DNR's reimbursement manual for non-state organizations. These rules may include competitive bidding and prevailing wage requirements**

Yes, I understand

