



## Request for Proposals

### Loops Renewal on the SHT: NE Portion of the Cascade River Loop

Issued: December 13, 2023

Proposals Due: January 12, 2024

The Superior Hiking Trail Association (SHTA) seeks proposals from individuals and businesses with expertise and extensive experience in rehabilitation/renewal of existing hiking trail according to modern, sustainable construction techniques and standards, including, but not limited to: clearing; building tread; installing puncheon and boardwalk; using local, on-site stone to build retaining walls, steps, and other trail improvement features.

#### **About the SHTA and the Cascade River Loop:**

The SHTA is a non-profit organization tasked with the maintenance and renewal of the approximately 320-mile long Superior Hiking Trail that follows the rugged terrain along Minnesota's north shore of Lake Superior from the Wisconsin border at its Southern Terminus to the Canadian Border at the Northern Terminus.

The Cascade River Loop is located in Cascade River State Park and the Superior National Forest in between Lutsen and Grand Marais, MN. It follows the Cascade River on both sides, sometimes right on the banks and other times high on a ridge above. Many sections travel through moss covered, craggy forests with majestic old cedars. The loop trail is very popular, getting use from heavy visitor use out of the State Park in the South, as well as by many local day hikers coming from the north. There is deferred maintenance, as well as some significant flooding damage that occurred during the spring of 2022.

## **About the Project:**

The project area for this RFP is limited to work within the first mile of trail beginning at the trailhead on County Road 45 (Pike Lk Rd), heading south, on the east side of the Cascade River Loop.

The project is primarily focused on the rehabilitation of existing, worn out tread (reshaping, installing drainage), replacement of worn out puncheon, boardwalk or stairs, or installation of new structures. Much of the existing trail is located on hillsides that have a heavy clay content and are prone to seepage, leading to perennially wet trail conditions. In locations where boardwalk or similar structures were installed, they tended to sink in the soft soil, tilt, and slowly slide downhill. It is extremely important that installed structures stay in place and level (from side to side. Some rise and fall of structures is allowable to follow the natural contours of the land, but should typically not exceed 8 inches over 8 feet of length). Many locations will require uphill ditching and drains, possible even if structures are installed.

Tread repair involves reshaping the tread to facilitate the flow of water across the trail and the movement of people along the trail. This includes but is not limited to: removing slough and berm; cleaning drains that have filled in or installing new ones where needed; uphill ditching and cross drains; mitigating rocks, roots and stumps that hold water and impede traffic; and defining the trail where it has widened for various reasons

We provided a map with data points that show all the major problem areas along the loop that need to be addressed, along with a spreadsheet with proposed solutions. **These are the project deliverables.** Where structures are to be used, the type and length is specified, although the type of structure is negotiable, as long as it meets or exceeds the plan. As stated before, the trail is very heavily used, and all work must be completed to the highest standards for safety and longevity.

Puncheon should be 32 inches wide and boardwalk should be between 36 to 40 inches wide. All puncheon and boardwalk should have about 6" of clearance from the ground to the bottom of framing. Timber steps should be a minimum of 36 inches wide, and step height should range from 7 - 8 inches high.

Much of the puncheon is built using two planks laid side by side over sills running with the direction of travel. The lumber is in pretty good shape, but many of the structures are too short, and have become unlevel due to settling. The proposed fixes often include adding on and leveling structures, but there may be some cases when we will want to replace the entire structure using a new design that the SHTA has favored in recent years to create a more durable structure with a uniform look. As noted, it may be possible to use the existing tread planks as stringers.

**Please include material costs (lumber, hardware, etc.) with your proposal.**

A portion of the proposed work is still awaiting approval by the US Forest Service but is currently under review, this includes five reroutes of various lengths totalling 970' (105', 540', 50', 175',

and 100', from N to S). SHTA requests that your quote breaks out the cost of these individual projects due to their contingency status. Four of the reroutes shift the trail alignment to a more favorable location, while one moves the trail uphill due to severe flooding damage to the trail.

If constructed, reroutes must be built with a finished tread width of 18 to 24 inch, full-bench construction, with a cleared corridor width of approximately 36 inches on either side of the center of the trail, for a total cleared width of 72 inches, or six feet. Trail can be roughed in with machinery, not to exceed 48-inch track width, but must be finished with a hand crew.

### **Timeline for Completion:**

It is expected that the entire project will be completed during the 2024/25 construction seasons, which is approximately annually June-September in northern Minnesota. If the five reroutes mentioned above do not gain US Forest Service approval by summer of 2024, they will need to be carried over into 2025.

### **Access for the Project:**

The main access for this project will be from the trailhead on County Road 45, about 10 miles west of Grand Marais, MN.

### **Rehabilitation of Old Trail and Removal of Materials:**

It is expected that all the old material on the trail as well as new construction waste should be hauled out and disposed of. Where reroutes are built, the old trail should be rehabbed to prevent further damage and closed down to prevent use.

### **Specifications:**

#### **1. Duties and Responsibilities of Contractor.**

1. Contractor is expected to possess the necessary experience, skills and craftsmanship to renew and/or build high quality and sustainable natural surface hiking (or experience with similar) trails meeting or exceeding accepted industry standards.
2. Contractor is expected to possess the necessary experience, skills and craftsmanship to construct and install trail hardening structures such as puncheon, boardwalk, stairs, etc., with lumber or other materials intended to take the place of lumber (fiberglass or other composites, etc.) or stone.
3. Contractor, crew, and any subcontractors associated with this project are expected to conduct themselves in a professional manner at all times.

- #### **2. Field Layout and Design.**
- Where reroutes are proposed, they have been carefully laid out and flagged, but some minor adjustments may be permitted. If the contractor has any questions regarding the proposed alignment, they must discuss this with the SHTA prior to making any changes. If the contractor deviates from the established route, or outside any agreed upon buffer without permission, they may be required to fix the work without additional compensation.

1. Corridor width shall be 6 feet wide, or 3 feet to either side of the centerline, and 8 feet high.
2. Contractor should try to preserve large trees (8+” DBH) within this corridor and move the trail around them if possible
3. **Structure Construction (lumber).** Structures will be constructed using quality materials, built to withstand high use and the ravages of the elements. Substructure lumber (sills, stringers, posts, headers, etc.) will be treated, while preferred decking material is rough-sawn, and can be treated or natural. The design shall be simple and easy to maintain. Structures should be built to remain sturdy and level over time and through changing seasonal conditions. They must not obstruct the natural flow of surface water, and should have, on average, at least 4 to 6 inches of clearance between the bottom of the framing and the ground. SHTA will provide design specifications and plans for all wooden structures (punchion and boardwalk) that are SHTA-preferred methods of construction. Other styles or construction methods are permissible (if they meet or exceed the standards of the designs provided) but must be discussed with SHTA prior to construction.
  1. **Punchion** is defined as having a sill on the ground which supports two stringers that run with the direction of travel. The decking is laid on top of the stringers, perpendicular to the direction of travel.
  2. **Boardwalk** is defined as a structure that is supported on two upright posts that are connected with a horizontal ledger. The posts have a wide foot attached to the bottom that carries the weight of the structure over soft or saturated soils. The frame sits on top of the ledger, and the decking is attached to the frame, which is perpendicular to the direction of travel.
  3. **Timber steps** are typically constructed with 6x6s and consist of a riser (front) and two side pieces that are dug into the hill. The pieces are lap jointed and pinned together. The center is filled with native material if suitable soil can be found, otherwise they can be decked with wood.
4. **Site Meeting/Visits.** Contractor will participate in an on-site construction meeting with the SHTA to discuss the project prior to commencement of work. SHTA will perform regular site visits as the project continues. Contractor needs to schedule a meeting with the SHTA any time there is uncertainty with the project.
5. **Trail Construction.** Contractor and all crew members shall be required to be knowledgeable of and have proven capability of meeting or exceeding the trail building standards as defined in the MN DNR’s Trail Planning, Design, and Development Guidelines along with all general standards and conditions defined in this RFP or otherwise adopted for this project prior to and during construction. Specifics include:
  1. **Trail building techniques.** The Contractor is expected to be fully versed in the techniques used to build sustainable hiking trails; this includes, but is not limited to, understanding and applying rolling grades, inslope/outslope tread, knicks, grade reversals, rock armoring and trail hardening (including wooden structures), climbing/descending turns, water diversions, etc.

2. **Trail grades.** Grades shall not exceed guidelines as defined in referenced manuals, typically not exceeding ten percent (10%), unless approved by the SHTA. All trail grades must be sustainable, as determined by the Contractor.
3. **Surface water control features.** The trail shall use rolling contour or grade system, with the trail traversing hills or side slopes and incorporating natural grade reversals (which are typically required every 20 feet to 50 feet. If a grade reversal is not feasible, other surface water drainage structures at the same frequency to minimize the effects of water flow and erosion shall be required, such as rolling grade dips and knicks; the Contractor is expected to be fully versed in trail building techniques commonly used to prevent trail erosion and ensure long-term sustainability.
4. **Trail Construction in Flat Terrain.** Where the trail needs to be constructed on flat ground, Contractor needs to take added and adequate measures (trail hardening, including, but not limited to: boardwalk, stonework, or elevated tread and/or ditching) to ensure that the trail is sustainable and wetlands are protected.
5. **Tread Construction.** The Contractor shall typically follow these basic steps to construct a **full bench** cut sustainable trail, including:
  1. **Excavating the tread.** Cutting the entire specified trail width into the side slope; excess soil shall be broadcast down slope of the trail (failure to disperse material down slope and away from the trail tread will not be allowed).
  2. **Cutting the backslope.** Backslope shall be compacted and naturally blend into the slope above the trail; maximum backslope shall be at natural angle of repose, but not exceed 45-degrees angle unless approved by Construction Manager.
  3. **Outslope the tread.** Typically 5 percent to ensure proper sheet flow of water across the trail tread, rather than down the trail tread; where the existing surface sideslope is less than 5 percent, the outslope shall conform to the existing sideslope; removed material shall be broadcast down slope of the trail in a thin layer; the critical point where the trail tread meets the downhill slope shall be rounded and well compacted.
  4. **Fine rake and compact the tread.** The entire width of the trail tread shall be evenly raked and then compacted by mechanized equipment furnished by the Trail Builder; soil compaction shall be completed with adequate soil moisture content to ensure proper compaction; fine raking shall leave the trail tread flat and even, with no areas for water runoff to pocket.
  5. **Finish the tread and trail corridor.** Remove any flagging and broadcast organic material originally raked off of the trail tread location down slope over the loose soil from the tread excavation; 'leave no trace' principles will apply; the area adjacent to the trail shall be restored to appear undisturbed; restoration of disturbed areas shall include but not be limited to raking and leveling disturbed soil adjacent the trail tread, spreading

leaves and other similar organic material over exposed soil, and removing all evidence of construction and equipment.

6. **Mechanized Equipment Best Practices.** It is the intent of the SHTA to minimize the impacts of construction, especially mechanized equipment. As such:
1. All equipment will be clean and free of debris before being introduced to the work site. Equipment is subject to inspection at the start and during the project.
  2. All mechanized equipment shall be in good mechanical condition, free of any fluid leaks and be equipped with spark arrestors if applicable.
  3. Each machine will be equipped with a readily accessible fully charged fire extinguisher.
  4. Machine service and fueling is not permitted within 500 feet of a wetland or drainage.
  5. A spill kit suitable for five gallons of fluid will be onsite and within 500 feet of mechanized equipment whenever equipment is being operated.
  6. Using mechanized equipment equipped with tracks is strongly recommended. All track marks will be raked smooth and affected areas will be finished to have a natural shape, e.g., spoils piles rounded, smoothed and cleared of significant brush, blade edges blended.
  7. Scarring of trees within and outside the corridor is to be avoided.
  8. Machine access is restricted to the trail corridor, separate access routes may only be created and used with prior written permission of the SHTA. Any approved access route must be retired and reclaimed back to its original condition upon project completion. Any proposed turnarounds shall be approved prior to construction and must be retired and reclaimed back to its original condition upon project completion.

Any equipment that does not meet these criteria shall be shut down until in compliance. If not correctable, it will be removed from the project site at the request of the Owner and at no additional cost to the Owner. As part of their bid package, the contractor will be asked to supply the expected list of mechanized equipment required to complete the project.

6. **Performance and Progress Assessment.** If the SHTA feels that the project is not moving according to schedule, or that the work is not up to industry standards, the Contractor will be notified and must take steps to remedy the matter. If improvements are not made satisfactorily, the SHTA reserves the right to remove the Contractor from the project.
7. **Quality Control and Crew Expectations.** As previously defined, the Contractor shall employ workers skilled and experienced for the specific task required. The Contractor and crew leaders are responsible for the performance and professional manner of all crew members. Any crew or crew member acting in a nonprofessional or inappropriate manner that jeopardizes the health, safety and welfare of other crews working on the site, or the public at large, will be cause for dismissal of that member or the entire crew, at the discretion of the SHTA. Failure to immediately address such issues may be cause for cancellation of the contract.

8. **Backcountry Protocol/Safety.** The Contractor and crew members shall be familiar with backcountry operation and safety protocols as well as be familiar and adept at “leave no trace” practices. Cell reception is spotty. Having back-up communication and navigation devices is strongly recommended. Contractor is responsible for providing all necessary Personal Protective Equipment. Crew members operating machinery or a chainsaw should work in close proximity with at least one other person. Each crew should have an OSHA-compliant first aid kit readily available.
9. **Construction Facilities and Site Protection.** The Contractor is responsible for maintaining the work site in a safe and responsible manner. This includes erecting and maintaining fences and barricades when necessary to provide adequate protection for their own and other crews, and other authorized project members. The Contractor shall secure, properly cover and protect his own equipment, materials and work against damage of any kind until this project is complete and the SHTA takes possession. The Contractor shall maintain a neat and orderly job site and shall promptly remove all debris and dispose of the debris legally off site. The Contractor shall remove all temporary fences, barricades, signs, etc. upon completion of the work.
10. **Tree and plant protection.** The Contractor shall protect trees and root systems outside of the defined trail tread, front slope, and back slope area from damage from construction equipment or damage due to soil compaction. The Contractor shall erect snow fences or flagging around any trees or plants designated by the SHTA to be protected or at other locations as directed.
11. **Working with Volunteers.** Volunteers may be involved with this project in some capacity; the Contractor must indicate whether they are willing and able to work with, or supervise, volunteers, and how that affects bid pricing.

### **Invasive Species Prevention**

Contractors must follow Minnesota DNR’s Operational Order 113, which requires preventing or limiting the introduction, establishment and spread of invasive species during activities on public waters and DNR administered lands. This applies to all activities performed on all lands under this grant-funded contract and is not limited to lands under DNR control or public waters. Duties are listed under Sections II and III (p. 5-8) of Operational Order 113 which may be found at: [http://files.dnr.state.mn.us/assistance/grants/habitat/heritage/oporder\\_113.pdf](http://files.dnr.state.mn.us/assistance/grants/habitat/heritage/oporder_113.pdf).

### **Prevailing Wage**

All State funded or partially State funded work against this contract is subject to the prevailing wage requirements pursuant to Minnesota Statutes 177.41 to 177.44 and corresponding Minnesota Rules 5200.1000 to 5200.1120 as established by the Minnesota Department of Labor and Industry. Specifically, all contractors and all tiers of subcontractors must pay all laborers and mechanics the established prevailing wages for work performed under the contract. Failure to comply with the aforementioned may result in civil or criminal penalties. The Department of Labor and Industry has a web page with Frequently Asked Questions about prevailing wages at:

<http://www.dli.mn.gov/business/employment-practices/prevailing-wage-information>.

**Labor Codes** applicable to this project, taken from the **Highway/Heavy** wage rates (for the most up-to-date information on wage rates, please visit [https://workplace.doli.state.mn.us/prevwage/highway\\_data.php?region=01](https://workplace.doli.state.mn.us/prevwage/highway_data.php?region=01). Complete job description can be found at: <https://www.revisor.mn.gov/rules/5200.1101/> and <https://www.revisor.mn.gov/rules/5200.1102/>):

- As of April 4, 2023 these job descriptions and wage rates apply:
  - **101 – Laborer, common:** Loading, unloading and staging construction materials; clearing and grubbing with hand tools; using a chainsaw to clear trees and brush; removing materials to be discarded.
    - **Basic Rate: 35.53 Fringe Rate: 22.67 Total Rate: \$58.20**
  - **703 – Bricklayers (includes stonemasonry):** Laying all riprap, rubble work, with or without mortar, setting all cut stone, marble, slate, or stone work.
    - **Basic Rate: \$31.83; Fringe Rate: \$35.32; Total Rate: 67.15**
  - **704 – Carpenter:** Constructing, erecting, installing, and repairing structures, structural members, and fixtures made of wood, plywood, and materials that take the place of wood, such as metals, composites, and fiberglass, using carpenter hand tools and power tools.
    - **Basic Rate: 38.21 Fringe Rate: 27.58 Total Rate: \$65.79**
  - **313 – Hydraulic backhoe (track or wheel mounted):** and/or similar equipment with shovel type controls up to 3 cubic yards including all attachments.
    - **Basic Rate: 42.81 Fringe Rate: 25.00 Total Rate: \$67.81**

**If the contractor anticipates performing tasks that are not covered by this list, please contact the project manager (SHTA).**

The contractor must also submit Department of Labor certified payroll forms with each invoice (forms can be found at: [https://www.dli.mn.gov/sites/default/files/pdf/pw\\_certified\\_payroll\\_form.pdf](https://www.dli.mn.gov/sites/default/files/pdf/pw_certified_payroll_form.pdf))

For questions regarding the Prevailing Wage Laws, contact the Department of Labor and Industry at 651.284.5091.

**Please include the following information with your proposal:**

1. Cost estimates for the project, broken down into mobilization, labor, materials, travel and lodging. If you have a fixed cost for structure construction that lumps labor and materials together, that is fine, just specify that this is the case.
2. Labor costs should be broken down into:
  1. Bringing in materials for puncheon, boardwalk, stairs, etc.
  2. Structure construction (puncheon boardwalk, stairs, etc.)
  3. Tread rehab
  4. Tree and brush clearing and removal on reroutes, if this is an additional cost
  5. Construction of proposed reroutes
  6. Removal and disposal of old materials and new construction waste
  7. Decommissioning/closure of the old trail where the trail is rerouted
3. Your availability, or potential start date.



4. Your qualifications for performing rehabilitation to a natural surface trail and constructing durable structures, and your past experience building and maintaining hiking trails or other recreational trails, including creating accurate cost estimates.
5. Documented evidence (photos, organizational newsletters or other material) of trail construction or repair projects you have overseen or participated in.
6. At least two references from customers of your work. (If you work for a nonprofit organization, please provide testimonials or references from volunteers who have worked with you.)
7. A list of all equipment (make, model, year and width) that will be used on this project must be submitted with bid for approval.
8. A list of all equipment operators with hours of experience on each piece of equipment must be supplied with your bid.

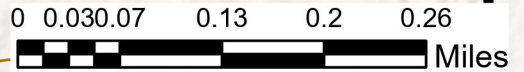
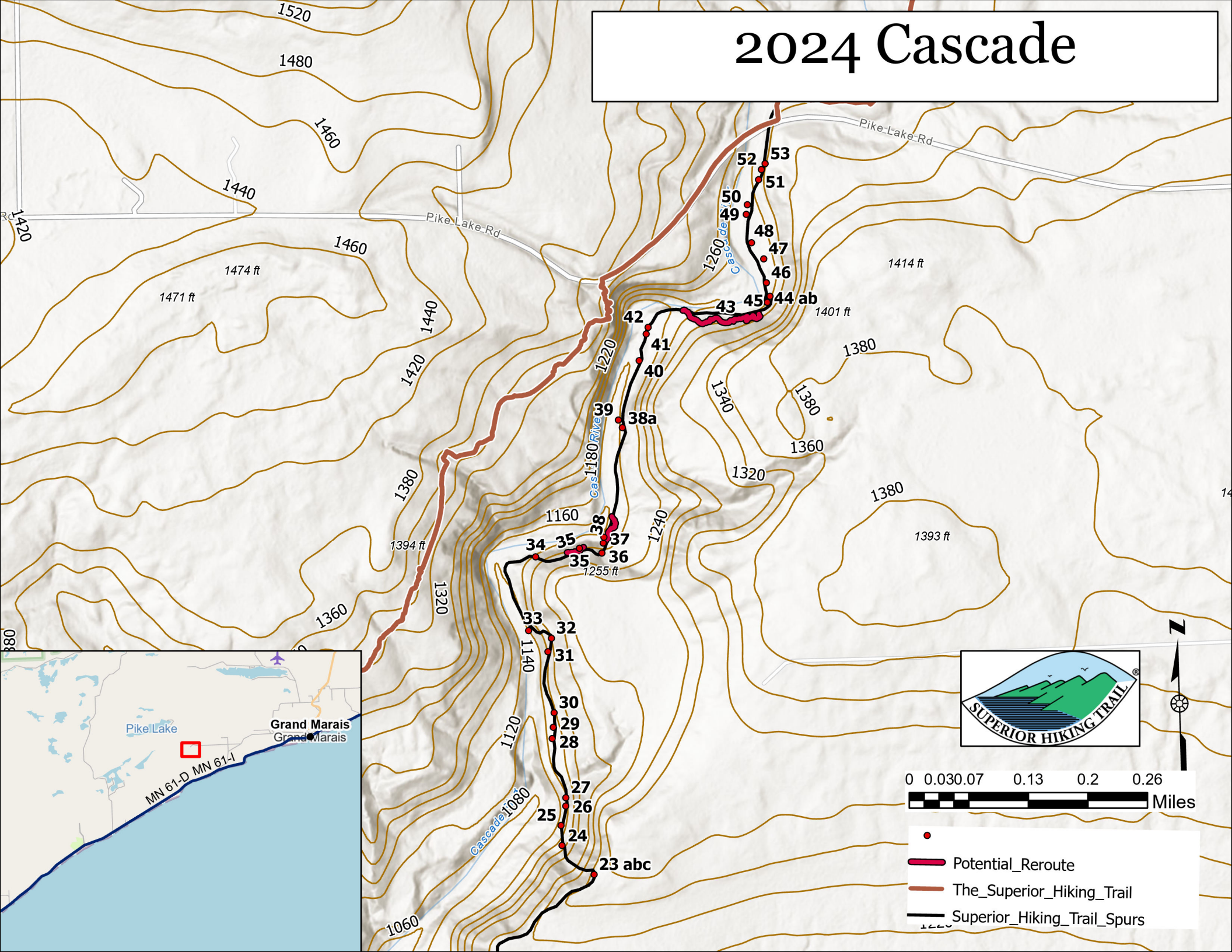
**PLEASE SUBMIT YOUR PROPOSAL NO LATER THAN January 12, 2024. If your proposal is selected, contract details can be made final following your on-site review of the project, if needed.**

**Send Proposal, or questions to:**

Tamer Ibrahim, Trail Operations Director  
Superior Hiking Trail Association  
[tbrahim@superiorhiking.org](mailto:tbrahim@superiorhiking.org)  
218-370-8393

“Funding for this project was provided by the Minnesota Environment and Natural Resources Trust Fund as recommended by the Legislative-Citizen Commission on Minnesota Resources (LCCMR)”

# 2024 Cascade



- 
- Potential\_Reroute
- The\_Superior\_Hiking\_Trail
- Superior\_Hiking\_Trail\_Spurs

Waypoint Number	Action Needed	Notes
53	Existing puncheon sliding downhill. Replace with new 46' puncheon	
52	Existing puncheon has high step on N side. Add a step to N side and naturalize user created path	
51	Replace existing 3x5 checks with 6x6 timber stairs, backfill with soil and rock. Approximately 20'	
50	North side of puncheon is low and wet. There is no good way to drain the water. Extend existing puncheon 40'.	
49	Puncheon has become unstable. Shore up puncheon by reinforcing and resetting footings, ideally placing larger rocks under footings to elevate out of the duff layer. Approximately 50'	
48	Tread is currently in muddy trough, there is no place to drain the water. Suggest re-routing trail to higher ground on east side through cedars. There is a user created path that's already been established. Naturalize old trail. Approximately 105'.	No track on map
47	Timbered risers are sinking in the mud. Puncheon is too short on the north side. Replace timbered risers with timbered box steps with decking and tie into existing puncheon. Also extend puncheon 18' to the north. Approximately 28'	
46	Puncheon looks like it has been pushed down hill due to the seep that is underneath it. Shore up puncheon and define drain underneath the puncheon so that water has a more concise path and effects the footings less. Approximately 16'	
45	Steep slope, prone to erosion. Add new timbered risers. Approximately 12'	
44 a&b	a: Timbered risers are in serious disrepair. Section 1: Replace timbered risers with a stepped boardwalk 60' and tie into existing puncheon above. Section 2: Remove old puncheon and add new puncheon, 47'. b: Section 3: Get rid of timbered risers south of puncheon. Replace with a stepped boardwalk 28' Section 4: Remove old puncheon and add new, 50'	
43	Flooding during the spring of 2022 wiped out about 400-500' of the trail near the river at this location. A reroute on higher ground is proposed. About 540'.	
42	Proposed reroute, stay high, about 50'	No track on map.
41	12' puncheon	
40	Compressed trail has caused a low spot that is holding water. Debern and grub out small balsams to create drain. Approximately 10'	
39	Suspect a seep right in the tread above timbered risers. Suggest timbered box stairs with wood decking to allow water to keep passing through and avoid continuously muddy tread. Approximately 20'	
38a	8' Bridge in good condition, shore up and improve south side with steps	
38	More damage from 2022 flood. Reroute to high ground, 175'.	
37	There is a natural seep between the cedar trees, which is perpetually wet. Add rock armor between roots to allow water to drain and provide sustainable tread. Emphasize existing drain to allow better water flow away from the trail. Approximately 15'.	
36	Timbered risers are becoming off camber and undercut. Replace with timber box steps. Approximately 40'	
35	Bench is sloughing off as roots become exposed and users keep drifting down hill. There is also a drainage issue around the cedar on the low side of tread, roots are holding water. Option to re-establish bench and fix drain OR re-route to high side for 100' and naturalize old trail, which would be the preferred solution. Approximately 100'.	
34	Timbered risers are becoming off camber and undercut. This is a steep section. Replace with either box timber stairs with wood tread decking (ideally) or 6x6 risers tied together with stringers on both sides, the stringers would help keep the timbered risers in place, due to the steepness of the slope. Approximately 110' up to roots	
33	Steep hill with 2 switchbacks. Timbered risers are in disrepair. Cribbing is not stable. Lowest stairs should tie into boardwalk. Solutions are listed in consecutive order, there are no gaps in distance between each section. First Section: Replace timbered treads and add stringers on both sides. 20' Second Section: Leave existing cribbing and enforce it. Widen bench. 20' Third Section: Replace timbered treads and add stringers on both sides. 34' Fourth Section: Tie in stairs to new boardwalk. 15'	
32	User created tread has gone below retaining log and is very outsloped beneath the tree in the middle. Re-cut bench to widen. Retaining log can stay in place. Add mineral soil to tread. Can leave root system as is by routing the trail above the tree. Approximately 75'	
31	Puncheon is no longer stable or in line with tread. Level and shore up both sections of puncheon. Approximately 40'	
30	Low, muddy, rooty spot. Berm and roots are trapping water on the tread. Debern, create drainage between 2 sets of cedar roots. Add more mineral soil to top of roots, to aid in shedding water. Approximately 30'	
29	Low spot leading into puncheon. Debern and create drain. Add mineral soil back to tread. Shore up loose puncheon. Approximately 12'	
28	Existing puncheon needs footings shored up. Material is in good shape. Ideally use existing planks as stringers and build proper puncheon. Approximately 45'	
27	Existing puncheon creating dam and is rotting. Replace puncheon. Approximately 16'	
26	Slanted bridge, footings need shoring up. Stairs in need of repair. Shore up bridge on both ends, extend bridge 8' to the north and tie into timbered risers. Replace timbered risers and tie together with stringers on both sides 40'. Approximately 48'	
25	Steep slope in roots. Old logs were used as retaining wall, but are also channeling erosive water down the tread. Remove rotting logs and add timbered risers (checks) or timber steps. Approximately 20'	
24	Stairs on south side of bridge are rotten. Stairs on north side are too tall. Add 3 steps to end of north side of bridge and replace rotting steps on south end of bridge. Approximately 20'	
23a	Long steep hill, existing timbered risers are in disrepair. There are several sections that need attention. This is a very complex problem. Solutions are listed in consecutive order, there are no gaps in distance between each section. <b>First Section:</b> Re-bench, level tread, and install new 6x6 timber steps and backfill with dirt taken from backslope. Start steps up higher at aspen snag. . Approximately 48'	

Waypoint Number	Action Needed	Notes
23b	<p><b>Second section:</b> Starts at corner and goes to drainage. Either box timber stairs with wood tread decking (ideally) or 6x6 risers tied together with stringers on both sides, the stringers would help keep the timbered risers in place, due to the steepness of the slope. Approximately 82'</p> <p><b>Third section:</b> Stepped boardwalk over drainage with stairs with tread to allow water to drain underneath. Blow out drain so it's well defined. Approximately 16'</p>	
23c	<p><b>Fourth section:</b> Either box timbered stairs with wood tread decking or 6x6 risers tied together with stringers on both sides. Approximately 115'</p> <p><b>Fifth section:</b> Replace and add retaining wall, make bigger bench. Approximately 30'</p> <p><b>Sixth section:</b> Either box timbered stairs with wood tread decking or 6x6 risers tied together with stringers on both sides. Approximately 70'</p>	