State Land/Easement Project Work Plan
for
Construction of New Facilities and Expansion or Modification of Existing Facilities
Fiscal Year 2022-2023

Project # Click or tap to enter Project Number (leave blank if not applicable)

Region	**Project Title**
5	Cascade Lake Trail Reroute 2022

Project Type	**Town(s)**	**County**	**Management Unit**
Modification of Existing Facility	Inlet	Hamilton	Pigeon Lake Wilderness

Project Description/Desired Condition(s):
Reroute approximately 300 feet of the existing Cascade Lake Trail per the attached work plan.

Trees to be Removed:
One 4" DBH beech, three other trees between 1"-3" DBH.

Earthwork and Disturbance, Including Identification of Work Outside Trail Corridor:
See attached work plan.

Analysis of Project Location and Design Alternatives:
See attached work plan.

Description of Measures Taken to Mitigate Impacts on Vegetation, Water Quality, Wild Forest Character and the Aesthetics of the area:
See attached work plan.

Identification of Rare, Threatened or Endangered Species:
None on project site.

Description of Use of Motorized Equipment and/or Motor Vehicles, if any:
Chainsaw to cut the trees and brush.

Other Relevant Considerations:
Click or tap to enter other relevant considerations

Prepared by (Name & Title): Michael Marsh, Forester **Date:** 10/13/2022
Phone: 315-866-6330

Approvals: **Comments:**

REGULATORY CLEARANCE CHECKLIST – STATE LANDS and CONSERVATION EASEMENT PROJECTS					
PROGRAM	PERMIT	REQUIRED		SECURED BY	COMMENTS
		YES	NO	(NAME)	
Air Resources	Restricted Burning	☐	☒		
Mineral Resources	Mining	☐	☒		
Materials Management	Solid Waste Mgt. Fac.	☐	☒		
Water	Dam Safety Review	☐	☒		
	Const. in Flood Hazard	☐	☒		
	Public Water Supply	☐	☒		
	SPDES	☐	☒		
Spills Management	Petro. Bulk Storage	☐	☒		
Lands and Forests	Unit Management Plan	☐	☒		
	Tree Cutting	☒	☐		
	Protected Native Plants	☐	☒		
	Historic Preservation	☐	☒		
Fish and Wildlife	Freshwater Wetlands	☐	☒		
	Wild Scenic & Rec. River	☐	☒		
Compliance Services	Other Protection of Waters	☐	☒		
	EAF	☒	☐		
	Negative Declaration	☒	☐		
	Env. Impact Statement	☐	☒		
	Water Quality Cert.	☐	☒		
DEC (other)	CP-17	☐	☒		
	Commissioner (aircraft,motorized equipment)	☐	☒		
	Flight Request	☐	☒		
	Contract Clearance Sh.	☐	☒		
	DOB Exemption	☐	☒		
Other Agencies	APA MOU	☒	☐	Michael Marsh	SL2021-0023
	APA Wetlands Permit	☐	☒		
	Corps. of Engineers	☐	☒		
	Building Permits	☐	☒		
	Local Permits	☐	☒		
	Easements	☐	☒		
	Highway Enter DOT	☐	☒		
	Wastewater Disposal	☐	☒		

Cascade Lake Trail Reroute 2022 Work Plan

Current Conditions

At 101 acres, Cascade Lake is the third largest water body within the in the 50,000-acre Pigeon Lake Wilderness. Numerous attractions make this lake a popular destination for visitors including: a brook trout population, waterfalls (i.e. Cascade Falls), sandy shoreline, cliffs, and ruins (e.g. fire place with chimney) associated with a former girls camp. The present-day Cascade Lake Trail (excepting the trail re-route on the northeastern side of the lake near the inlet) was this camp's old road/bridle path. The 1992 UMP designated the 4.6-mile trail around the lake as a cross country ski trail and a hiking trail, and 1.6 miles (from the Big Moose Road to the northwest shore of Cascade Lake), as an equestrian trail; however, equestrian riders frequently take the south fork of the trail to the waterfalls. Also present are six primitive tent sites scattered around the lake. This area was identified in the 1992 UMP as receiving the greatest amount of use in the unit; present day observations by DEC staff confirm that this concentration in use still holds.

Problem Awareness

As previously mentioned, the Cascade Lake Trail receives both a significant amount of use and a variety of users (I.e. hikers, equestrian users and skiers). The trail itself follows an old roadbed located on low-lying terrain, and not on a slope, which was not designed for the current variety of users and level of use in a Wilderness area. This current layout lacks sustainable trail design principles, including drainage and user management. Draining water from the flat trail surface is difficult, if not impossible. The open surface of the former road does not prohibit users from choosing their own adventure resulting in widening the trail tread. This trail braiding is exacerbated by standing water on the trail and becomes worse when users travel around it. These conditions have resulted in trail widening, erosion, rutting and impact to vegetation.

Proposed Work (preferred alternative)

The proposed work on this trail system, as detailed below, is part of a series of projects initiated to address these impacts. This project will be assigned to a contract trail crew (i.e. Tahawus Trails of SCA ADK Corps) to complete when possible. Other concurrent, and future, projects subject to their own consultation and permitting, will address the remainder of the trail and be prioritized based on natural resource impacts (e.g., erosion and wetland impacts).

Trail Reroute

At the location shown upon the attached map, an approximately 300-foot-long trail reroute, which parallels the existing trail on the southern (uphill) side will be installed. It should be noted that this reroute generally follows an existing herd path that hikers have been using to bypass a muddy section of trail.

This trail reroute will be widened to a tread width of 36 inches and a cleared corridor of 6 feet. The tread surface will also be hardened with mineral soil, to be quarried from the adjacent uplands, so the impact from hikers and equestrian riders can be absorbed without undue damage to the trail surface. Minor excavation, in the form of a 150 foot full bench cut, will be required to install this trail relocation as it is situated on a gentle slope for most of its distance.

One 4-inch Diameter at Breast Height (DBH) beech tree will need to be cut; other than this tree, all other tree cutting will be smaller trees lesser than 3 inches at (DBH). Three trees between 1” and 3” DBH will have to be cut to install this trail relocation.

Once installed, the section of trail avoided by this reroute will be blocked off with brush, rocks, and debris to discourage further use and guide hikers, skiers, and equestrian riders down this new path.

This approach was selected as the preferred alternative as other options addressing trail impacts in low-lying wet areas are limited. Additionally, this reroute has the advantage of requiring the least amount of work to successfully implement. This proposal addresses the recreational use of trails and the cause of unacceptable soil and vegetative impacts through moving the trail to a higher and drier location, along with site strengthening and hardening, which reduces the extent to which visitor use can lead to unacceptable resource impacts. Visitor impacts will be reduced by encouraging visitor to remain on, and concentrate use on, the designated trail surface. In addition, this alternative effectively addresses dispersed use and poor trail conditions.

This project is aimed at providing a more suitable and sustainable trail for users and is not expected to affect use levels in any significant amount.

Evaluation of Alternatives Not Considered

No Action: Without any management intervention this trail will continue to deteriorate and widen from continued use, and these impacts have worsened over last several years. Without a single, hardened path to concentrate users on, hikers and equestrian riders will continue to go around and find their own way through this problematic wet section, resulting in trail widening and more impact to the site.

Turnpike: Installing a turnpike at this location would effectively harden the trail and address this problematic wet section. However, this option was decided against due to the time and labor it would require constructing around 300 feet of turnpiking (an

estimated three weeks of trail crew time). Given the limited resources available for trail work, this option was dropped from further consideration.

Install Bog Bridging: Given that this trail is in a “Wilderness” area, manmade structures like bog bridging are generally used as a last resort if all other options are not able to produce the desired result (i.e., resource protection). Additionally, since the Cascade Lake Trail is an equestrian trail, this option was decided against. Horses have much impact; all their weight is concentrated on their hooves in a small surface area. With the heavy equestrian traffic this trail receives, any bog bridging installed would not last as long as a turnpike or a trail reroute. In order to prolong the life of equestrian bridges and bog bridging, some designs (such as that suggested by the U.S. Forest Service’s Equestrian Design Guidebook) include wearing surfaces (material laid lengthwise down on top of the decking) that can be changed periodically to protect the underlying structure. However, local experience, particularly with a teamster contractor on the Big Otter Lake Trail (Ha-De-Ron-Dah Wilderness), revealed a problem with this approach. On the first bridge on this trail, these wearing surfaces were installed. After this contractor made his first pass across with his horses and a load of materials, the request was made to remove these running planks as the surface was too slippery for the team. Although these wearing surfaces were included in the design for all four bridges on the Big Otter Lake Trail, this feedback led to their removal. In the wet environment encountered along the Cascade Lake Trail, this problem would likely occur as well. Further, the long lengths of the bog bridging and constant periodic replacement would likely be cost prohibitive to implement. Using corduroy from dead and down wood on site would not last long either, in addition to not being as equestrian friendly as well.

Close trail along the southern end of Cascade Lake: Since this fork in the loop is the shortest and most direct way to Cascade Lake Falls, many users are motivated to specifically travel this section of the trail. Closure of this section of the trail would require visitor deterrence and enforcement, however, continued use (noncompliant behavior) may not be eliminated. Understanding this noncompliance requires understanding the motivating needs and values of visitors, who are motivated by ease of access, the attractiveness of the area (the waterfalls), and a unique recreational opportunity (i.e., a loop trail). These incentives cannot be readily removed. Noncompliance can be reduced by removing evidence of prior noncompliance. However, the footprint of the former road leading to the falls and crossing a wetland will be difficult to eliminate. Additionally, removing a former facility, such as this trail, is very hard because of adverse public reaction. The closure of this fork of the loop trail would also require signage and personnel for enforcement-a very limited resource.

Discussion on Site Impacts and Mitigation

The alternatives explored above all have their benefits and drawbacks, but to provide the same recreational access and experience demanded by the public, the trail relocation as proposed above appears to be the best option over the long-term. To reiterate the points made above, any bog bringing would be expensive and not friendly to equestrian riders. In addition, a turnpike would require extensive work to effectively address this muddy section of trail. This proposed trail reroute will provide a single, dry, and hardened path through this muddy section of trail. Currently, all hikers and equestrian riders find their own way, leading to a continual widening of the trail and greater site impacts. Following construction, hiker and horse traffic will be concentrated on this single defined, hardened path, which should reduce impacts to the trail and the surrounding area.

Designated Species/Critical Habitat

A check of the New York Natural Heritage Database found that the only species of concern in the immediate project area is the common loon. Since this project is being conducted away from Cascade Lake, this species will not be negatively affected. Additionally, there are no critical habitats in the project location.

National Register of Historic Places/Archeological Resources

This project is located on State Forest Preserve lands within the Adirondack Park, a National Historical Landmark. However, there are no other listings on the National Register of Historic Places within the project area.

A check of a GIS database maintained in consultation with the New York State Office of Parks, Recreation and Historic Preservation revealed no known archeological sites are present in the project area.

Motorized Equipment

A chainsaw, operated only during the non-peak use period of Wilderness Areas (as defined by the Adirondack Park State Land Master Plan) will be the only motorized tool used for this project.

Erosion and Sediment Control Plan

The proposed trail relocation will require the quarrying of mineral soil from areas adjacent to the trail to harden the tread. The locations of these “borrow pits” will avoid wet areas and steep, unstable slopes where erosion may become a problem. Their size will be kept as small as possible (no larger than 5 feet by 5 feet) and in the case where

a lot of material will be required, several small pits will be installed rather than one large pit. All these pits will be covered with leaves and down wood to aid in the stabilization and natural reclamation process.

Resource Page

A Guide to Designing and Construction Native-surface Trails, IMBA - http://crgov.com/DocumentCenter/View/1430/Sustainable-Trail-Development-Guidelines-?bidId=

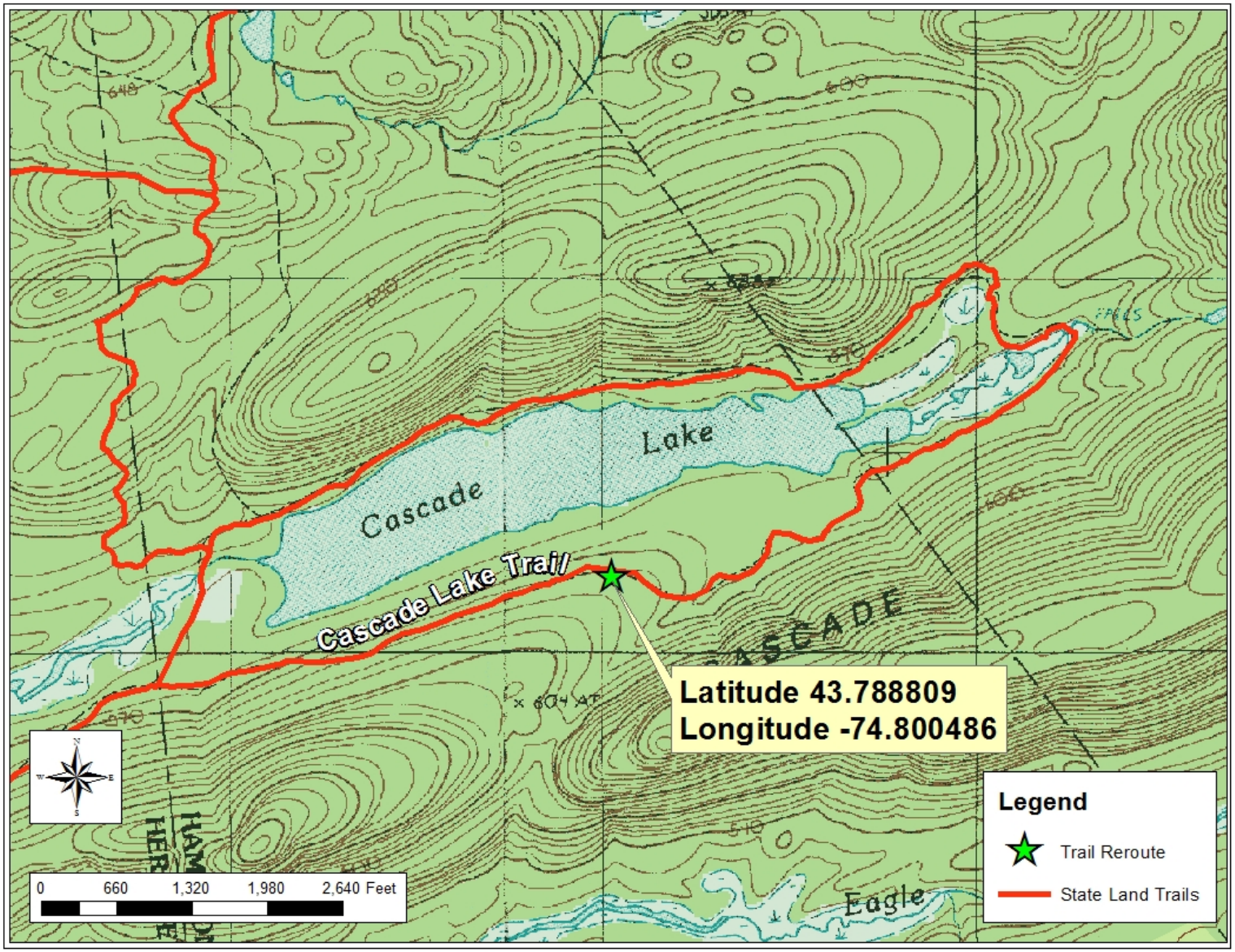
Trail Maintenance-Problem solving and repairing trail damage - http://sorbahuntsville.org/wp/wp-content/uploads/2018/12/Trail-Maintenence-TrailDynamics.pdf

Wetland Trail Design and Construction. 2007 Edition. https://www.fs.fed.us/t-d/pubs/htmlpubs/htm07232804/index.htm

Trail Construction and Maintenance Notebook. https://www.fs.fed.us/t-d/pubs/htmlpubs/htm07232806/index.htm

New York State Forestry Voluntary Best Management Practices for Water Quality http://www.nysbmpguidelines.com/

Location Map



Looking East at the proposed trail relocation, the red arrow delineates where this reroute will leave the current trail. Note muddy conditions present.

Looking further East along the proposed trail reroute.

Looking further East along the proposed trail reroute.

Looking further East along the proposed trail reroute

Looking further East along the proposed trail reroute where it will rejoin the current Cascade Lake Trail.

NEW YORK STATE OF OPPORTUNITY. | Adirondack Park Agency

KATHY HOCHUL
Governor

BARBARA RICE
Executive Director

August 15, 2022

Michael Marsh
Michael.marsh@dec.ny.gov

RE: State Land Consultation Determination SL2021-0023

Dear Michael Marsh:

Pursuant to the "MOU Between the Adirondack Park Agency and the Department of Environmental Conservation Concerning Implementation of the State Land Master Plan for the Adirondack Park," the approximately 300 foot long Cascade Lake trail reroute is considered to be a minor relocation of a conforming structure on lands classified as Wilderness. The Cascade Lake trail reroute therefore does not require an amendment to the Pigeon Lake Wilderness unit management plan before it may be undertaken.

Agency staff have also determined that the project, as proposed, does not involve wetlands.

If you have any questions, please do not hesitate to contact the Agency.

Sincerely,

/s/ Kevin Pickett

Environmental Program Specialist 2

ec: Josh Clague, Adirondack Coordinator
Fred Munk, Supervisor of Natural Resources, Region 6
Keith Rivers, Regional Forester, Region 6