

**Environment and Natural Resources Trust Fund**

# M.L. 2021 Approved Work Plan

## **General Information**

**ID Number:** 2021-137

**Staff Lead:** Corrie Layfield

**Date this document submitted to LCCMR:** July 21, 2021

**Project Title:** Plumbing The Muddy Depths Of Superior Hiking Trail

**Project Budget:** $187,000

## **Project Manager Information**

**Name:** Lisa Luokkala

**Organization:** Superior Hiking Trail Association

**Office Telephone:** (218) 834-2700

**Email:** lluokkala@superiorhiking.org

**Web Address:** https://superiorhiking.org/

## **Project Reporting**

**Date Work Plan Approved by LCCMR:** July 20, 2021

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

**Project Completion:** November 30, 2023

**Final Report Due Date:** January 14, 2024

## **Legal Information**

**Legal Citation:** M.L. 2021, First Special Session, Chp. 6, Art. 6, Sec. 2, Subd. 08h

**Appropriation Language:** $187,000 the first year is from the trust fund to the commissioner of natural resources for an agreement with the Superior Hiking Trail Association to install and implement water management practices to prevent erosion and improve access to the Superior Hiking Trail.

**Appropriation End Date:** June 30, 2024

## **Narrative**

**Project Summary:** Bring "plumbing," or serious and effective water management devices and techniques, to the Superior Hiking Trail. This includes building structures and sculpting and managing soil and rock.

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

Much of the Superior Hiking Trail was not built to modern, national trail building standards. That fact, plus extremely heavy usage of the Trail due to its popularity, coupled with the ravages of climate change, means that water is damaging the Trail by either flowing onto or along it, and not moving off the Trail at all. The result is serious erosion and the proliferation of mud holes. Hikers tend to avoid muddy and wet spots on the Trail; by doing so, they exacerbate the problem by widening the Trail and causing more erosion and creating even more mud.  
  
A lack of "plumbing" on the Trail creates three distinct problems: (1) Increased erosion of the tread into nearby bodies of water, (The SHT follows and crosses nearly 100 named rivers and streams, as well as many lakes and ponds.) (2) A need for expensive fixes, such as boardwalks and reroutes, when erosion and mud holes are left unplumbed for too long, (3) An unsatisfying experience for the tens thousands of annual visitors to the SHT.

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

The solution to this problem is not technically complicated but it is logistically complex. There's hardly a mile of the SHT that doesn't require what we call "plumbing," or reworking the tread of the Trail. The goal of this plumbing is to make the SHT shed water quickly -- allowing it to move across, not along, the tread -- and to make certain that the SHT, and use of it, is no longer a cause of erosion. Plumbing can be as simple as re-contouring the tread, by cutting back berms that form on the edges of the path or installing dips and drains, to allow water to flow off the Trail. It can mean building simple rock or wooden walkways in perennially wet areas. The solution for each section of the Trail will be determined by the surrounding landscape and how water flows through the area.  
  
Due to the nature of construction projects in the outdoors and the variability of weather in northern Minnesota, we anticipate needing two full trail seasons -- typically June to November -- to complete this project.

**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?**

As a part our our broader Trail Renewal Program initiative, efforts to plumb the SHT will ensure that every mile of this natural footpath along the North Shore is sustainably built and will be enjoyed by tens of thousands of annual visitors for decades to come -- all without causing unnecessary harm to surrounding lands and waters. With more precipitation expected in the coming years due to climate change, our efforts to make the SHT resilient and well-drained now will pay dividends later to protect and preserve the sensitive habitats and ecosystems through which the Trail passes.

## **Project Location**

**What is the best scale for describing where your work will take place?** Region(s): NE

**What is the best scale to describe the area impacted by your work?** Region(s): NE

**When will the work impact occur?** During the Project and In the Future

## **Activities and Milestones**

### **Activity 1: A Resilient Trail By Way of Rebuilt, Reinforced, and Re-plumbed Tread**

**Activity Budget:** $187,000

**Activity Description:**There is no "One Size Fits All" approach to ensuring the SHT sheds water effectively; in fact there are several solutions. We'll employ the right techniques in the right places keep water off the Trail and restore, reshape and rebuild the tread to nationally established sustainable standards.   
  
Our efforts in this activity will include excavating worn sections to establish new contours and installing water management/drainage devices (e.g. drainage dips, swales, ditches) so that water is deflected away from the tread. This will reduce or eliminate erosion and mud holes.   
  
In sections where plumbing is not feasible, we'll make mud holes more resilient and more appealing to trail users by installing stone steps. There is no shortage of native, local stone along the Trail, and well-built stone features have a long useful life expectancy with little maintenance required. And, where needed, we'll build "puncheon" -- simple boardwalk -- to keep trail users from tearing up wet soils and causing erosion.   
  
We will use these techniques, developed by professional trail builders across the country, to make the Trail enjoyable, sustainable, and resilient for years to come.

**Activity Milestones:**

|  |  |
| --- | --- |
| **Description** | **Completion Date** |
| 2021 trail plumbing projects (3-6 total projects) completed | November 30, 2021 |
| Identify 2022 project sites, develop scope of work, and hire contractor(s) | February 28, 2022 |
| If necessary, identify 2023 project sites, develop scope of work, and hire contractor(s) | February 28, 2023 |
| 5 to 10 stone step crossings installed to fix perennial mud holes | November 30, 2023 |
| 10 to 20 short reroutes (under 1,000 feet each) constructed | November 30, 2023 |
| 25 to 50 miles of tread restored and re-contoured to effectively shed water | November 30, 2023 |

## **Project Partners and Collaborators**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Organization** | **Role** | **Receiving Funds** |
| Jim Shoberg | City of Duluth Parks Department | Liaison to SHTA from Duluth Parks to assist in planning and executing trail projects within the limits of the City of Duluth | No |
| Mike Young | Minnesota DNR Division of Forestry | Liaison to SHTA from DNR to assist in planning and executing trail projects within northeastern Minnesota forest lands | No |
| Christa Maxwell | Minnesota DNR Parks and Trails Division | Liaison to SHTA from DNR to assist in planning and executing trail projects within North Shore state parks | No |
| Derrick Passe | Lake County Soil and Water Conservation District | Advises on environmental regulatory matters in Lake County | No |
| Jon Benson | U.S. Forest Service | Liaison to the SHTA for any work done on the SHTA within the boundaries of Superior National Forest. | No |
| Cathy Quinn | U.S. Forest Service | Liaison to the SHTA for any work done on the SHTA within the boundaries of Superior National Forest. | No |

## **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.**We would highlight our LCCMR projects as completed through our print materials, website, social media and other media outlets. In addition, we will include recognition of ENTRF in our Request for Proposals. We will comply with ENTRF guidelines.

## **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 be funded?**The Trail Renewal Program has focused the Association’s energy, resources, and systems so that the lofty goal of creating and supporting a hiking trail that lasts a century is achievable. The Trail Renewal Program has brought about a significant increase in private donations that support the operations of the SHTA. Continued efforts to plumb the SHT will utilize support from wherever we can get it, including public sources (local governments, IRRRB, ENRTF, Federal Recreational Trails Program) and private sources (private foundations, major donors, and investors).

## **Other ENRTF Appropriations Awarded in the Last Six Years**

|  |  |  |
| --- | --- | --- |
| **Name** | **Appropriation** | **Amount Awarded** |
| Enhancement Plan for Superior Hiking Trail | M.L. 2018, Chp. 214, Art. 4, Sec. 2, Subd. 09f | $100,000 |
| Restoring Five Sections of the Superior Hiking Trail | M.L. 2019, First Special Session, Chp. 4, Art. 2, Sec. 2, Subd. 09o | $191,000 |

## **Budget Summary**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Category / Name** | **Subcategory or Type** | **Description** | **Purpose** | **Gen. Ineli gible** | **% Bene fits** | **# FTE** | **Class ified Staff?** | **$ Amount** |
| **Personnel** |  |  |  |  |  |  |  |  |
| Trail Operations Director |  | Trail operations director oversees trail construction and plumbing projects. |  |  | 25% | 0.48 |  | $32,500 |
|  |  |  |  |  |  |  | **Sub Total** | **$32,500** |
| **Contracts and Services** |  |  |  |  |  |  |  |  |
| TBD | Professional or Technical Service Contract | Qualified and reputable professional trail building entities paying prevailing wages will be contracted to complete trail restoration and plumbing projects. They will be sourced via competitive RFP process. Services would include tread reconstruction, puncheon/boardwalk construction, and stonework. |  |  |  | 0.73 |  | $140,000 |
|  |  |  |  |  |  |  | **Sub Total** | **$140,000** |
| **Equipment, Tools, and Supplies** |  |  |  |  |  |  |  |  |
|  | Tools and Supplies | Construction Materials, Tools, and Supplies | This includes construction materials, such as milled lumber, metal supports, and related hardware, and necessary hand tools and supplies to complete the activities of the project. |  |  |  |  | $14,500 |
|  |  |  |  |  |  |  | **Sub Total** | **$14,500** |
| **Capital Expenditures** |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | **Sub Total** | **-** |
| **Acquisitions and Stewardship** |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | **Sub Total** | **-** |
| **Travel In Minnesota** |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | **Sub Total** | **-** |
| **Travel Outside Minnesota** |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | **Sub Total** | **-** |
| **Printing and Publication** |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | **Sub Total** | **-** |
| **Other Expenses** |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | **Sub Total** | **-** |
|  |  |  |  |  |  |  | **Grand Total** | **$187,000** |

### **Classified Staff or Generally Ineligible Expenses**

|  |  |  |  |
| --- | --- | --- | --- |
| **Category/Name** | **Subcategory or Type** | **Description** | **Justification Ineligible Expense or Classified Staff Request** |

### **Non ENRTF Funds**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **Specific Source** | **Use** | **Status** | **Amount** |
| **State** |  |  |  |  |
|  |  |  | **State Sub Total** | **-** |
| **Non-State** |  |  |  |  |
| In-Kind | Volunteers | 1000 hours of volunteer support for the project, valued at $25/hr. | Secured | $25,000 |
| Cash | Donations and memberships | Various related expenses, including: materials, tools, volunteer support, lodging, travel, and other professional services to support this project. | Secured | $50,000 |
|  |  |  | **Non State Sub Total** | **$75,000** |
|  |  |  | **Funds Total** | **$75,000** |

## **Attachments**

### **Required Attachments**

#### ***Visual Component***

File: [23be29bb-741.pdf](https://lccmrprojectmgmt.leg.mn/media/map/23be29bb-741.pdf)

#### ***Alternate Text for Visual Component***

A two-page document that includes photos and outlines the following:   
Our Problem: Year-round mud holes and wet areas that cause erosion, push hikers off-trail, and damage surrounding vegetation.   
Our Solution: Install devices that shed water off and/or reinforce the tread to keep users on the Trail....

#### ***Financial Capacity***

File: [3ef2a330-2f4.pdf](https://lccmrprojectmgmt.leg.mn/media/financial_capacity/3ef2a330-2f4.pdf)

#### ***Board Resolution or Letter***

|  |  |
| --- | --- |
| **Title** | **File** |
| SHTA Board Resolution | [cd71a07b-df8.pdf](https://lccmrprojectmgmt.leg.mn/media/attachments/cd71a07b-df8.pdf) |

### **Optional Attachments**

#### ***Support Letter or Other***

|  |  |
| --- | --- |
| **Title** | **File** |
| Background Check Form -- Superior Hiking Trail Association | [97d27012-965.pdf](https://lccmrprojectmgmt.leg.mn/media/attachments/97d27012-965.pdf) |

## **Difference between Proposal and Work Plan**

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

After review of the milesstones with SHTA's Trails Operations Director, we realized that the original Milestone #2 has redundancies to Milestone #1. Upon further discussion amongst our trail maintenance experts, it was determined that Milestone #1, which is our most important indicator of success, would requires many drainage devices, but each section of trail is so unique it would be difficult for a contractor to quantify each and every technique they used on such a large amount of trail. Milestone #1 referred to trail restored and re-contoured to shed water effectively and a multitude of strategies will be employed to make that happen.

## **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?**   
 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?**   
 No

**Does the organization have a fiscal agent for this project?**   
 No