Vegetation + Access Management

allied
building contractors

Forestry Mulching

+ Vegetation Encroachment Management
+ Trail Clearing and Construction
+ Land Reclamation

Vegetation Encroachment

More Effective, Efficient, Safer and Less Costly

EFFICIENT

We can work in conjunction with your current maintenance crew to remove the vast majority of vegetation encroaching on trails, including around snow making equipment. We target that growth which is reducing trail width and causing damage to expensive snow grooming equipment. Often, one employee can follow behind our work with a pole saw and brush cutter, cleaning up in one day what is otherwise 2-3 days of trail management. They would remove stems that were not able to be reached, clean up lateral limb stubs, and clean up random debris cast onto the trail. That combined effort would account for a month worth of work for a crew of 3.

REGROWTH CONTROL

Because the vegetation is removed with carbide hammer teeth rather than a sharp cutting blade like a brush cutter, the remaining stem in the ground is smashed and badly damaged. This limits the number of stems that actually survive and regrow whereas cutting cleanly with a brush cutter, chain saw, or loppers, tends to leave a clean cut that heals and the plant re-grows. A sharp cut also leaves a severe safety hazard for skiers. Once the large material has been removed, less aggressive yearly management can be applied via mowing or trail clearing crews.

REDUCE EQUIPMENT DAMAGE

Beech trees are the worst offenders in lateral growth. Their branches are strong, rigid and often stick straight out into an opening or trail. As snow depth changes, expensive machinery can hit this growth and suffer damage in an effort to keep trail width groomed. Consider the cost of one Prinoth mirror is about $400 plus 2 hours of mechanic time ($200). Spending that same $600 on mulching gets you between 300-1000 feet of trailside cleaned up.

SAFETY

Safety considerations and mitigating risk is also a major benefit. The challenge of finding and employing trained trail maintenance staff is becoming increasingly difficult and expensive. Workers compensation for manual tree cutting and arborists can be some of the most expensive in the market. Utilizing a smaller, more trained crew to manage smaller volumes of areas by hand where the machinery can't physically go, creates an effective collaboration between Allied and the in-house mountain crew to more effectively manage vegetation encroachment in more areas and covering more area per year.

Trail/Glade Construction

Alpine, Nordic and Glades

Our services can be used to reclaim old trails that have been lost or overgrown. We construct new trails, both alpine and nordic, that need little or no terrain modification. The mulching machinery can work in the top couple inches of soil as long as there are no significant rocks. This allows us to remove vegetation and stumps to allow for yearly mowing. It allows for minor manipulation of soils but not for major re-grading, so this would be primarily for natural terrain trails, both alpine and nordic.

Subsoil tilling will yield greater flexibility in terrain modification. Working to a depth of 12" we can provide a homogeneous mix of soils, biomass and rock that can be graded, water-barred, and manipulated without the traditional means of stumping and bulldozing. Used in conjunction with conventional equipment like dozers, graders and excavators, it can improve efficiency and decrease the disturbance of the soils.

In glade construction, small stems are removed and mulched in place while larger stems remain in place. We can also remove and reduce the remnant existing slash and stumps that are skier hazards.

Land Reclamation

From Abandoned Trails to Clear Cut Restoration

Our mulching machinery is an excellent choice for reclaiming overgrown clear cuts, or removing vegetation in small areas too small for logging and too big for tree services. Bringing things flush to the ground allows for lower cost yearly maintenance with mowing machinery (brush hogs and flail mowers).

This process is more environmentally friendly than the traditional stumping and grading. Stumping is very disruptive to the soils, results in significant losses of topsoil and incurs the cost of disposal of the stump. Our process also helps amend the soils to create healthy grasses which are critical to erosion control and are an effective source of carbon capture.

Stumps are left in place to decompose over 10-15 years but are ground flush to the surface. The chuffed up top surface accelerates that decomposition. The biomass is mulched, cast, and incorporated into the top inch or two of soil creating a mulch blanket to help short term erosion.

Coming in at 1/3-1/4 the cost of vegetation management with hand crews and wood chippers, our forestry mulching equipment can maximize your dollar.

Subgrade Tilling

+ Road Reclamation and Stabilization
+ Forest Reclamation
+ Access and Service Road Milling in Situ
+ Trail Construction creating gradable material in Situ

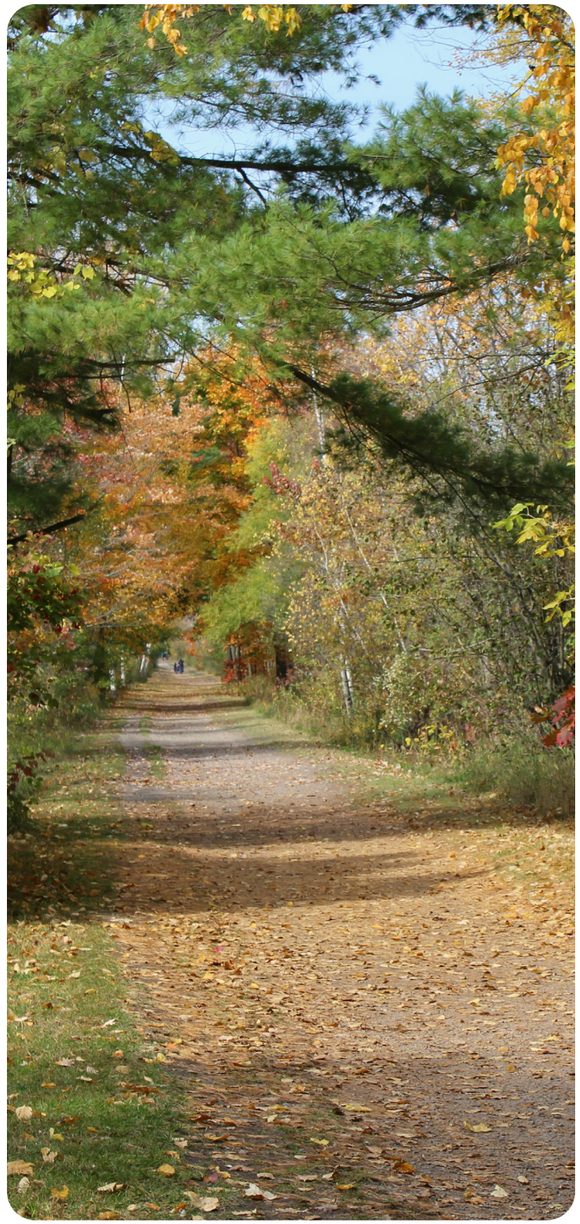
Access/Service Road Milling Stabilization

Increasing Access at a Fraction of the Cost

This service is an excellent solution for use on gravel, paved, and natural service roads.The primary benefit is that we take two passes, that can create a 15’ wide path up to 12” deep of homogeneous road bed material that can be graded, water-barred, and ditched. That is enough width to refurbish service roads up beginner and most intermediate trails. It also provides an option for more permanent service roads where trucking of material is cost prohibitive to its maintenance.

The machinery will crush and incorporate soil, biomass, and rocks up to 12” in diameter into a homogeneous mix ready for grading and compacting. The material is produced in situ and at a fraction of the cost of simply purchasing the material from a gravel pit and transporting it to the final location. If more aggregate is desired, we can incorporate more rock and gravel into these roads by spreading less costly larger diameter rock like 4-6” minus over the road first and then crushing and processing it into the material.

We are also capable of working on trail construction projects given enough width keeping within slope constraints. In this case we can provide a path of material up to 12” deep that can be contoured, graded, ditched and water-barred without the need to stump.

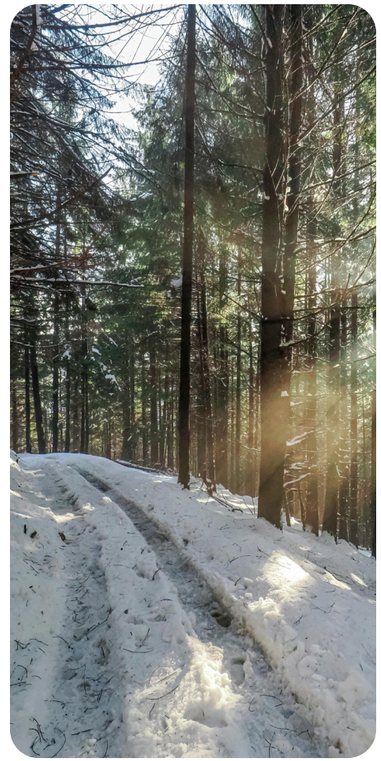


Nordic Trail Construction/Rehabilitation

A Valuable Tool in Reclamation and Rebuilding of Trails

If a finer product is desired for hiking, biking, and skiing, once the majority of the biomass is removed either via mulching or traditional cutting methods, the trail path can be ground to a depth of 12”. Any rocks smaller than 12” in diameter in that depth zone, stumps, and brush will be ground to a consistent and homogeneous mix. That mix can then be graded, shaped, etc... using conventional equipment like a dozer, excavator, skid steer, and then compacted and planted with grass. This will accommodate a large percentage of trail construction and reclamation. Deep side cuts (cut and fill) and major terrain changes would need to be dealt with via conventional methods. Costs would be similar to trail service roads but will ultimately be determined by total square footage to be prepared.

This can also be a valuable tool in the reclamation and re-building of existing trails where the distance of transportation of material makes it prohibitive. Re-milling the trail bed in situ allows for the trail to be properly graded to move water and keep the trail dry which is a critical piece to snow retention and length of usable season.



ENVIRONMENTAL CONSIDERATIONS OF SERVICES

In Vermont, with Act 64’s new regulations on water quality, all ski areas will have to re-evaluate their impermeable surfaces and their runoff. Old beat up access roads fall under Section 11 “Existing Isolated Roads”. For states that don’t have this guideline, it is likely they soon will. By having material in place to grade, ditch, and water bar properly, the ski area can work towards meeting those guidelines at less cost than trucking material miles up a mountain. It can also be used to “remove” a service road by quickly preparing it to grow grass again and removing it from the area of impermeable surface.

As our snow fall amount, and climate face more challenges in the future, the surface of the trail bed will become more critical. The smoother the surface, the closer grasses can be maintained and the less snow is needed to ski on which is a major financial consideration. This is a critical piece in the Nordic world, but particularly on green and blue trails will likely become more important in the Alpine world. By working the top layer of a trails, grading, compacting, and seeding, we can create more “lawn” than “field” and that makes your job maintaining a skiable surface easier and less expensive. These capital investments make economic sense and positively impacts the skier experience. The 2019-20 badly timed melts negatively impacted a lot of skier experiences, which ultimately is the thing that pays the bills in the short and long term.

Mulching provides a more environmentally friendly means of managing vegetation and reclamation. Stumping is very disruptive to soils and involves the disposal of the stump. Mulching in place incorporate the above ground biomass into the surrounding soils to decompose. Similarly, any smaller vegetation is also incorporated in a stringy mulch that tends to lie flat and create a blanket of material to fight short term erosion and decompose into the soils. The mulch also decomposes more easily than the traditional square chip from a mobile chipper.

Vermont Act 64 Section 11 focuses on “Existing Isolated Roads”. By having material in place, ditch, and water bar properly the ski area can work towards meeting those guidelines at less cost .

Carbon Capture and Healthy Grassland

A Valuable Tool in Reclamation and Rebuilding of Trails

Be it out of social and corporate mission or necessity, large high profile companies will have to be leaders in our collective efforts to curb climate change. While grasslands don’t sequester “as much” carbon as a healthy forest, healthy grasslands are part of the solution and are effective at sequestering carbon. And, if there is a fire, the forest will release most of its sequestered carbon. A grassland, however, stores most of its carbon underground and it is not released in a fire. Grasslands are so effective, they have been part of polluters’ solution in purchasing carbon credits in the U.S. Ranchers in the U.S. have earned money by maintaining healthy and productive grasslands on their properties and the more fertile the better.

Want to learn more?
Scan our QR codes

Sample Costs

Increasing Access at a Fraction of the Cost

TRAIL SIDE ENCROACHMENT MANAGEMENT

$0.50-1.20/lineal foot of trail side. Much of the cost variation depends on slope, depth and size of vegetation and physical location on the mountain. We visit every job and discuss with the client what they are looking for on each trail and calculate the cost accordingly. For rough calculations, however $0.80/lineal ft can be used.

GENERAL CLEARING

For large areas, clear cut reclamation, we use the square footage to calculate the cost. Based on the vegetation size and density etc. , we work at an average 1 acre per 8 hour day production rate and adjust it down or up based on the individual site conditions. Rates will vary from $2000-3000/acre.

TRAIL CONSTRUCTION

Each job is a custom scope of work and we price it based on a site visit, measurements in length and area, scope of work with client, and designation of end product. Generally these job as are calculated by the acreage cleared.

Hourly: We can also work by the hour if so desired and those rates vary from 280-350/hr for mulching and 500-600 for subgrade tilling.

SUBGRADE TILLING

This machine is a high horsepower tractor with a PTO driven multitask grinder. Similarly to mulching, its cost depends greatly on the scope of work.

For an established service/access road milling to a depth of 6" , your average costs would be $20-30,000 per mile. In contrast, that amount of road gravel would likely cost $60-90,000 delivered, but in most cases delivered to the base area with additional cost to shuttle up the mountain.

Trail service roads can generally be handled in two passes, which would reduce costs down to $10-15k/mile.

Once milled, the material must be graded, ditched, water-barred and compacted. We can provide those services, subcontract them out, or the mountain can do them in-house or contract them out separately. We work with each client to provide the services and value most useful to their needs.

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