

## **Environment and Natural Resources Trust Fund**

## M.L. 2023 Approved Work Plan

## **General Information**

ID Number: 2023-081 Staff Lead: Michael Varien Date this document submitted to LCCMR: May 29, 2023 Project Title: Minnesota State Trails Development Project Budget: \$4,952,000

## **Project Manager Information**

Name: Kent Skaar Organization: MN DNR - State Parks and Trails Division Office Telephone: (651) 259-5636 Email: kent.skaar@state.mn.us Web Address: https://www.dnr.state.mn.us/parks\_trails/index.html

## **Project Reporting**

Date Work Plan Approved by LCCMR: June 22, 2023

Reporting Schedule: April 1 / October 1 of each year.

Project Completion: June 30, 2026

Final Report Due Date: August 14, 2026

## Legal Information

Legal Citation: M.L. 2023, Chp. 60, Art. 2, Sec. 2, Subd. 09e

**Appropriation Language:** \$4,952,000 the first year is from the trust fund to the commissioner of natural resources to expand recreational opportunities on Minnesota state trails by rehabilitating and enhancing existing state trails and replacing or repairing existing state trail bridges.

Appropriation End Date: June 30, 2026

## Narrative

**Project Summary:** This project proposes to expand recreational opportunities on Minnesota State Trails through the rehabilitation and enhancement of existing state trails and replacement or repair of existing state trail bridges.

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

The Minnesota Department of Natural Resources (MN DNR) is legislatively authorized under MS 85.015 to establish, develop, maintain and operate those State Trails or State Trail systems specifically identified. As broadly defined by MS. 85.015 the authorized State Trail System is to consist of more than 2600 miles of dedicated State Trail when complete. Presently the MN DNR administers more than 1300 miles of improved recreational state trail, including paved, gravel and natural surface, and 300 state trail bridges on a total of 24 separate authorized State Trails or State Trail systems. Many of the improved state trails are now exceeding 25 years in service and approximately 100 of the trail bridges are exceeding 50 years resulting in deteriorating conditions. This Project proposes the improvement and expansion the State Trail system through the the rehabilitation or replacement of about 7.25 miles of existing trail, the development of 1.5 miles on new State Trail and the rehabilitation of 7 trail bridges. Each of the individual projects in this Project has been identified by the MN DNR, Parks and Trails Division as representing priorities to enhance recreational use and improve user safety.

## 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.

This proposal will complete the formal engineering and design necessary to develop, improve or replace 8.75 miles of existing state trail and up to seven state trail bridges. While the project is to include the required engineering and design for a total of 15 separate projects, only 9 of the projects will be constructed. The projects proposed for construction include the improvement, rehabilitation or development of 4 miles of State Trail, the installation of 1 new trail tunnel and the replacement of 4 trail Bridges. The remaining 6 projects, including 3 trail improvement and 3 bridge replacement projects will be limited to engineering and design and will be constructed as scheduling and funding permit. The trail improvement projects will occur on the Alex Laveau, Casey Jones, Central Lakes, Blazing Star, Willard Munger, Minnesota River and Gitchi Gami State Trails. The bridges to be replaced are located on the Harmony Preston, CJ Ramstad/Northshore, Root River, Great River Ridge, Arrowhead and Root River State Trails. Trail improvements will consist of replacement and widening of bituminous trail surfaces, culvert replacements and ADA improvements. The bridges to be replaced include a steel recreational bridges and 3 former railroad bridges.

# 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?

The individual State Trail projects, once complete, will permit the safe, continued or expanded use of MN DNR administered state trails while also protecting the natural communities and resource areas within the trail corridors, allowing users to enjoy the State Trail and surrounding resources. Each State Trail project is designed to avoid or minimize potential impacts on known natural and cultural resources. State Trail projects are subject to formal resource assessments to identify resources and resource protection options. Each State Trail bridge project will be designed to assist wildlife passage, provide public water improvements and anticipate increasing future water conditions.

## **Project Location**

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

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

## When will the work impact occur?

During the Project and In the Future

## **Activities and Milestones**

## Activity 1: State Trail Bridge Renewal and Replacement

Activity Budget: \$1,500,000

#### **Activity Description:**

This project includes the required engineering and design for the replacement of up to seven existing state trail bridges. Each of seven bridges have recent Condition Index Ratings of Poor to Satisfactory, as determined by formal inspection and are recommended for complete replacement. One of these bridges, located on the Harmony-Preston Valley State Trail, is an existing steel recreational truss bridge that can no longer safety support typical maintenance, construction or emergency equipment. Four of the bridges, three located on the Root River State Trail and one on the Great River Ridge State Trail, are timber, former railroad structures, ranging from a single span to multi-span structures. All four former railroad bridges are proposed to be replaced with large concrete culverts. The remaining two bridges are timber trail bridges originally constructed by the DNR in the Late 1980's and Early 1990's, that will be replaced with modern steel recreational truss structures on concrete footings with expected useful life of over 50 years. In an effort to assure successful completion of the proposed Activity, three of the projects will be limited to development of the required final plans and specifications necessary for future replacement.

#### **Activity Milestones:**

Description	Approximate Completion Date
Construction Contract Awarded (Represents milestone completion - 4 Bridges)	June 30, 2024
Project Engineering Complete / (Represents milestone completion for all Bridges)	June 30, 2025
Project Construction Complete / (Represents milestone completion - 4 Bridges)	June 30, 2026
Project Closeout and Final Reporting / (Represents milestone completion All Bridges)	June 30, 2026

## Activity 2: Alex LaVeau State Trail – Development Wrenshall Trail Severance

#### Activity Budget: \$650,000

#### **Activity Description:**

The project proposes the development and upgrading of a 1.0 mile segment of the Alex LaVeau State Trail located in the community of Wrenshall, Carlton County. The upgrading of this trail segment is to include the development of 0.5 miles of new multiuse, bituminous recreational trail that will address a severance in the former railroad grade that was present at the time of the State acquisition. This severance presently requires the trail user to utilize the shoulder of Carlton County Highway 1. In addition, this project proposes the upgrading and bituminous surfacing of a 0.5 mile long, segment of aggregate surfaced section of the inplace State Trail, located immediately south of and contiguous with the existing trail severance. To address the severance of the State trail corridor, a trail easement has been granted by Magellan Pipeline Co. that provides for a contiguous off-road trail corridor. Preliminary plans and specifications for the development of the trail severance have been completed previously completed.

#### **Activity Milestones:**

Description	Approximate Completion Date
Completion of required project engineering – Alex LaVeau State Trail	December 31, 2023
Construction Contract Awarded – Alex LaVeau State Trail	June 30, 2024
Project Construction Complete – Alex LaVeau State Trail	June 30, 2025
Project Closeout and Final Reporting – Alex LaVeau State Trail	December 31, 2025

# Activity 3: Casey Jones State Trail – Rehabilitation Lake Shetek State Park / Curry Segment – West Segment

Activity Budget: \$75,000

#### Activity Description:

This project proposes the completion of the engineering, design and permitting required for the upgrading and rehabilitation of the 1.25 mile "West" segment of the Casey Jones State Trail - Lake Shetek State Park / Currie Segment, that is contained entirely within the boundaries of Lake Shetek State Park. The identified trail segment extends south of the State Park Contact Station /Office, along the west shoreline of Smith Lake and provides the primary off-road bicycle/pedestrian trail corridor through the southern portion of the State Park, was originally developed in the 1990's. This segment connects with the "South" segment of the Lake Shetek State Park - Currie Segment anticipated for rehabilitation in 2023 that extends along Murray Co Hwy. 38 and the Des Moines River outlet structure at Lake Shetek. The proposed trail renewal is to consist principally of the widening and resurfacing of the existing 8' bituminous trail to the current 10' wide trail standard, including the reconstruction and improvement of the granular trail base, the replacement of a number of small culverts and the installation of several ADA compliant trail/roadway intersections and crossings.

#### **Activity Milestones:**

Description	Approximate Completion Date
Completion of Project Engineering – Casey Jones State Trail / West Segment	June 30, 2025
Project Closeout and Final Reporting – Casey Jones State Trail / West Segment	December 31, 2025

## Activity 4: Central Lakes State Trail – Ashby Segment Rehabilitation

Activity Budget: \$100,000

#### **Activity Description:**

This activity proposes the completion of the engineering, design and permitting required for the upgrading and rehabilitation of the approximately 3.5 mile segment of the existing Central Lakes State Trail located immediately north of the community of Ashby. This existing trail segment was originally constructed in early 2003 on an abandoned, former railroad grade. Much of the referenced 3.5 mile segment traverses areas of low wet terrain and small shallow lake basins on an elevated embankment and has experienced extensive settling and cracking of the bituminous trail surface. As proposed, the trail reconstruction is to generally consist of improvements to the existing degraded bituminous 10' bituminous trail, the installation of ADA compliant trail/roadway intersections and the replacement of a number of small culverts. At one of the small lake basins, extensive embankment failure will likely require more extensive reconstruction.

#### **Activity Milestones:**

Description	Approximate Completion Date
Completion of Project Engineering – Central Lakes State Trail / Ashby Segment	June 30, 2025
Project Closeout and Final Reporting – Central Lakes State Trail / Ashby Segment	December 31, 2025

## Activity 5: Blazing Star State Trail – Myre Big Island State Park Segment Rehabilitation

Activity Budget: \$450,000

#### **Activity Description:**

This project proposes the upgrading and rehabilitation of an approximately 1.5 mile long segment of the existing Blazing Star State Trail that is located entirely within the boundaries of Myre - Big Island State Park, Freeborn County. The existing trail segment, extends north and east of the State Park Office and currently provides the primary off-road bicycle/pedestrian trail corridor through the northeastern portion of the State Park. Currently 1.0 miles of the identified trail segment are paved and 0.5 miles, which is located on a vacated roadway, is aggregate surfaced. The bituminous surfaced trail segment was originally developed in the 2003. The proposed trail renewal is to consist principally of the resurfacing of the current 10' wide bituminous trail and the installation of a new 10' wide bituminous trail surface on the existing aggregate surfaced section. This existing trail segment connects directly with the western terminus of the proposed State Trail crossing of Albert Lea Lake, which will connect the eastern and western sections of the State Trail and the Communities of Albert Lea and Hayward. The proposed crossing connection is currently scheduled for construction during the 2024 construction season.

#### **Activity Milestones:**

Description	Approximate Completion Date
Completion of required project engineering – Blazing Star State Trail	June 30, 2024
Construction Contract Awarded – Blazing Star State Trail	July 31, 2024
Project Construction Complete – Blazing Star State Trail	June 30, 2025
Project Closeout and Final Reporting – Blazing Star Segment	December 31, 2025

## Activity 6: Willard Munger State Trail – Mile Post 139 Culvert Replacement

#### Activity Budget: \$150,000

#### **Activity Description:**

This activity proposes the completion of the engineering, design and permitting required for the replacement of a large culvert that was compromised as the result of the significant flood event in 2012. The existing culvert, located at Mile Post 139 on the Willard Munger State Trail east of the community of Carlton, carries a reach of Mission Creek under the State Trail Corridor. Given that the existing culvert is located approximately 60 feet below the inplace trail surface, the project will require substantial excavation in association with the installation of a new 6 foot concrete box culvert. Approximately 0.25 miles of the existing bituminous surfaced trail will also subject to reconstruction and resurfacing. Conceptual plans and specifications for the required improvements were developed in 2012 and 2013 immediately following the flooding event.

#### **Activity Milestones:**

Description	Approximate Completion Date
Completion of Project Engineering – Casey Jones State Trail / West Segment	June 30, 2025
Project Closeout and Final Reporting – Casey Jones State Trail / West Segment	December 31, 2025

## Activity 7: Minnesota River State Trail – Development Mankato to St. Peter Segment TH22 Tunnel

#### Activity Budget: \$750,000

#### **Activity Description:**

This Activity includes the installation of a new State Trail Tunnel under TH22, representing Phase I of a cooperative project with Minnesota Department of Transportation (MnDOT) to develop the proposed segment of the Minnesota River State Trail that is to extend between the communities of Mankato and St. Peter. As proposed, the tunnel installation would be completed by MnDOT in association with the upgrading and expansion of the 9 mile segment of

TH22 located between the two communities. As proposed, the State Trail will be located parallel to TH22, confined entirely to MnDOT administered lands. Presently MnDOT is proposing to construct the TH22 improvements during the 2024 construction season. While MnDOT will not be able to provide for the construction of the State Trail as part of TH22 project due to limitations in project funding, the TH22 project will provide for the initial trail grade improvement. Should the required trail tunnel deferred or delayed and not be constructed at the time of the proposed highway improvements, construction costs are projected to increase significantly and require complete reconstruction of the proposed TH22 intersection improvements, including a roundabout, to be constructed in 2024. The tunnel will be immediately available for snowmobile use.

#### **Activity Milestones:**

Description	Approximate Completion Date
Completion of required project engineering – Minnesota River State Trail	September 30, 2023
Construction Contract Awarded – Minnesota River State Trail	January 31, 2024
Project Construction Complete – Minnesota River State Trail	November 30, 2025
Project Closeout and Final Reporting – Minnesota River Segment	December 31, 2025

## Activity 8: Gitchi Gami State Trail – Development Two Harbors to Flood Bay Wayside Segment

#### Activity Budget: \$1,277,000

#### **Activity Description:**

This activity proposes the completion of the formal engineering, design and construction of the proposed 1.5 mile segment of the Gitchi Gami State Trail to be located between the City of Two Harbors and the Flood Bay Wayside a MnDNR administered facility. This proposed trail segment will provide a direct off road, pedestrian bicycle recreational trail connection between Two Harbors and the popular wayside and the associated Lake Superior beach. The proposed trail segment as currently defined is to be confined entirely to the existing state administered TH61 rights-of-way. While conceptual trail corridor alignment selection and design has been completed, the completion of detailed preliminary and final plans and specifications have not been developed. The project has also been awarded a \$300,000 Federal Transportation Grant, available in FFY 2024 for the development of this trail segment.

#### **Activity Milestones:**

Description	Approximate Completion Date
Completion of required project engineering – Gitchi Gami State Trail	March 31, 2024
Construction Contract Awarded – Gitchi Gami State Trail	June 30, 2024
Project Construction Complete – Gitchi Gami State Trail	June 30, 2026
Project Closeout and Final Reporting – Gitchi Gami Segment	June 30, 2026

## 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. The plans and specifications for each project will include the LCCMR/ENRTF Logo, each individual State Trail bridge shall have the LCCMR/ENRTF logo affixed to each structure and State Trail signs at State administered trailheads will include acknowledgment of LCCMR/ENRTF support.

## 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?

Each of the identified projects are all existing components of the Outdoor Recreation System and will be implemented through the MN DNR Parks and Trails Division staff. All project engineering, design, contract administration and construction inspection will be completed by or under the direct oversight of the MN DNR Operation Services Division. The MN DNR will operate, maintain and protect each of the facilities when complete. The implementation of these projects will also significantly reduce the Parks and Trails Division's annual operational costs for the defined trail segments and bridges for 10 to 25 years.

Name	Appropriation	Amount Awarded
Minnesota State Trails Acquisition, Development and Enhancement	M.L. 2017, Chp. 96, Sec. 2, Subd. 09d	\$1,038,000
Minnesota State Trail Development	M.L. 2018, Chp. 214, Art. 4, Sec. 2, Subd. 09j	\$2,500,000
Minnesota State Trails Development	M.L. 2019, First Special Session, Chp. 4, Art. 2, Sec. 2, Subd. 09d	\$5,000,000
Minnesota State Trails Development	M.L. 2021, First Special Session, Chp. 6, Art. 5, Sec. 2, Subd. 09i	\$994,000
Minnesota State Trails Development	M.L. 2021, First Special Session, Chp. 6, Art. 6, Sec. 2, Subd. 09s	\$4,266,000

## Other ENRTF Appropriations Awarded in the Last Six Years

## Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineli gible	% Bene fits	# FTE	Class ified Staff?	\$ Amount
Personnel								
							Sub Total	-
Contracts and Services								
MNDNR Operation Services Division	Professional or Technical Service Contract	All proposed project engineering, design, contract administration and construction inspection will be completed by or under the direct oversight of the MNDNR Division of Operation Services / Construction and Design				7.5		\$1,090,000
							Sub Total	\$1,090,000
Equipment, Tools, and Supplies								
							Sub Total	-
Capital Expenditures								
		Harmony-Preston Valley State Trail – BR01126 Replacement	Replacement of existing deficient Trail Bridge. The existing steel recreational trail bridge is to be replaced with a 120- 140 foot long, 12 foot wide, steel truss recreational trail bridge. The replacement bridge will provide a 15 ton load rating.	x				\$542,080
		Root River State Trail / Bridge 42 (BR01284) Replacement	Replacement of existing deficient Trail Bridge. The existing timber trail bridge, originally constructed as a railroad bridge, is to be replaced with a large concrete box culvert	X				\$167,800
		Root River State Trail / Bridge 44 (BR01286) Replacement	Replacement of existing deficient Trail Bridge. The existing timber trail bridge, originally constructed as a railroad bridge, is to be replaced with a large concrete box culvert.	X				\$167,800

Root River State Trail / Bridge 45 (BR01287) – Replacement	Replacement of existing deficient Trail Bridge. The existing timber trail bridge,	Х	\$167,800
	originally constructed as a railroad		
	bridge, is to be replaced with a large		
	concrete box culvert.		
Alex LaVeau State Trail / Development Wrenshall	Development and upgrading of a 1.0	Х	\$542,080
Trail Severance	mile segment of the Alex LaVeau State		
	Trail located in the community of		
	Wrenshall, Carlton County. The project		
	is to include the development 0.5 miles		
	of new multiuse, bituminous		
	recreational trail addressing a gap in the		
	existing trail and the bituminous		
	surfacing of an inplace 0.5 mile long,		
	aggregate surfaced trail segment		
Blazing Star State Trail / Myre State Park Segment	Proposed upgrading and rehabilitation	Х	\$369,720
Rehabilitation	of a 1.5 mile long segment of the		
	existing Blazing Star State Trail located		
	entirely within the boundaries of Myre -		
	Big Island State Park, Freeborn County.		
	The project is to consist principally of		
	the bituminous resurfacing of 1.0 miles		
	of existing trail and the installation of a		
	new 10' wide bituminous trail surface		
	on a 0.5 mile long aggregate surfaced		
	section		
Minnesota River State Trail / Development Mankato	Proposed installation of a new	Х	\$750,000
to St Peter Segment TH22 Tunnel	recreational trail tunnel under TH22, a		
	cooperative project with MnDOT to		
	develop initial improvements for the		
	proposed segment of the Minnesota		
	River State Trail between the		
	communities of Mankato and St. Peter.		
	The tunnel installation is to be		
	completed by MnDOT in association		
	with the MnDOTs reconstruction of		
	TH22 between the two communities.		
Gitchi Gami State Trail / Development Two Harbors	Proposed the completion of the	Х	\$1,110,721
to Flood Bay Wayside Segment	engineering, design and construction of		
	a 1.5 mile segment of the Gitchi Gami		
	State Trail extending between the City		
	of Two Harbors and the existing Flood		

	Bay State Wayside. The proposed			
	segment is to be confined entirely	to		
	MnDOT administered TH61 r/w an			
	funded in-part by a \$300,000 FFY0			
	Federal Transportation Grant			4
			Sub	\$3,818,001
			Total	
Acquisitions				
and				
Stewardship				
Stewaruship			Cub	
			Sub	-
			Total	
Travel In				
Minnesota				
			Sub	-
			Total	
Traval			TOtal	
Travel				
Outside				
Minnesota				
			Sub	-
			Total	
Duinting and			Total	
Printing and				
Publication				
			Sub	-
			Total	
Other				
Expenses				
LAPENSES	NAN DND Direct and Necessary Center Devider estivities that are directly			ć 42.000
	MN DNR Direct and Necessary Costs Pay for activities that are directly			\$43,999
	related to and necessary for			
	accomplishing appropriated			
	programs/projects. Direct and nec	cessary		
	costs cover HR Support (~\$0), Safe			
	Support (~\$0), Financial Support			
	(~\$41,168), Communication Suppo	ort		
	(~\$1,811), IT Support (~\$0), and			
	Planning Support (~\$1,020) that a	re		
	necessary to accomplishing funded			
	programs/projects			
			Sub	\$43,999
				Ş45,999
			Total	
			Grand	\$4,952,000
			Total	

## Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request	
Capital Expenditures		Harmony-Preston Valley State Trail – BR01126 Replacement	All anticipated costs are considered to be eligible. <b>Additional Explanation :</b> The proposed trail improvements will be maintained by the MnDNR for the improvements with a useful life.	
Capital Expenditures		Root River State Trail / Bridge 42 (BR01284) Replacement		
Capital Expenditures		Root River State Trail / Bridge 44 (BR01286) Replacement	All anticipated costs are considered to be eligible. Additional Explanation : The proposed trail improvements will be maintained by the MnDNR for the improvements useful life.	
Capital Expenditures		Root River State Trail / Bridge 45 (BR01287) –Replacement	All anticipated costs are considered to be eligible. Additional Explanation : The proposed trail improvements will be maintained by the MnDNR for the improvements useful life.	
Capital Expenditures		Alex LaVeau State Trail / Development Wrenshall Trail Severance	All anticipated costs are considered to be eligible. Additional Explanation : The proposed trail improvements will be maintained by the MnDNR for the improvements useful life.	
Capital Expenditures		Blazing Star State Trail / Myre State Park Segment Rehabilitation	All anticipated costs are considered to be eligible. Additional Explanation : The proposed trail improvements will be maintained by the MnDNR for the improvements useful life.	
Capital Expenditures		Minnesota River State Trail / Development Mankato to St Peter Segment TH22 Tunnel	All anticipated costs are considered to be eligible. Additional Explanation : The proposed trail improvements will be maintained by the MnDNR for the improvements useful life.	
Capital Expenditures		Gitchi Gami State Trail / Development Two Harbors to Flood Bay Wayside Segment	All anticipated costs are considered to be eligible. Additional Explanation : The proposed trail improvements will be maintained by the MnDNR for the improvements useful life.	

## Non ENRTF Funds

Category	Specific Source	Use	Status	\$ Amount
State				
			State Sub	-
			Total	
Non-State				
Cash	Federal Transportation Alternatives Grant	Construction of the Two Harbors to the Flood Bay State Wayside Segment of the Gitchi Gami State Trail	Secured	\$300,000
			Non State	\$300,000
			Sub Total	
			Funds	\$300,000
			Total	

## Attachments

## **Required Attachments**

*Visual Component* File: <u>80c95861-959.pdf</u>

#### Alternate Text for Visual Component

The attachment includes two maps of the State of Minnesota with the specific State Trail Bridge and State Trail project locations identified. Reduced scale inset maps are included that identify each State Trail Bridge and State Trail Segment with a brief project description....

#### **Optional Attachments**

#### Support Letter, Photos, Media, Other

Title	File
Background Check Certification Form	<u>6d06d534-918.pdf</u>

## Difference between Proposal and Work Plan

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

The Environment and Natural Resources Trust Fund 2023 Work Plan for the project titled "Minnesota State Trails Development" as submitted has been revised to conform to the funding recommendations of the Legislative-Citizen Commission on Minnesota Resources. The principal revision is deletion of one proposed activity for the proposed improvement to a segment of the Minnesota Valley State Trail and modification to the level of proposed funding for one activity that will result for the development of a new segment of the Gitchi Gami State Trail. Limited adjustments to individual project budgets are also reflected. Revised projects maps have also been provided

## 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? Yes

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? N/A

- Does your project have potential for royalties, copyrights, patents, or sale of products and assets? 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?
- Does the organization have a fiscal agent for this project?

No