

CROSS-COUNTRY SKI TRAIL GRANT-IN-AID PROGRAM

MANUAL



MINNESOTA DEPARTMENT OF NATURAL RESOURCES

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I. INTRODUCTION

A. DEFINITIONS

AUTHORIZED REPRESENTATIVE - Person responsible for the administration of the contract for either the Sponsor or the Department of Natural Resources.

PERFORMANCE BENCHMARK – The significant event or series of events that have been accomplished and been certified by the Sponsor so that the Sponsor can request payment.

GROOMING – Providing a good smooth trail, either tracked for classical skiing or smooth for skating, in order to provide a suitable trail for cross-country skiing.

LOCAL UNIT OF GOVERNMENT (LUG) - The political subdivision that has agreed to work with the club in the development and maintenance of a trail. This can be a county or local municipality.

RESOLUTION - Official record of the LUG where they agree to sponsor a cross-country ski or trail club and/or trail, certify that the performance benchmark has been met, and administer the grant from the DNR.

CLUB -A formal organization that has contracted with a LUG to maintain and operate a local cross-country ski trail.

SPONSOR - The local unit of government (LUG) that has agreed to work with the club.

SUFFICIENT RECORDS: Records that are necessary to verify that the club and sponsor have completed certain benchmarks. These will include at a minimum:

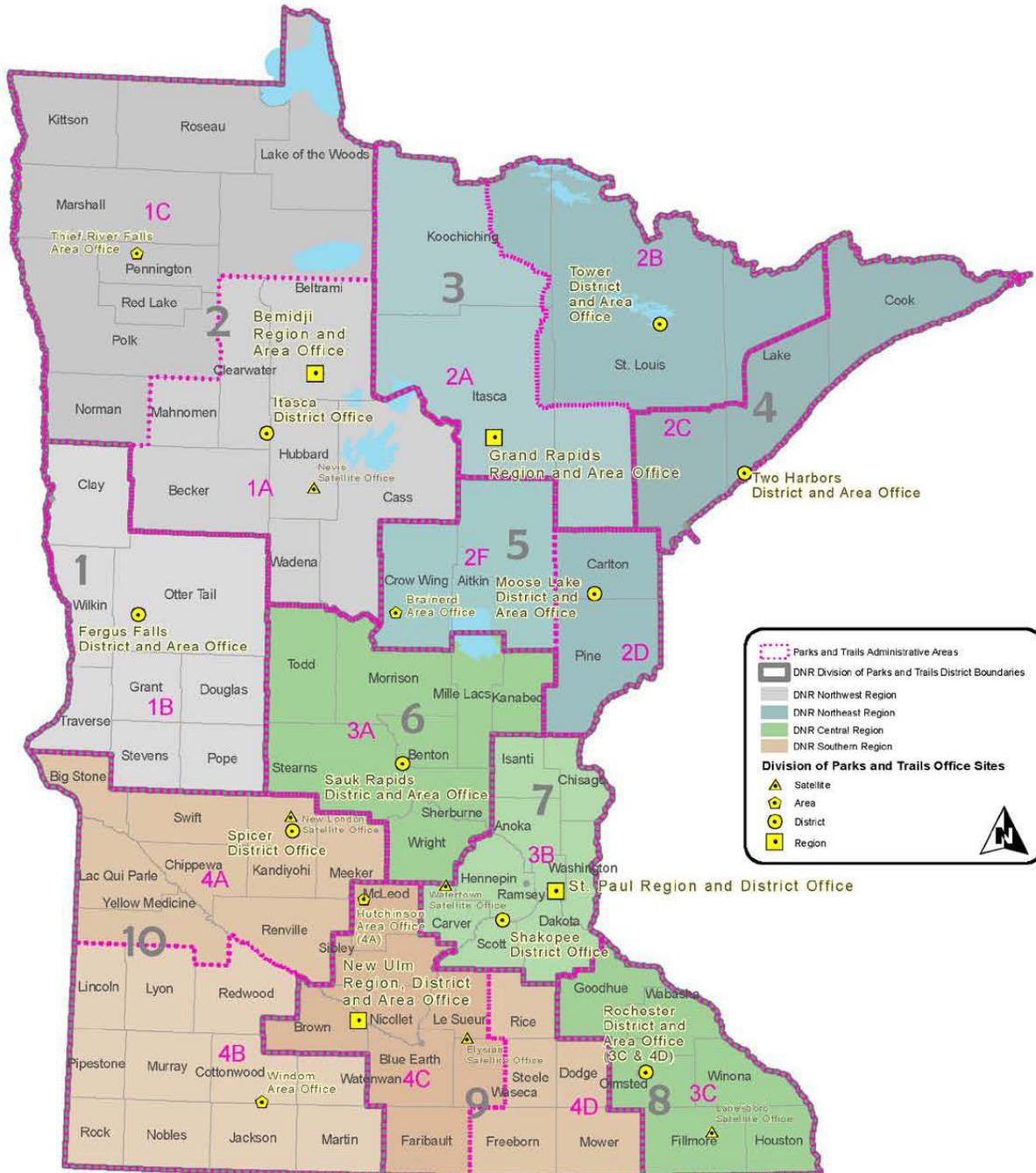
- Invoices of repairs/significant expenditures;
- Liability insurance evidence (as required);
- Maintenance Log of hours and work spent on the various trail activities. This log should include date, number of people working on the trail, number of hours, equipment used, type of work done, and section of trail worked on; (an example is included in the Program Forms Section) signed by a club representative;
- Groomer logs listing the date, miles groomed, total grooming hours, project number, trail name and segment, trail administrator verification; and,

- OR -

- IRS Form 990 (Return of Organization Exempt from Income Tax) and all backup schedules and documentation;
- Groomer logs listing the date, miles groomed, total grooming hours, project number, trail name and segment, trail administrator verification; and

I. INTRODUCTION

Division of Parks and Trails Offices, Counties and Administrative Boundaries



Current: 4/06/2011 - MEG
Map ID: AreaCounty.mxd

I. INTRODUCTION

Region 1 Northwest		
Position	Phone	Office Location
District 1		
Area 1 B Supervisor	218-739-7576 x226	1509 - 1st Ave N Fergus Falls MN 56537
District 2		
Area 1 A Supervisor	218-308-2367	3296 State Park Road NE Bemidji MN 56601
Area 1 C Supervisor	218-681-0889 x222	246 - 125th Avenue SE Thief River Falls MN 56701

Region 2 Northeast		
Position	Phone	Office Location
District 3		
Area 2 A Supervisor	218-999-7923	1201 E Hwy 2 Grand Rapids MN 55744-4010
Area 2 B Supervisor	218-753-2580 x250	650 Highway 169 Tower MN 55790
District 4		
Area 2 C Supervisor	215-834-1437	1568 Highway 2 Two Harbors MN 55616
District 5		
Area 2 D Supervisor	218-485-5410	Route 2, 701 S. Kenwood Moose Lake MN 55767
Area 2 F Supervisor	218-833-8715	1601 Minnesota Drive Brainerd MN 56401

Region 3 Central		
Position	Phone	Office Location
District 6		
Area 3A Supervisor	320-255-4279 x229	940 Industrial Dr. S. #103 Sauk Rapids MN 56379
District 7		
Area 3 B Supervisor	651-259-5748 or 651-259-5736	1200 Warner Road St. Paul MN 55106
District 8		
Area 3 C Supervisor	507-206-2845	2300 Silver Creek Road NE Rochester MN 55906

Region 4 South		
Position	Phone	Office Location
District 9		
Area 4C Supervisor	507-359-6067	261 Highway 15 South New Ulm MN 56073-8915
Area 4D Supervisor	507-206-2848	2300 Silver Creek Road NE Rochester MN 55906
District 10		
Area 4A Supervisor	320-796-2161 x226	PO Box 457, 10590 Co. Rd. 8 NE Spicer MN 56288
Area 4B Supervisor	507-831-2900	175 County Road 26 Windom MN 56101-1868

I. INTRODUCTION

C. PROGRAM SUMMARY

In 1973 the Department of Natural Resources (DNR) was delegated the responsibility by the Minnesota Legislature to administer a cost-sharing program for the development and maintenance of snowmobile and cross-country ski trails. The goal of this program was the creation and maintenance of local trails, at the initiative of local trail organizations and local units of government. The state's intent was to offer financial assistance so that locally controlled trails could exist where none had before. This program was named the "Minnesota Trails Assistance Program," and has become popularly known as grants-in-aid or GIA.

The cross-country ski GIA program provides limited funding to trails owned and operated by both private trail organizations and local units of government. Since the funding base for the ski program is limited, grants are allocated with the intent to assist as many trails as possible. This is intended to keep the maximum possible number of ski trails operational statewide. These GIA trails provide cross-country skiing opportunities to local communities and those visiting them.

The DNR has been delegated the responsibility of administering the funds appropriated by the legislature for the GIA program. The DNR sets program policy and guidelines, budgets for program funding, and provides for auditing of grants. The DNR's Parks and Trails Area Supervisors are responsible for reviewing and processing necessary program forms, providing technical assistance when requested, monitoring trails for actual performance of reimbursed activities, and conducting informational meetings with local organizations as well as being the main contact for local organizations.

I. INTRODUCTION

D. PROGRAM CHANGES BEGINNING IN FY2016

Beginning in FY2016, the DNR is implementing a new reimbursement process for the Cross-Country Ski GIA Program. This new process is intended to:

- Simplify the GIA Program by improving efficiency through streamlining the reimbursement process and reducing grant paperwork
- Encourage strong partnerships between DNR, local government sponsors, and ski clubs
- Build upon the successes of Minnesota's 700 mile Grant-in-Aid (GIA) ski trail system
- Achieve a prudent balance between ski trail fixed and variable costs while also considering the variability of ski pass revenue from season to season

Reimbursement Process Changes

The reimbursement process now includes a performance benchmark, where 40% of grant funding will be reimbursed to set up the ski trail at the beginning of the season. The local unit of government and club will certify that the trail has been set up, and when this benchmark is certified, the DNR would reimburse 40% of the annual grant to the sponsor. This performance benchmark will cover all non-grooming costs associated with the trail system, including equipment costs, insurance, trailheads, bathrooms, parking lot plowing, and other fixed costs. The sponsors and clubs will still need to maintain records of their trail set up costs, but these will not need to be turned into the DNR annually.

The remaining 60% of grant funding will be reimbursed for grooming based on the number of hours of grooming and an hourly grooming rate. Reimbursements would be calculated with the formula [Hours Groomed] X [Hourly Rate] = [\$ Reimbursed]. Hourly rates are identified in the program manual.

The historical 65/90% matching reimbursement rates no longer apply and the new hourly rates include estimated matching funds needed to keep the trail system operational. The intent of the GIA Program is to aid with the costs of maintaining and grooming a trail system, not to fully fund all costs of the trail. Local funds and ski club volunteers are instrumental in a successful trail. Reimbursement requests may be submitted at any time during the ski season, but all reimbursements must be submitted by no later than May 30th for the previous season's grooming.

Grant agreements/contracts would be annual, expiring by June 30th of each year

Since summer/fall trail maintenance and set up is covered under the performance benchmark, the timing of this work can be determined by each sponsor/club and will no longer depend on contract start dates. In short, the performance benchmark allows for local flexibility in deciding when to do work to set up the trail prior to the beginning of the season.

Fully funded annual grants mean no more carry-forward reductions

These changes would eliminate carry-forward from year-to-year, as annual grant amounts would be fully funded and any unreimbursed grant funds at the end of the year would revert back to the ski pass account.

These program changes would not impact historical annual grant funding amounts

These changes are only impacting the reimbursement process, and there will be no impact on GIA grant award amounts. In addition, there would be no supplemental funding, as annual grant amounts are based on historical GIA funding for seasons with average snowfall. Stability in funding will enable sponsors and clubs to budget the costs of their trail system over the long-term.

I. INTRODUCTION

E. RESPONSIBILITIES AND ROLES

Local Clubs:

- Secure a local unit of government to serve as the sponsor (county or municipality).
- Enter into an agreement with the sponsor to physically perform the work necessary in maintaining the local trail system.
- Complete tasks in a timely manner and submit documentation and program forms to the sponsor as required for them to certify completion of significant benchmarks.
- Maintain sufficient records as defined under the Definition of Terms within this instruction Manual to satisfy the auditing needs of the trail sponsor and DNR.
- Adhere to the trail user maps and public information, trail design and construction, trail grooming, and trail signing guidelines contained in this instruction manual.
- The Department of Natural Resources very strongly recommends that clubs partially shield their volunteers from the consequences of injury by securing appropriate insurance coverage. Obtain sufficient insurance if necessary and required by the sponsor to protect the interests of the club as well as the local unit of government sponsor.
- Obtain sufficient permission from each landowner on which the trail is located. For public land, contact the public agency that administers the land in order to get a permit for the section of trail on the public property.
- Secure the proper federal tax status. As of the 2000-2001 season it has been required that all clubs that receive these grant-in-aid funds be registered with the State as a nonprofit corporation. This is to encourage good management practices, formalize property liquidation procedures in the event a club decides to close, and take advantage of the tax benefits afforded nonprofit corporations.

Local Unit of Government/Sponsor:

- Pass a resolution to serve as the sponsor and submit that to the DNR along with the application form.
- Submit the resolution and the application form to the DNR in a timely manner.
- Be responsible for certifying to the DNR completion of the performance benchmark necessary to verify that the trail is set up for the season and to initiate payment.
- Submit requests for reimbursement to the DNR for completed grooming work.
- Work with DNR to verify that the local club is adhering to the various guidelines contained in this instruction manual.
- The DNR strongly urges the sponsors to similarly enter into contracts with their ski clubs. These contracts will provide your unit of government with safeguards in the event that monies will have to be reclaimed by the State.
- Work with DNR to verify that the local club is adhering to the various guidelines contained in this instruction manual.
- Assure that the trails are ready and open for use, including verifying that the Club has obtained permission to occupy the property where the trail is located.

I. INTRODUCTION

State/Department of Natural Resources:

- Initiate application process and respond to submitted applications.
- Provide the Maintenance Agreement for the sponsoring local unit of government.
- Disburse funds for the performance benchmark to set up the trail upon receipt of appropriate certification from the sponsor. In addition, respond to requests for grooming reimbursement submitted by the local unit of government's fiscal agent and disburse funds accordingly.
- Include the trail in a statewide map of cross-country ski trail opportunities.
- Conduct random program reviews to evaluate performance in coordination with sponsors and clubs
- Conduct fiscal reviews in coordination with Sponsor and Club in order to evaluate appropriate accounting procedures
- Make payments to the School Trust Fund for Grant-in-Aid trails on School Trust Fund Land.
- Provide signs for Grant-in-Aid trails, pending availability.

II. MAINTENANCE AND GROOMING GRANT MANAGEMENT

A. PROCESS AND TIMELINE

Grant funds are disbursed through two separate methods, a performance benchmark and hourly grooming rates. The performance benchmark distributes 40% of the grant funds to cover the costs of setting up the trail and any other costs associated with the trail, except grooming. Grooming is reimbursed at an hourly rate, depending on the grooming equipment used. Below is the annual timeline for the GIA Program.

May 30th – Applications are Due

The local unit of government sponsor, often in partnership with a local ski club, must submit the annual application to the DNR by May 30th in order to be part of the GIA Program in the following season.

Summer/Fall – Grant Agreement between DNR and Sponsor Fully Signed/Executed

The DNR initiates a grant agreement between the local unit of government sponsor and the DNR. This contract needs to be fully signed by both the Sponsor and the DNR. The DNR is the final signature. The date of the final signature is the contract execution date, and grant fund disbursements may begin only after the fully signed contract execution date.

Summer/Fall – Ski Trail is Maintained and Set Up for Winter

The timing of summer and fall trail maintenance and set up work is determined by each sponsor and club. The performance benchmark allows for local flexibility in deciding when to do work to set up the trail prior to the beginning of the season.

December 1st – Ski Trails Open, Pending Snow

Cross-Country Ski GIA Trails officially open statewide on December 1st. If a ski trail happens to have snow prior to this date, the trail may be groomed, but grooming reimbursement is only eligible during the ski season of December 1st through April 1st.

December 15th – Trail Maintenance Performance Benchmark Due

The Trail Maintenance Performance Benchmark is due no later than December 15th. The benchmark may be submitted prior to December 15th, but may not be submitted before the contract between the sponsor and DNR is fully signed.

December 1st through April 1st – Trails are Groomed, Pending Snow

The trail should be adequately groomed and maintained during the ski season of December 1st through April 1st, pending snow.

April 1st – Ski Trails Close

Cross-Country Ski GIA Trails officially close statewide on April 1st. If a ski trail happens to have snow after this date, the trail may continue to be groomed, but grooming reimbursement is only eligible during the ski season of December 1st through April 1st.

May 30th – Final Reimbursement Requests and Next Year's Applications are Due

All reimbursement requests must be submitted prior to May 30th. Reimbursement requests for grooming may be submitted at any time during the season. The annual application to the DNR must be submitted by May 30th in order to be part of the GIA Program in the following season.

II. MAINTENANCE AND GROOMING GRANT MANAGEMENT

B. TRAIL MAINTENANCE PERFORMANCE BENCHMARK

The trail maintenance performance benchmark covers all of the costs associated with setting up the ski trail at the beginning of the season, including all non-grooming costs associated with the trail system, equipment costs, insurance, trailheads, bathrooms, parking lot plowing, and any other fixed costs.

In order to receive the disbursement of the grant associated with this benchmark, the local unit of government sponsor and club must certify the following:

- Trail is ready to be open and groomed on December 1st, pending snow
- Trail is satisfactorily brush
- Bridges are in good repair
- Signs are installed
- Gates are capable of being open (snow permitting)
- The sponsor ensures that interest in the lands to operate the entire trail have been obtained through fee ownership, easement, lease, permit, permission, or other conveyance
- Parking lots are plowed, or ready to be plowed, pending snow
- Any other additional work to set up the trail is completed

Benchmark Form is due by December 15th

When the Trail Maintenance Performance Benchmark form is certified by the sponsor and club and submitted to the DNR, up to 40% of the annual grant will be disbursed to the sponsor. The benchmark is due no later than December 15th. The benchmark may be submitted prior to December 15th, but may not be submitted before the contract between the sponsor and DNR is fully signed. The benchmark form is available on the Cross-Country Ski Trail GIA Program web page on the DNR website.

Required Documentation Associated with Benchmark

The sponsors and clubs still need to maintain records of their trail set up costs, but these would do not need to be turned into the DNR. These records include all invoices of expenditures associated with the trail, maintenance logs, and other documents associated with the financial records of the trail.

II. MAINTENANCE AND GROOMING GRANT MANAGEMENT

C. TRAIL GROOMING REIMBURSEMENT

Trail grooming is reimbursed on an hourly rate, established below. Up to 60% of grant funds are set aside for trail grooming. Reimbursements are calculated with the following formula:

$$[\text{Hours Groomed}] \times [\text{Hourly Rate}] = [\$ \text{Reimbursed}]$$

Below are the hourly grooming rates.

1. \$35/hour: Snowmobile or tracked ATV with grooming attachments (Tracked ATV is less than or equal to 80 horsepower). All snowmobiles are included under this rate, no matter the size.
2. \$55/hour: Midsized tracked vehicle with grooming attachments (Tracked vehicle range of >80 to 150 horsepower)
3. \$110/hour: Large tracked grooming equipment with attachments (Tracked vehicle greater than 150 horsepower)

These hourly rates include the operator, equipment, fuel, and all other costs associated with grooming. Historically, the GIA Program reimbursed at a matching 65% or 90%, however this is no longer the case. The established hourly grooming rates include estimated matching funds needed to keep the trail system operational. The intent of the GIA Program is to aid with the costs of maintaining and grooming a trail system, and limited funding means that the program is not able to fully fund the costs of a ski trail. Local funds and ski club volunteers are instrumental in a successful trail.

Reimbursements

To request reimbursement, the request for reimbursement form and the grooming operator's log must be properly filled out and submitted to the DNR. Reimbursement requests may be submitted at any time during the ski season, but all reimbursements must be submitted by May 30th for the previous season's grooming.

Trail grooming reimbursement is only eligible during the ski season of December 1st through April 1st. If there happens to be snow before or after the GIA trail season, the ski trail may be groomed, but those grooming costs are not eligible for reimbursement.

II. MAINTENANCE AND GROOMING GRANT MANAGEMENT

D. ACCOUNTING AND AUDIT

The Sponsor shall maintain books, records, documents, and other evidence relevant to this grant and in such detail that will accurately document all project costs for which payment has been received. The Sponsor shall use generally accepted accounting principles and these records shall be retained for six years after this grant terminates. The State, its representative or the legislative auditor shall have the right to examine this evidence and the Sponsor shall make them available at the office at all reasonable times during the record retention period. Records shall be sufficient, as defined in the Manual to reflect significant costs incurred and volunteer donation of time, equipment, and/or materials in performance of this grant.

E. PROGRAM MONITORING AND FISCAL REVIEWS

Program Monitoring

The DNR will conduct regular program monitoring of Cross-Country Ski GIA Trails to ensure that the local unit of government sponsor and clubs are performing within the context of the program. The monitoring includes:

- Routine trail monitoring of grooming and maintenance activities
- Review of ongoing trail issues and any environmental concerns
- Complaint management and follow up

Fiscal Reviews

The DNR will conduct reviews of how Sponsors and the related clubs are performing within the context of the program. The intent is to evaluate how effectively the funds are being distributed by DNR and utilized by the Sponsors and the related clubs. The reviews will include:

- Contract administration
- Record keeping
- Expenditures

Penalties

If a sponsor and/or club are not performing within the context of the GIA Program, the DNR may reduce or withhold grant funding, delay in payment until the issue is resolved, or remove the sponsor and/or club from the GIA Program. The sponsor and club are required to comply with all program requirements established within this program manual, contract agreements, as well as all governing statutes, laws, and rules.

II. MAINTENANCE AND GROOMING GRANT MANAGEMENT

F. REQUIRED DOCUMENTATION SUMMARY

The following is a required list of documents that the sponsors and clubs need to maintain in accordance with program requirements. Only those documents marked with (*) are required to be turned in to the DNR, but the rest must be kept on file.

Landowner Permission Documentation

All trails must have permission to be located on public or private property. It is the responsibility of the club or sponsor to keep these records.

Proof of Club Non-Profit Status

It is required that all ski clubs that receive GIA funds must be registered with the Minnesota Secretary of State as a nonprofit corporation.

Invoices of Expenditures Associated with the Trail Maintenance Benchmark

Make sure to keep all invoices and proof of payment for expenses related to maintaining the GIA trail. These serve as expense documentation of meeting benchmark requirements.

Maintenance Logs

It is required that trail work hours be documented (this does not include grooming). The log should include date, number of people working on the trail, number of hours, equipment used, type of work done, and section of trail worked on. A sample maintenance log can be found in the program form section of this manual.

Grooming Logs*

It is required that all grooming trips on GIA trails be documented. These logs should include name of groomer, date, miles groomed, total grooming hours, trail name, and segment. A grooming log form can be found on the Cross-Country Ski Trail GIA Program web page. Grooming logs must be submitted to the DNR with grooming requests for reimbursement.

Liability Insurance Certificate

It is strongly encouraged that clubs partially shield their volunteers from the consequences of injury by securing appropriate insurance coverage. The DNR does not require this, but a sponsor may.

Contract between the Sponsor and Club

It is strongly encouraged that the sponsors enter into contracts with their ski clubs. These contracts help define roles and provide additional safeguards.

Application with Required Attachments and Benchmark Forms*

It is strongly encouraged that both the sponsors and associated clubs maintain a copy of the annual program application with attachments and benchmark reimbursement forms for reference and annual documentation.

Map of GIA Ski Trail System*

A map of the ski trail system is a required attachment to the annual application.

II. MAINTENANCE AND GROOMING GRANT MANAGEMENT

ADDITIONAL RESOURCES

The following are a list of resources to assist in the documentation requirements and general maintenance and grooming of cross-country ski trails.

Cross-Country Ski Trail GIA Program Web Page

http://www.dnr.state.mn.us/grants/recreation/gia_crosscountry.html

The Cross-Country Ski Trail GIA web page has all program forms as well as additional program information.

Minnesota Secretary of State www.sos.state.mn.us

Use the Secretary of State's website to find information on how to register as a non-profit corporation. All GIA clubs are required to be registered as a non-profit with the State of Minnesota. The Minnesota Secretary of State's (SOS) office administers non-profit corporation registration and questions about this process should be directed to the SOS.

Minnesota Nordic Ski Association (MNSA) <http://mnnordicski.org/>

MNSA is a source for skiing information as well as trail and club support in Minnesota.

Trail Guidelines Books www.minnesotasbookstore.com

Click on "Natural Resources" then "Trail Planning Guide" to purchase. This technical manual covers all you need to know about designing and building trails. This manual assists with providing best practices and techniques with special attention given to developing trails that are physically, ecologically and economically sustainable. This manual is published by the MN DNR and can be purchased for \$19.95 through the Minnesota Bookstore.

III. CAPITAL IMPROVEMENT GRANTS AND NEW GIA TRAILS

A. ELIGIBILITY GUIDELINES

CAPITAL IMPROVEMENT PROJECTS AND ADDING NEW GIA TRAILS

The DNR annually determines if capital improvement projects will be funded or if new trail systems will be added to the GIA Program. Solicitations for capital improvement projects or adding trail systems into the GIA Program will be posted on the Cross-Country Ski GIA webpage on the DNR website. Only funded Cross-Country Ski Grant-in-Aid trail systems are eligible for capital improvement funding. Projects that are eligible for capital improvement funding must be above and beyond the responsibilities of the existing maintenance and grooming grant. Below is a list of eligible capital improvement projects:

Trail Relocation Projects

- Trail relocations includes rerouting an existing trail to preserve trail continuity and/or improve the quality of the trail.
- Trail relocations may be a result of the following:
 - Landowner permission changes
 - Development issues on the trails existing corridor area
 - Safety concerns

Major Rehabilitation Projects

- Emergency Rehabilitation: rehabilitation needs resulting from unforeseen events that disrupt the route of an existing trail. Emergency grants are generally a result of the following events:
 - Storms
 - Washouts
 - Blow downs
 - Unexpected effects on an existing trail
- Major Rehabilitation: major rehabilitation projects are generally a result of the need to do the following:
 - Improve trail safety
 - Widen trails
 - Improve trail surface
 - Improve trailhead facilities and/or warming shelters/houses

Bridge Projects

- New placement of a bridge on an existing trail that currently has no existing bridge.
- Replacement of a bridge because of deficiencies.

Acquisition Projects

- Acquisition projects are proposals to acquire existing trail routes.
- Acquisition projects may also include proposals to acquire new trails and/or facilities.

New Development and Additions to the GIA System

- New development projects include projects to add new or existing trails or facilities to the GIA system, including alignments. Examples of new developments or additions include:
 - Adding a new trail system or new miles into the GIA System. This includes developing and then adding new miles.
 - Building a new trail head facility or warming shelter.
 - Adding miles of trail to improve the size of the existing trail system.

III. CAPITAL IMPROVEMENT GRANTS AND NEW GIA TRAILS

B. ENVIRONMENTAL REVIEW CONSIDERATIONS

Many new development projects and some trail relocation initiatives may require some level of environmental review. Sponsors and related clubs should work with Parks and Trails Area Supervisors on determining which requirements they will need to address as they move forward with their projects. The appendix to this manual includes the rules adopted by the Environmental Quality Board relating to recreational trail development. These rules outline the requirements and exemptions relating to whether or not an environmental review may or may not be needed. Also attached in the Appendix is the process and general timeline in which the DNR conducts these environmental reviews.

C. PROJECT PRIORITIES

Project Selection Priorities

The DNR annually determines if capital improvement, new development, or additions to the GIA system will be funded. Solicitations for capital improvement projects or adding trail systems into the GIA Program will be posted on the Cross-Country Ski GIA webpage on the DNR website. The following order of priorities is used in determining funding of capital improvement and other projects.

1. **Trail Relocation Projects**
2. **Major Rehabilitation Projects**
3. **Bridge Projects**
4. **Acquisition Projects**
5. **New Development and Additions to the GIA System**
 - a. To ensure a fair statewide distribution of grants, regional factors will be considered in funding new development. These factors include existing use per mile of trail, existing trail mileage, ability to hold snow, and tourism considerations.
 - b. **The DNR annually determines if new development or additions to the GIA System will be funded. The eligibility of additions to the GIA System will be officially communicated on the Cross-Country Ski Grant-in-Aid webpage on the DNR website.**

III. CAPITAL IMPROVEMENT GRANTS AND NEW GIA TRAILS

D. SELECTION PROCESS

Project Applications are submitted to Parks and Trails Area Supervisors. The following outlines the process for selecting and approving capital improvement grants-in-aid as well as additions to the GIA System.

1. Parks and Trails Area/Region staff identify regional priority projects. Those that meet the above priorities and also meet regional priorities are recommended for funding to the DNR Central Office.
2. The DNR Central Office review Parks and Trails Area/Region recommendations and then in consultation with the Minnesota Nordic Ski Association create a statewide priority ranking of projects. The DNR will then approve or deny the requests for project funding based on the above priorities, statewide distribution, and available funding.

E. ALLOWABLE COSTS AND CHARGES

For Capital Improvement projects, requests are made for reimbursement of allowable charges on the Request for Reimbursement Form. The expenses for which reimbursement is made are found in the Allowable Charges document, posted on the Cross-Country Ski Trail Grant-in-Aid Program website if there are active projects.

ALLOWABLE CHARGES

All the charges listed below must be directly related to the acquisition, development, maintenance, and grooming of your trail system. No other charges will be accepted without prior approval from your Area Trails and Waterways Supervisor. All costs are 65% reimbursable)

Administration Charges (65% Reimbursable)

(No More Than 15 Percent Of Total Grant)

1. **Mileage and Labor:** These charges may be reimbursed for preparing the paperwork and forms for the program, bookkeeping, paying invoices, attending necessary county or municipality board or DNR meetings, and obtaining bids for equipment rentals.
2. **Stamps:** The cost of mailing necessary DNR forms, billings, bid requests, or maps. It is suggested that a list of mailings and materials mailed be kept on file.
3. **Telephone Calls:** Long distance calls directly related to trail administration to vendors, the sponsoring agency, landowners, and the DNR will be accepted. It is suggested that a list of calls be kept on file.
4. **Office Supplies:** The purchase of materials needed to fulfill the programs administration such as writing, typing, and copying materials are acceptable. Office space rental is not an acceptable charge.
5. **Maps Used to Administer Grants:** The cost of county maps that are to be submitted to the DNR as required by the program are reimbursable.

III. CAPITAL IMPROVEMENT GRANTS AND NEW GIA TRAILS

6. **Meeting:** The DNR allows charges for essential personnel to attend meetings directly related to the program. The general rule will be not more than four (4) people for a trail committee meeting and not more than two (2) people for a governmental meeting. Club meetings are not acceptable as chargeable meetings. Rental of meeting rooms is not an acceptable charge.
7. **Computer Time:** The cost of using computers shall be reimbursed as part of the administrative portion of the grant. The origin of cost, such as number of hours, or equipment rental, or materials should be described on the worksheet. The Allowable Cost for figuring reimbursement shall be \$7.80 per hour (65% reimbursable). This rate includes person hours using the computer and is not in addition to the \$14.00 per hour volunteer rate for trail work.

Land Acquisition Charges (65% reimbursable)

1. **Mileage and Labor:** These charges are acceptable for alignment work, checking ownership records, and landowner contacts.
2. **Maps:** The cost of securing maps necessary for aligning trail routes is reimbursable. County highway maps and topographic maps are acceptable -- aerial photography maps should receive DNR approval since costs can be extremely high.
3. **Permits and Easements:** The program has done extremely well to date with landowner cooperation and low permit or easement costs. Costs incurred are reimbursable.

Development And Maintenance Charges (65% reimbursable)

1. **Mileage and Labor:** These charges are reimbursable for construction and maintenance of the trail system. A work log form must be filled out for reimbursement identifying hours and dates work was performed.
2. **Equipment Rentals:**
 - A. Heavy equipment work is reimbursable as needed for construction. The operator or vendor of the heavy equipment must be identified and an invoice submitted to the DNR for payment.
 - B. Bids -- When equipment cannot be rented at the allowable costs, bids must be let to secure the necessary equipment. Three (3) hourly bids must be secured from vendors in your area. If three (3) bids cannot be secured, list the vendors contacted, date contacted, and vendor's response. When the bids have been secured, the Area TAW Supervisor must be contacted and approve the bids. After approval, the equipment can be leased or rented. The bids are then submitted with the Request for Reimbursement.
 - C. Hand power equipment rental is reimbursable. The operator or owner of the equipment must be identified on the worksheet for payment.

NOTE: *Before any equipment rental or work is done make sure the rental costs must be within the allowable limits. If these limits cannot be met, bid procedures must be strictly adhered to or the billing will not be processed.*

III. CAPITAL IMPROVEMENT GRANTS AND NEW GIA TRAILS

3. **Material:** Charges may be submitted for materials used directly on the trail system. Materials may include, but are not limited to lumber, paint, signs, gates, posts, fencing, culverts, fill, grass seed, bolts or other hardware, etc. If you have a question on any materials, it is best to contact your Area TAW Supervisor.
4. **Snow Plowing:** Reimbursement for plowing parking lots will be acceptable when the parking lot is used solely for trail user parking. Parking areas at business establishments do not qualify for grant assistance. The maximum allotment per parking area per year will be \$300.
5. **Radios and Cellular Telephones:** The cost of renting, leasing, installing, and using radios and cellular telephones in groomers and groomer support vehicles and for use during trail maintenance shall be 65% reimbursable, if approved on a case-by-case basis by the Area TAW Supervisor. They shall be approved only in cases where the safety of groomer operators is improved, or where the efficiency of grooming long distance and difficult trail systems will be substantially increased. Full documentation of bids and lease rates shall be provided to the Area TAW Supervisor.
6. **Maps Printed for Distribution to the Public:** Costs for maps that are printed for trail users identifying the trail route, etc., costs are reimbursable. The State will pay 65% of the actual printing cost if the map is made available to the public free of charge.

NOTE: THESE MAPS WILL IDENTIFY THAT THE TRAIL SYSTEM IS A GIA TRAIL AND FUNDED BY THE DNR AND THAT DNR DOES NOT ENDORSE ANY OF THE ADVERTISERS ON THE MAP.

III. CAPITAL IMPROVEMENT GRANTS AND NEW GIA TRAILS

F. CAPITAL IMPROVEMENT REIMBURSEMENT PROCEDURE

A correctly filled out Request for Reimbursement Form must be submitted to the Parks and Trails Area Supervisor from the Sponsor in order to receive reimbursement. The Area Supervisor will review and then approve the payment/invoices based on allowable costs and charges. Parks and Trails Area/Region offices process and approve all payments and charges defined as eligible. Only costs accrued after a fully executed agreement between the State of Minnesota and the local unit of government sponsor is in place are eligible for reimbursement.

Requests for reimbursement for summer and fall construction or maintenance are due no later than December 31. All requests for reimbursement must be received by the DNR no later than May 30 for that year's work.

For purposes of accurately documenting reimbursable activities, the following information shall be included on all work logs:

- The make and model of all heavy equipment used.
- The type of work done.
- The location.
- Any donated labor, equipment time/miles, supplies, or materials shall be noted as a donation. Additional lines of the work log may be used for each entry. Invoices for purchased or donated services such as equipment rental, supplies and materials submitted with *Request for Reimbursement* Forms shall include the following information:
 - Name of individual or company.
 - Date the work was done or materials delivered.
 - Type of equipment and number of hours/miles, or type of supplies and materials purchased.
 - Original signature of vendor.

G. ACCOUNTING AND AUDIT

The Sponsor shall maintain books, records, documents, and other evidence relevant to this grant and in such detail that will accurately document all project costs for which payment has been received. The Sponsor shall use generally accepted accounting principles and these records shall be retained for six years after this grant terminates. The State, its representative or the legislative auditor shall have the right to examine this evidence and the Sponsor shall make them available at the office at all reasonable times during the record retention period. Records shall be sufficient, as defined in the Manual to reflect significant costs incurred and volunteer donation of time, equipment, and/or materials in performance of this grant.

IV. PROGRAM FORMS AND GUIDANCE

A. PROGRAM FORMS

The following forms have been included to identify the basic paperwork necessary for the Grant-in-Aid Program. These forms are found on the DNR's Cross-Country Ski Trail Grant-in-Aid Program web page at http://www.dnr.state.mn.us/grants/recreation/gia_crosscountry.html.

- ❑ **Maintenance and Grooming Application:** This form is the formal application from the Sponsor to the State of Minnesota for the annual maintenance and grooming grant.
- ❑ **Trail Maintenance Performance Benchmark:** This form is submitted to the DNR by the sponsor and certifies that the trail is set up and ready for the cross-country ski trail season.
- ❑ **Trail Grooming Reimbursement Form:** This form is to be used to request reimbursement for grooming.
- ❑ **Ski Grooming Log:** This form is used to document grooming work on the trail.
- ❑ **Trail Sign Order Form:** This form is designed to assist trail organizations in requesting signs from the DNR.
- ❑ **Capital Improvement Request for Reimbursement:** This form is to be used to request reimbursement for capital improvement projects.

B. OTHER RELEVANT DOCUMENTS AND GUIDANCE

The following items are other documents and guidance relevant to successful grant-in-aid program administration, and are explained in more detail on the following pages.

- ❑ **Sample Sponsor and State/DNR Agreement:** This form is the legal document between the State and sponsor. This document sets aside funding and identified conditions agreed to by both parties. Only after notification in writing by the DNR can the Sponsor be guaranteed of grant-in-aid funding.
- ❑ **Sample Landowner Permission Form:** This form is designed to help clubs obtain private landowner permission for trails.
- ❑ **Sample County/Club Contract:** This form is designated to help establish contracts between sponsors and clubs.
- ❑ **Sample Trail Maintenance Log:** This is an example of how clubs should document trail maintenance.
- ❑ **Elements of a Sponsor Resolution:** This is an explanation of the information that should be contained in the sponsor resolution.

IV. PROGRAM FORMS AND GUIDANCE

MINNESOTA CROSS-COUNTRY SKI TRAIL GRANT-IN-AID PROGRAM FY2016 GRANT AGREEMENT

Local Unit of Government "Sponsor"	Trail Name	State Cost	Effective Date See Item I
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THIS AGREEMENT, is made between the STATE OF MINNESOTA, acting through the Commissioner of Natural Resources, hereinafter referred to as the "State", and the sponsoring Local Unit of Government "Sponsor" specified above, and relates to the establishment of proposed trails specified above.

WHEREAS, the local unit of government desires to establish, construct and maintain public trails; and

WHEREAS, the Minnesota Cross-Country Ski Trail Grant-in-Aid Program provides grants to local units of government for the construction and maintenance of recreational trails pursuant to Minnesota Statutes, Chapter 85.44 and 84.026; and

WHEREAS, the local unit of government sponsor has applied to the State for a grant for said trails and has submitted the Cross-Country Ski Trail Grant-in-aid Program's application form, required attachments, and resolution of the local unit of government authorizing the proposed trail for maintenance and grooming. The submitted application form and required attachments are hereinafter referred to as the "Plan", and the sponsor resolution is attached and incorporated into this agreement as Exhibit A; and

NOW THEREFORE, it is agreed between the parties as follows:

A. TRAIL OBLIGATION OF THE LOCAL UNIT OF GOVERNMENT. The local unit of government agrees to construct, operate, and maintain the proposed trails in accordance with the current **Minnesota Cross Country Ski Trail Grant-in-Aid Program Manual**, hereinafter referred to as the "Manual" as accepted or amended by the State, and with the application or new trail project proposal form, as accepted or amended by the State.

The local unit of government shall:

1. Proceed to acquire necessary interests in lands on the Trail. The Sponsor must acquire land in fee, easement, lease, permit, or other authorization for said Trail. The term of said interest shall be no less than four (4) months between November 15 of any year and April 1 of the succeeding year. For each parcel of land crossed by the Trail, the Sponsor shall obtain from the owner of said parcel a permit, lease, easement, deed, or other authorization for said crossing in accordance with Minnesota Statutes Chapter 604A. The Sponsor shall certify that the necessary interests in the land have been obtained and are on file with the Sponsor or the sponsor's agent.
2. Provide adequate maintenance and grooming of the trail, which shall include keeping the trails reasonably safe for public use; provide sanitation and sanitary facilities when needed; and provide other maintenance and grooming as may be required. The local unit of government and not the State is responsible for maintaining signs and grooming all trails. If the local unit of government, or their agent, fails to provide adequate maintenance and grooming of the trails, the State may withhold current or future performance benchmark payments or grooming reimbursements to the local unit of government and/or terminate this agreement.

IV. PROGRAM FORMS AND GUIDANCE

- B. TECHNICAL ASSISTANCE.** The State shall give technical assistance to the local unit of government in establishing trails upon request.
- C. FUNDING.** The state's sole responsibility under this Agreement is to provide funds to the local unit of government. In the event that state funds become unavailable because of legislative or executive action or restraints the grant amount may be reduced or canceled by the State.
- D. DISBURSEMENT AND REIMBURSEMENT.** The state agrees to disburse funds to the local unit of government pursuant to this Agreement based upon the satisfactory completion of the trail maintenance performance benchmark and reimburse funds to the local unit of government for trail grooming at the equipment costs listed in the Manual. This grant shall not exceed the State Cost as specified above.
- E. PAYMENT.**
1. **Trail Maintenance Performance Benchmark, 40% of Total Grant Amount**
Disbursement of these funds is contingent on the local unit of government providing the trail maintenance performance benchmark form certifying that the trail is open and available for use. The certification must be received by December 15th of that year, and certifies that the trail was ready to be open and groomed by December 1st, pending snow; satisfactorily brushed; bridges were in good repair; signs were installed; gates were capable of being open (snow permitting); interest in the lands to operate the entire trail were obtained through fee ownership, easement, lease, permit, permission, or other conveyance; parking lots were plowed or ready to be plowed (snow permitting); any additional work to set up the trail was completed; and the trail meets the guidelines of the Manual.
 2. **Trail Grooming Reimbursement, Up to 60% of Total Grant Amount**
Trail grooming is reimbursed to the local unit of government at an hourly rate for specific equipment listed in the Manual. 60% of grant funds are dedicated to trail grooming reimbursement. The local unit of government must submit the Trail Grooming Reimbursement Form and attached grooming logs in order to be reimbursed these funds, in accordance with the Manual. Trail Grooming Reimbursement Forms may be submitted several times during the grooming season for reimbursement periods identified on the form, but the final reimbursement form must be submitted no later than May 30th for the previous season's grooming. The State shall not be required to pay for grooming reimbursement that the State's authorized representative determines to be unsatisfactory per the guidelines identified the Manual. Payments shall be made to the extent of authorized reimbursement, or until this agreement is terminated.
 3. **Penalties**
If the local unit of government, or their agent, fails to provide adequate maintenance and grooming of the trails, or does not meet the program requirements or guidelines established in the Manual, the State may withhold current or future performance benchmark payments or grooming reimbursements to the local unit of government and/or terminate this agreement.

IV. PROGRAM FORMS AND GUIDANCE

- F. **STATE AUDITS.** Under Minnesota Statutes § 16C.05, subd. 5, the Grantee's books, records, documents, and accounting procedures and practices relevant to this grant contract are subject to examination by the State and/or the State Auditor or Legislative Auditor, as appropriate, for a minimum of six years from the end of this grant contract. Records shall be sufficient, as defined in the Manual to reflect significant costs incurred and volunteer donation of time, equipment, and/or materials in performance of this grant.
- G. **WORKERS COMPENSATION.** The Grantee certifies that it is in compliance with Minnesota Statutes § 176.181, subd. 2, pertaining to workers' compensation insurance coverage. The Grantee's employees and agents will not be considered State employees. Any claims that may arise under the Minnesota Workers' Compensation Act on behalf of these employees and any claims made by any third party as a consequence of any act or omission on the part of these employees are in no way the State's obligation or responsibility.
- H. **LIABILITY.** Each party agrees that it will be responsible for its own acts and the results thereof to the extent authorized by law and shall not be responsible for the acts of the other party and the results thereof. The State's liability shall be governed by the provisions of the Minnesota Tort Claims Act, Minnesota Statutes § 3.736 and other applicable law. The Sponsor's liability shall be governed by the provisions of Minnesota political Subdivisions Tort Liability, Minnesota Statutes § 466.02 and other applicable law.
- I. **TERM.**
- I.1 **Effective date: July 1, 2015.** Per MN Statute 16B.98, Subd. 5 and Subd. 7, this agreement is not valid and no payments will be made to the Grantee until this grant contract is fully executed, however, eligible expenses may be incurred the date the appropriation becomes available.
- I.2 **Expiration date: June 30, 2016,** or until all obligations have been satisfactorily fulfilled, whichever is sooner.
- J. **TERMINATION.** This Agreement may be terminated by the State in the event of a default by the Sponsor, the legislature appropriates insufficient monies for the program, or the abandonment of the Trail. It may also be terminated upon mutual agreement by the State and the Sponsor, upon 30 days' written notice to each entity.
- K. **PUBLICITY AND ENDORSEMENT**
- Publicity.** Any publicity regarding the subject matter of this grant contract must identify the State as the sponsoring agency and must not be released without prior written approval from the State's Authorized Representative. For purposes of this provision, publicity includes notices, informational pamphlets, press releases, research, reports, signs, and similar public notices prepared by or for the Sponsor individually or jointly with others, with respect to the program, publications, or services provided resulting from this grant agreement.
- Endorsement.** The sponsor must not claim that the State endorses its products or services.
- L. **ASSIGNMENT OR MODIFICATION.** The Sponsor may not assign any of its rights or obligations under this Agreement without the prior written consent of the State. No change or modification of the terms or provisions of this Agreement shall be binding unless such change or modification is in writing and signed by all parties on this Agreement.

IV. PROGRAM FORMS AND GUIDANCE

- M. DATA DISCLOSURE.** Under Minnesota Statutes § 270.65, subd. 3, and other applicable law, the Grantee consents to disclosure of its social security number, federal employer tax identification number, and/or Minnesota tax identification number, already provided to the State, to federal and state tax agencies and state personnel involved in the payment of state obligations. These identification numbers may be used in the enforcement of federal and state tax laws which could result in action requiring the Grantee to file state tax returns and pay delinquent state tax liabilities, if any.
- N. GOVERNING LAW, JURISDICTION, AND VENUE.** Minnesota law, without regard to its choice-of-law provisions, governs this grant contract. Venue for all legal proceedings out of this grant contract, or its breach, must be in the appropriate state or federal court with competent jurisdiction in Ramsey County, Minnesota.
- O. AUTHORIZED REPRESENTATIVE.** The State's Authorized Representative is the Trail Area Supervisor from the Parks and Trails Division of the Department of Natural Resources for the area where the trail is located, or his/her successor, and has the responsibility to monitor the Sponsors performance and the authority to accept the services provided under this grant contract. If the services are satisfactory, the State's Authorized Representative will certify acceptance on each invoice submitted for payment. A list of the Trail Area Supervisors can be found on the program webpage (http://files.dnr.state.mn.us/assistance/grants/recreation/ohv/area_supps.pdf).

The Sponsor's Authorized Representative is the contact person and individual who provide the authorized signature for the Sponsor, which can be found on the program application (incorporated here into this agreement by reference). If the Sponsor's Authorized Representative changes at any time during this grant contract, the Sponsor must immediately notify the State.

The authorized representative of the sponsor is prohibited from being an officer or bookkeeper/accountant of the club or organization receiving this grant on behalf of the State.

- P. INVASIVE SPECIES PREVENTION.** The DNR requires active steps to prevent or limit the introduction, establishment, and spread of invasive species during work. The Grantee and/or contractor shall prevent invasive species from entering into or spreading within a project site by cleaning equipment prior to arriving at the project site.

If the equipment, vehicles, gear, or clothing arrives at the project site with soil, aggregate material, mulch, vegetation (including seeds) or animals, it shall be cleaned by Grantee and/or contractor furnished tool or equipment (brush/broom, compressed air or pressure washer) at the staging area. If the material cannot be disposed of onsite, secure material prior to transport (sealed container, covered truck, or wrap with tarp) and legally dispose of offsite. Note that transporting noxious weeds requires a permit from the Minnesota Department of Agriculture.

The Grantee and/or contractor shall ensure that all equipment and clothing used for work in infested waters has been adequately decontaminated for invasive species (ex. zebra mussels) prior to being used in non-infested waters. All equipment and clothing including but not limited to waders, tracked vehicles, barges, boats, turbidity curtain, sheet pile, and pumps that comes in contact with any infested waters must be thoroughly decontaminated.

IV. PROGRAM FORMS AND GUIDANCE

IN WITNESS WHEREOF, the parties hereto have executed this Agreement.

LOCAL UNIT OF GOVERNMENT SPONSOR

Local Unit of Government (Sponsor)		
Authorized Signature	Title	Date
Authorized Signature	Title	Date

DEPARTMENT OF NATURAL RESOURCES

Individual certifies that funds have been encumbered as required by M.S. § 16A.15 and 16C.05.	State Encumbrance Verification SWIFT PO #:	Date
Authorized Signature	Parks and Trails Division Director/Deputy Director	Date

IV. PROGRAM FORMS AND GUIDANCE

Sample Landowner Permission Form

LANDOWNER PERMISSION

THIS PERMIT is granted on _____, by _____
the Landowner(s) to _____ the Sponsor to establish and/or maintain the
_____ Trail.

That _____, the (record owners, contract for deed purchasers, lessees),
grants this permit over and upon the following described premises situated in the County of
_____, State of Minnesota, to wit: (complete land description)

SUBJECT TO:

1. This permit shall be continuous and will terminate upon sale of the land, or upon notification in writing to the Sponsor six (6) months prior to termination by the Landowner(s).
2. The right-of-way shall be open to the general public for cross-country ski use.
3. The Sponsor shall at all times have the right to enter upon said right-of-way for any purpose necessary to the performance of lawful powers and duties.
4. The Landowner(s) shall have the right to close said right-of-way during any emergency, with the approval of the Sponsor.
5. The permit is for a _____ foot width over the route to be used.

DATE: _____

(Landowner Signature)

(Address and Phone Number)

(Club Representative)

NOTE: All Trail Permits are to be made out to the **Sponsor** not the club. Permits can be made out to club only if the Sponsor has specifically given written permission and authority to the club, and the club has been incorporated.

IV. PROGRAM FORMS AND GUIDANCE

Sample SPONSOR/ CLUB CONTRACT

This agreement made this ____ day of _____, 20____, between _____ hereinafter referred to as the local unit of government and _____ hereinafter referred to as the club.

WITNESSED:

Whereas the local unit of government desires to establish a public trail in furtherance of its public recreation program, and

Whereas the club agrees to help and assist the local unit of government to acquire, construct and maintain said trail, and is registered as a nonprofit corporation, and

Whereas the State of Minnesota offers financial and technical assistance to the local unit of government for the construction of an approve trail, and whereas the trail in connection with this agreement shall hereinafter be called _____,

NOW THEREFORE IT IS AGREED BETWEEN THE PARTIES THERETO:

The local unit of government shall apply to the State of Minnesota - Department of Natural Resources - for financial and technical assistance in accordance with the laws, rules, and regulations governing said assistance.

If said assistance is granted, the local unit of government shall contract with the club for the acquisition of the necessary interests in land and the subsequent construction and maintenance of the trail.

The contract shall specifically provide that any “work” in connection with the trail shall be in accordance with the terms and conditions of the agreement between the state and the local unit of government and such terms and conditions be incorporated in said contract by reference.

Further the contract shall provide that the club will certify to the local unit of government upon completion of significant benchmarks of “work” on the trail. The local unit of government agrees to pay the club the appropriate percentage of the total grant amount for their “work” completed by the club on their portion of the trail system as agreed to/with the other clubs in the trail system; the club will “absorb” the remainder. In the event that a performance penalty is assessed on the sponsor, by the state, such penalty will be passed through to the appropriate club and be their obligation until satisfied.

The contract shall specifically provide that the club will be operating as an independent contractor and that the local unit of government and the State of Minnesota shall not be responsible for workman’s compensation of other employee benefits.

Not Withstanding the financial assistance provided in the state contract, the local unit of government shall not be liable for such costs as are incurred by the club because state funds are depleted.

Board Chairman/Mayor _____

Auditor/Clerk _____

Club President _____

Club Secretary _____

IV. PROGRAM FORMS AND GUIDANCE

Sample Trail Maintenance Log

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
September 2015						
		1	2	3	4	5 PB/ASPEN- Brush Trail/ Minor Repair 8 People/ 9 hrs / 7 ATV's 6 Chainsaws 1 D6 Dozer 5 PU/40 mi
6 Soo Line Brush Trail 5 People/8 hrs 3 ATV's 4 Brushers 4 Chainsaws 3 PU/50 mi	7	8	9	10	11	12
13	14	15	16	17	18	19
20 Pipeline - Repair Bridge/ Brush Trail 10 People/9 hrs 10 ATV's 5 Chainsaws 7 PU/ 60 mi Lumber	21	22	23	24	25	26 Aspen - Signing 4 People/6 hrs 4 ATV's 4 PU/70 mi
27 Aspen - Maps/ Landowner Prmts 10 People/5 hrs 10 PU/250 mi	28	29	30	<p>Form Completed by: _____</p> <p>Date:</p> <p>Please Note: This form must be signed by a club official (see Page 2).</p>		

IV. PROGRAM FORMS AND GUIDANCE

Elements of a Sponsor Resolution

A sponsor/local unit of government resolution should include the following information:

- ❑ A statement that the local unit of government will act as legal sponsor for an application for the DNR Cross-Country Ski Trails Assistance Program
- ❑ A statement that the local unit of government may enter into agreement with the State of Minnesota for the specific grant program mentioned above
- ❑ A statement that the local unit of government will comply with all applicable laws and regulations as stated in the agreement
- ❑ A statement recognizing an individual (in many cases a local government auditor) who will act as a fiscal agent on behalf of the local unit of government
- ❑ Date the resolution is adopted

If the local unit of government wishes to pass a resolution that is effective beyond one year, the resolution must include a clause clearly outlining these details. If the sponsor does not do this, a new resolution will be needed annually with spring applications.

APPENDIX A: ELEMENTS OF A SUCCESSFUL TRAIL

Trail User Maps And Public Information Suggestions

Accurate maps of the trail system should be prepared for free distribution to users. They should be available at the trailhead, DNR offices, and other locations convenient to the public and should include the following data:

1. Trail Name or Names.
2. Trail Location -- Give direction how to get to the trail system parking lot from the nearest town and major highway. A small state map showing the general location in the state could also be useful.
3. Trail Length -- Show the number of miles/km for each segment or loop.
4. Trail Use -- Identify loops or segments designated for ski use, as well as trails closed to snowmobiling if the potential for conflict with other users exist.
5. Trail Connections -- Identify other trails the trail connects to such as: State Parks and State Forests; State Trails; or other Grants-In-Aid Trails.
6. Trail Information -- Give name, address, and phone number of an individual who may be contacted for information (contact the local chamber of commerce to identify them as the local contact). The phone number of the local conservation officer may also be helpful.
7. Bridges -- Show all bridge crossings.
8. Roads -- Identify maintained state forest roads and portions used as trails; also identify roads not maintained, but suitable for skiing.
9. Mark on map and/or list locations where the following services would be available:

Gas	Repair services
Food	Medical facilities
Lodging	Law enforcement officers
Nearest DNR office	911 or Zenith
	Other helpful information
10. Identify all roads on map, and have corresponding signs posted on trails to help trail users know where they are at all times.
11. Basic Safety Tips -- Speed limit, driving on lakes/thin ice, frostbite, trail signs, etc. Statements concerning speed and alcohol should be included on the map.
12. It is helpful to put a date somewhere (bottom right-hand corner for consistency) on the map so the most current maps are in circulation.
13. Clearly identify all state asphalt paved bike trails where metal traction devices (studs) are prohibited.

APPENDIX A: ELEMENTS OF A SUCCESSFUL TRAIL

County highway maps available through the State Department of Transportation (Mn/DOT) serve as ideal base maps for showing trail alignments. These base maps are available for most counties from the Trails and Waterways Division. Check with the Area TAW Supervisor for your county.

Trail Design and Construction Suggestions

1. *Ski Trails*

- i. One-Way--Intensive Use: eight (8) feet to twelve (12) feet; one or two tracks set.

Moderate Use: six (6) to ten (10) feet; one or two tracks set.

Low Use: six (6) feet; one or no tracks set.

Two Way: Ten (10) feet to twelve (12) feet.

Downhill sections should widen at the bottom as the degree of slope increases. Uphill slopes where herringbone or side step is necessary should be eight (8) feet to ten (10) feet.

- ii. Horizontal Clearance--two (2) feet either side of trail treadway.

- iii. Vertical Clearance--ten (10) feet above expected snow depth. Allowance of snow build-up on limbs should also be taken into consideration.

- iv. Turning Radius--at least fifty (50) foot minimum, 100 feet preferred.

--Curves should be avoided on downhill slopes and at the bottom of hills.

--If a curve is necessary, provide a runout and/or widen the trail or increase turn radius.

--As degree of slope increases, lengthen runout, if needed, width of trail and/or turn radius should also increase.

- 2. Sight distance from trails should be at least of fifty (50) feet for ski trails. Greater sight distance should be allowed where conditions warrant. Snowbanks at road crossings should be cut back to provide adequate visibility in both directions on both sides. Snowbanks should be kept low at trail crossing points to permit easy exit from and entrance back onto the trail. Warning signs should be installed on trails at both trail and road crossings at sufficient distance to properly warn users.

- 3. Trails should cross contours at right angles where possible. Routing trails along side slopes should be avoided. Approaches to slopes should be straight and at least as long as the slope.

- 4. Cross-country ski trails shall not be routed over lakes, streams, or other bodies of water. When stream crossings are necessary, bridges at least six (6) feet wide should be provided (also, keep in mind the groomer width). Bridge designs need to have approval of the Area Trails and Waterways Supervisor. Railings are required. Permits to work in public waters may be required for bridges. Permit applications are available from the DNR's Division of Waters.

- 5. Trails need to be routed away from game preserves, deer yarding areas, wilderness areas, experimental stations, nurseries, airports, scientific and natural areas, and other areas of anticipated conflict. All trail proposals should follow normal environmental review procedures by appropriate units of government. Permits shall be obtained where necessary and required by law.

APPENDIX A: ELEMENTS OF A SUCCESSFUL TRAIL

6. A sign developed by the State which designates the trail as a GIA trail should be placed at parking lots, starting points, and at other areas of high visibility on the trail.
7. If possible, the trail should be located in such a manner as to avoid potentially hazardous areas such as cliff edges, rock falls, steep hills, congested areas, sharp ditches, and sharp curves.

Trail Grooming Tips

One of the most important winter trail functions is grooming. Providing a good, smooth trail will depend on ground surfaces which are free of stumps, rocks, roots, or other debris. Because the snow surface will reflect the ground surface conditions, a well groomed, smooth trail depends upon several things: 1) a relatively smooth and even ground surface, 2) a good snow base, and 3) good grooming. Snow compaction compresses loose, fluffy snow so that a firm base is provided. Snow grooming is the process of loosening or breaking up heavily compacted or icy snow and placing the snow back down in an equally compacted, smooth condition.

Under optimum conditions, grooming should begin when snow depth has reached approximately twelve (12) inches. Begin by compacting the snow with a large roller or drag with a packer pan. If this option is not available, packing can be accomplished with just the groomer, using the tracks to compact the loose, fluffy snow. If the snow is too deep, a snowmobile could be used. A very important point is that the snow base should be built from the bottom, up. Snow compacting should be considered after any substantial snowfall. The following are items that you may want to consider:

1. Groom shortly after a snowfall.
2. Grooming, when possible, should be done when traffic is light, such as at night or on weekdays.
3. Ideal grooming temperatures usually lie between minus five degrees Fahrenheit (-5F) and fifteen degrees Fahrenheit (15F).
4. The kind of snow is a major factor in determining at what temperature the trail should be groomed. Dry snow usually grooms best during the day when the temperatures are warmer. Wet snow grooms best at night when temperatures are usually cooler.
5. Cut all moguls off at or near the bottom of the dips and place the snow into a uniform layer. Try not to cut moguls halfway down or an uneven base density will result, and the moguls will reappear.
6. In limited snow conditions, try to set the drag so that snow can be pulled from the edges toward the center of the trail.
7. A good general rule for grooming speed is four (4) to ten (10) miles per hour. It should be noted that each groomer/drag combination is different, but grooming too slow or too fast will result in poor trail conditions (washboarding, uneven snow compaction, etc.)

APPENDIX A: ELEMENTS OF A SUCCESSFUL TRAIL

Signing Suggestions

In general, signing on trails should be designed to provide direction, information, and safety for trail users. Major signing areas are at the trailhead, trail junctions, and in areas where safety of the user is involved. Trailhead and trail junction signs will provide maps showing route designation, distance, traffic flow direction, and location of support facilities. Safety signs will caution users of steep slopes, bridges, or highway crossings, and other hazardous trail conditions.

Signs on all trails should be kept at a minimum and be well placed.

Signs placed out on the trail should include reassuring blazers, caution signs, do not enter signs, stop signs, etc.

Placement of most signs should be on the right-hand side of the trail just off the main treadway but within clearing limits. Signs should be attached to posts placed two (2) to three (3) feet off the treadway and three (3) to four (4) feet above expected snow depth. Attach them securely with lag screws or carriage bolts. Wood or metal posts may be used depending on location and availability.

The directional sign used on the trail should be trail junction blazers, directional blazers and reassuring blazers. Signs should be placed in open areas or in other areas where a trail user might become confused. *If uncertain about the effectiveness of signing, invite a non-local trail user to identify where deficiencies may exist.*

Suggested Signing Program:

1. **Trailhead** -- The following signs should be located near the parking lot at the start of the trail.
 - A. Major Information Board Map of trails
Registration Distance of various routes
Interpretive information Rules and regulations
Trail conditions Trail uses permitted and prohibited
Emergency telephone numbers
Address of person in charge of trail operation and maintenance (unit manager)
Where to go and who to see in case of emergency
 - B. You Are Here -- Should be located at the trailhead and at intersections with other trails.
 - i. if necessary, direction of trail (one-way, two-way)
 - ii. trail distances (miles or kilometers)
 - iii. location of facilities
 - iv. you are here location marker
2. **Information** -
 - A. Use Designation -- Should be located at all intersections where incompatible users may enter the trail.
 - B. Interpretive -- Located at points of interest along trail. Consult regional naturalist for recommendations concerning interpretive signs.
 - C. General Information -- Located and designed to provide information to trail users to assist or improve their ability to safely and enjoyably use the trail.

APPENDIX A: ELEMENTS OF A SUCCESSFUL TRAIL

3. Traffic -

- A. STOP NRM 8.4.1 Location: every traveled public road or railroad crossing.
- B. STOP AHEAD NRM 8.4.2 Location: should appear 300 feet before traveled public road or railroad crossing.
- C. DO NOT ENTER NRM 8.4.4A Location: ski or other trail intersections, one-way trails, prohibited areas.
- D. YIELD NRM 8.4.3 Location: intersections with other trails in open areas. May also be used at private trail crossing found on railroad grades.
- E. CAUTION NRM 8.4.5 Location: should be placed prior to all potentially hazardous areas such as cliff edges, rock falls, steep hills, congested areas, bridges, sharp ditches, sharp curves.
- F. REASSURING BLAZER
NRM 8.4.7A Location: where needed to reassure trail user is on the right trail, more in open areas, less in thick woods. May also be needed at unused road or trail intersections.
- G. DIRECTIONAL AND TRAIL JUNCTIONS
NRM 8.4.8C Location: based on trail junction. Directional arrows should be placed prior to sharp curves and turns, distance will depend on anticipated speed of user. On snowmobile trails, these signs should appear at least 50 feet prior to the turn, curve, or junction.
- H. NO SNOWMOBILING
NRM 8.5.14B Location: where needed to restrict snowmobile use.
- I. NO MOTORIZED VEHICLE PERMITTED
NRM 8.4.14 Location: where necessary to prohibit use, by motorized vehicles except snowmobiles.

4. Temporary and Special Signs and Decals-

- A. Trail Closed NRM 8.4.4D Location: at points where users could enter the trail.
- B. Handicapped Accessible Location: trailhead and facilities.
No number available
- C. Grant-In-Aid NRM 8.5.7 Location: at intersections of DNR and GIA trails, also at GIA trail heads.
- D. Mileage Markers (optional) Location: at intervals of miles and/or kilometers.

APPENDIX A: ELEMENTS OF A SUCCESSFUL TRAIL

- No number available Mileage markers can be very helpful to the trail user and manager. They let trail users know the distance they have traveled or must travel to return to the trailhead. They can help the manager easily identify maintenance problem areas and can also be useful to help locate injured or stranded trail users.
- E. Caution Truck Hauling Placed to provide warnings where logging or other
NRM 8.4.9 trucks cross or share trail treadway.
- F. Stay on Trail Placed in areas where trespass from trail or
NRM 8.2.20 environmental impacts are of concern.
- G. Ski Pass Required Place at all entry points to ski trails supported by
NRM 8.5.24 state funds.

SECTION

7

Winter-Use Trails



Winter trail activities have a long history in Minnesota. The extensive winter trail systems across the state allow outdoor enthusiasts ample opportunity to pursue their interests.

OVERVIEW

Winter-use trails serve a wide array of users. Although there are some common features, each trail has unique design and grooming requirements that greatly affect the user's experience.

WINTER TRAIL CLASSIFICATIONS

As defined in Section 4 – Trail Classifications and General Characteristics, a number of classifications fall under winter use trails, including:

- Cross-County Ski Trail
- Snowshoeing Trail
- Winter Hiking Trail
- Dogsledding Trail
- Skijoring Trail
- Snowmobile Trail

The following considers each of these in greater detail.

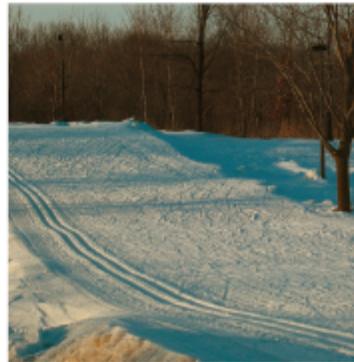
CROSS-COUNTRY SKI TRAIL

The following provides general design and grooming guidelines for cross-country ski trails. As with other types of trails, the guidelines are not intended to be a substitute for site-specific design that responds to local conditions, development requirements, and safety concerns.

CROSS-COUNTRY SKIING STYLES

Groomed cross-country ski trails typically accommodate two distinct skiing styles: Traditional/classic and skating style. Each of these styles has specific trail width and grooming requirements, as the following photos illustrate.

In traditional/classic style cross-country skiing the skier uses a kick and gliding motion to move forward within a set track – which in most park settings is machine set, as shown in this photo. In wilderness settings, the track is most often set by the lead skier "breaking" trail.



Skate skiers use a skating motion to move forward following a groomed trail surface without a track. Skating trails are almost always machine groomed, as shown in this photo (to the right of the set traditional track).



APPENDIX B: TRAIL DESIGN & DEVELOPMENT GUIDELINES

TRAIL TREAD WIDTHS AND CONFIGURATIONS

The physical space required for the two styles of skiers provides the base-line for determining the optional width for cross-country trails. The configuration of trails also affects the width of the trail, as the following graphic illustrates.

TYPICAL TRAIL WIDTHS FOR CROSS-COUNTRY SKI TRAILS

Trail widths vary considerably to accommodate the two styles of skiing. The following defines the basic trail widths and directional configurations for each type of cross-country ski trail commonly found in Minnesota. (These correspond with the cross-country ski trail configurations defined in Section 4 – Trail Classifications and General Characteristics.)



6' general use
8' heavy use

Generally used in a casual park setting or trails in less frequently used county, regional, and state parks. Grooming is limited and trails are often tracked by local users. One direction is used where use levels are higher, otherwise direction of use is often informal and two way.

Traditional (Classic) Style - One Track Set/One or Two Direction



8' general use
10' heavy use

The most common type of groomed trail in many state parks and less frequently used regional or county parks. Routinely groomed, especially after a snowfall of a couple inches or more. One direction is used on busy and/or more challenging trails. Otherwise, two-way trail is most common.

Traditional (Classic) Style - Two Track Set/One or Two Directions



8'-10'

Occasionally used in county, regional, or state parks where use pressures are high and/or where separation of skiing styles is preferred. Also occasionally used as a connector trail from one loop to the next.

Skate Style - Single Width/One Direction



14'-16'

Occasionally used in county, regional, or state parks where use pressures are high and/or where separation of skiing styles is preferred.

Not as common as combination trails due to increased kilometers of trails needed to accommodate separated uses, and the additional time needed to groom the trails.

Skate Style - Double Width/One or Two Directions

(Note: 8'-10' is sometimes used with low use levels or in a more remote lodge-to-lodge setting)



12'-14' in most park setting with moderate to high use levels

The most common trail configuration in county, regional, and state parks where both styles of skiing are accommodated. Suitable for moderate to high use levels.

One directional use helps avoid confusion and conflict and keeps overall tread width a bit narrower.

Combination Traditional and Skate Style - One Direction



16'-20'

This trail width is generally used in transition areas, near a trailhead, and where use levels are very high and more maneuvering space is needed for skiers.

Also used as a linear connector between loops where two-direction use must be accommodated.

Combination Traditional and Skate Style - One or Two Directions

The trail widths as shown in the graphic are general and are often modified to accommodate site-specific conditions. For example, trail widths are often increased on steep hills to allow skiers to herringbone up or snowplow down, or to provide adequate space at the bottom of a slope for run-outs. Long uphill may also require extra width to allow moving skiers to pass resting ones. Trailhead areas and trail intersections and transition zones where skiers often congregate often warrant wider trails to avoid congestion. At busier trails, consider providing a wider trail for the first 1/4 to 1/2 kilometer from the trailhead to allow skiers to spread out and let faster skiers get past slower ones. The following photos illustrate a variety of situations where widening the trail has merit.



This short but steep hill climb has been widened by grooming equipment (and use) to allow faster skiers to pass slower ones without crossing skis. Notice how the track on the right ceases to exist since traditional style skiers tend to use a herringbone stride to get up the hill. Too narrow of a trail up a hill this steep can be very annoying to skiers. This segment is about 16 feet wide.



This longer hill "grind" forces many skiers to take a break part way up. Without some extra width, a hill like this can become congested quickly as resting, traditional, and skate skiers all jockey for position to avoid losing momentum. In these cases, the groomed part of the trail should be wide enough for a skate skier to pass another skier doing a herringbone maneuver. This segment is about 16 feet wide.



This uphill section does not require much trail widening since it is gentle and short enough for either style of skier to maintain form and make it up with relative ease. This segment retains the recommended 12- to 14-foot width.



Although not excessively steep, this downhill run warrants a slightly wider run-out area on the right side since it transitions quickly into a sharp curve with trees on the outside of it. Note the loss of the track as skiers break their speed using a snowplow maneuver. It only takes one snowplow to wipe out the track, forcing all that follow to also snowplow, thereby compounding the problem.



Trails are commonly widened at intersections since it is common for skiers to stop and decide on which direction to go and/or catch their breath. These areas should be wide enough to allow through-skiers to continue on unimpeded.



On this steeper uphill section, this two-track traditional trail only widens a foot or two to accommodate herringbone or snowplowing skiers. With light levels of use, there is no reason to make the trail wider on a hill.

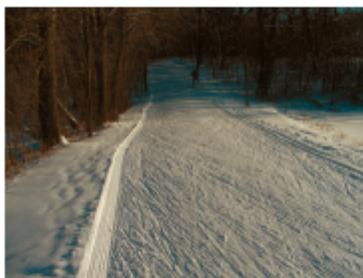
Make sure clearance of brush takes snow load into consideration!

Brushy material that might hang into the trail once it gets loaded with snow should also be removed when the trail is being prepared for the ski season.

TRAIL CLEARANCE ZONES

The clearance zone is defined as the physical space above and on either side of the trail that is free from obstructions. A 10-foot vertical clear area is recommended for all ski trails. This clear zone is especially important and may have to be enlarged when larger grooming equipment is used. The vertical clearance zone should also take into consideration the depth of the snow since the grooming equipment will sit on top of it.

The horizontal clearance zone should extend a minimum of 24 inches on either side of the groomed area to provide enough extra space for a skier's pole or ski to occasionally flail out and not catch on brush and tree limbs. It also provides more space for the grooming equipment to maneuver. The horizontal clearance zone should also increase around corners at the base of a hill where skiers are most likely to fall or go off the trail and catch a ski on brush or run into a tree. The extent to which this should occur is a matter of site-specific evaluation. The following photos illustrate common clearance zones adjacent to ski trails.



This is a common example of a comfortable clearance zone adjacent to a groomed and tracked trail. The clearance zone is especially important where trees and brush are present on downhill runs.



In grassy areas, the clearance zone is less obvious and less important since this type of vegetation is less likely to catch a pole or ski and skiers are less likely to be injured if they ski off the trail.



This two-track traditional trail through the woods is nicely groomed and has appropriate clearance zones for a pleasant experience.

APPENDIX B: TRAIL DESIGN & DEVELOPMENT GUIDELINES

TRAIL GRADES, CURVES, AND SIGHT DISTANCES

Cross-country ski trails should provide a variety of terrain consistent with the desired difficulty level. As a general rule, one-third of a given trail should be uphill, one-third should be downhill, and one-third should be undulating or rolling grade. The height and steepness of uphill and downhill should be consistent with the trail difficulty rating as described in Section 4 – Trail Classifications and General Characteristics and the guidelines in the following table.

CROSS-COUNTRY TRAIL GRADE GUIDELINES

The table provides general guidelines for trail grades relative to trail difficulty ratings associated with general use cross-country ski trails.

Aspect	Easy	Intermediate	Expert/Advanced
Avg. trail grade	4%–10%	6%–12%	> 12% (most challenging loops)
Max. hill grade	10%–12%	12%–18%	> 18, with 40% max. for short distance
Avg. total climb per km	10–15 m/30–50 ft	15–25 m/50–80 ft	25–35 m/80–115 ft
Max. hill height	10–30 m/30–100 ft	30–50 m/100–165 ft	50–80 m/165–260 ft

Combining easier and more difficult trails!

Note that a trail cutoff can be used to bypass challenging hill climbs or descents. This allows an otherwise expert trail to be used as part of an easier or intermediate trail loop.

The maximum hill height and grade are important considerations in trail design in that most skiers are not experts and can become frustrated (and less likely to return) if the trails are consistently too difficult. As defined in Section 4, easy to intermediate trails should make up the core system of trails, with expert level trails being "stacked" onto these trails. For beginning skiers, an average gradient of 4 percent is preferred across a pleasant, undulating terrain. Climbs should be less than 10 meters in height at a maximum grade of 9 percent.

Even on more difficult trails, steeper and longer climbs should be broken up with short, level sections for brief resting areas. This is especially the case on easy trails, where anything above 10 percent can be too challenging to negotiate for recreational skiers. As common practice, steep uphill should be kept to a minimum on all but advanced trails since relatively few skiers have the skills and stamina to really enjoy them.

DOWNHILLS

The design of downhill runs is especially important with cross-country ski trails. In general, the longer and steeper the run, the straighter and longer the run-out area needs to be at the bottom of the hill. As a general guideline, the run-out should be at least as long as the slope in order to dissipate speed and allow a skier to regain any loss of control before a sharp curve or another downhill section. If space is limited, a rise in grade at the bottom of the slope can be used to offset the loss of run-out distance. Also, the clearance zone along and at the bottom of a downhill run should be ample enough to allow a skier to fall and slide off-trail several feet without running into a tree or heavy brush. Long downhills should also be avoided on most trails since the average skier is not comfortable with excessive speed.

On two-direction trails, the trail should be wide enough to completely separate uphill and downhill skiers when trail grades exceed 8 to 10 percent. This can be accomplished by widening the trail or by providing separate trails for uphill and downhill skiers.

CURVES

Since most skiers are not experts and are likely to lose control from time to time, sharp curves at the bottom of a hill should simply be avoided. "Sharp" is defined as any curve radius that is tight enough where the average skier can be thrown off-balance. As a general guideline, a radius of 100 feet or more is preferred, with 50 feet being the minimum on non-hill sections of the trail. For tracked trails, average skiers should be able to stay in the groomed track as they proceed down the slope. Average skiers should not have to rely upon a snowplowing technique to proceed down a slope on a recreational-level ski trail.

If a curve is needed through a downhill section, it should be as long and gentle as possible to avoid throwing the skier off balance. Widening the trail and adding additional clearance on the outside of the curve should also be considered to provide enough space for out-of-control skiers to regain their stride, or to fall and slide a few feet outside the groomed trail. A widened trail also provides more space for advanced skiers to pass slower ones through these sections with greater ease. In situations where a curve at the end of a downhill cannot be avoided, a warning sign at the top of the slope should be provided, typically about 100 feet before the beginning of the slope.



This long downhill is made easier by having open sightlines and enough undulations to slow skiers and help them avoid excessive speeds and loss of control.



The gentle curve of this trail controls sightlines and piques skiers' interest about what is around the corner. Juxtaposition of longer sightlines with intimate spacing using curves is appealing to skiers.

Although curves through downhills should be carefully considered, taking all of the challenge out of a ski trail by making it too straight, uninteresting, and less challenging should also be avoided. For high-level trails, curves through a downhill can be part of the desired experience as long as reasonable precautions are taken with run-out area and clear zones. An alternative approach is to provide a bypass around a more difficult section that allows skiers to choose the level of challenge best suited to their skill level. A well-placed bypass could be a de facto run-out that allows even more advanced skiers to "bail out" if they misjudge the curve. Signage is recommended in these instances to alert skiers to the options.

Where curves are provided through or at the base of a downhill, a modest superelevation may have merit to keep skiers in the set track. Since this often allows skiers to go faster, providing an adequate run-out and clearance area on the outside of the curve remains an important safety consideration. A maximum superelevation of 4 or 5 percent is recommended.

SIGHT DISTANCES

Although not as critical as some types of trails, reasonable sight distances should still be provided along a ski trail. As a general guideline, a sight distance of 100 feet is optimal, especially through sharp curves or downhill sections. The recommended minimum is 50 feet to ensure that skiers can see and react to approaching trail conditions.

The following photos illustrate a variety of trail grades, curve situations, and sightlines encountered on cross-country ski trails.



This gentle curve through a long but not too steep downhill is fun and skiers can stay in control. The long run-out at the bottom provides a nice, slightly uphill transition into another downhill segment.



The approach to this short but steep hill section is long and straight, allowing a skier to build momentum for the climb.



Skiers can readily see the trail ahead as they descend along this modest downhill. The curvilinear character of this trail through the woods adds to its appeal.



Managing sightlines can add excitement to a ski trail experience. In this photo, skiers get a hint of what is to come, yet the full scene is not exposed until they reach the corner and the view of a riverway is framed by the rock outcrops.

TREAD PREPARATION

The tread refers to the underlying trail beneath the compacted and groomed snow. Proper off-season evaluation of trail alignments and tread surface preparation and maintenance is critical to setting the stage for quality cross-country ski trails. The following considers the most important aspects of preparing the tread for winter use.

TRAIL ALIGNMENT

Section 4 – Trail Classifications and General Characteristics, considered cross-country trail alignment in terms of laying out a system of trails with varying levels of difficulty. In the context of the tread surface, alignment refers to locating trails where snow will remain the longest and be most stable. One of the biggest factors in this regard is sun intensity, especially later in the season when the sun begins to build strength and more quickly melts the snow surface in exposed areas.

APPENDIX B: TRAIL DESIGN & DEVELOPMENT GUIDELINES



Hardwood forests help shield the trail from sun, which helps extend the season. The only downside is that maintaining a grass ground cover can be more challenging in the summer for the same reason – especially if the trail is also used for summer hiking. Limiting summer access or using an alternative surface, such as woodchips, are possible solutions.



Excessive pine needles dropping on the trail can be very annoying to skiers. Where this is a persistent problem, the trail corridor may have to be selectively opened up or the trail rerouted to a less problematic corridor.

Hardwood forests are usually well suited for ski trails because the sun is less intense and the air temperature is slightly colder than open areas. Using changes in topography to reduce the extent of direct sun on the trail can also be an effective strategy. This is especially the case along the base of north-facing slopes where the sun is usually less intense relative to wide-open flat areas. Avoid locating ski trails along the base of south facing slopes whenever possible since the sun tends to be the most intense in these areas, especially in open settings.

Running a trail through a coniferous forest also poses some problems with pine needles and cones dropping on to the trail and sticking to the skis, thereby slowing down the skier. Where this situation cannot be avoided, the clearance zone may have to be widened to prevent excessive needle accumulation on the trail.

In open, shortgrass prairie areas, wind can strip snow from or deposit drifting snow on the trail, both of which make for poorer skiing conditions and require more frequent grooming. Before a trail is permanently established, potential alignments in wind-swept areas should be field tested over one or two seasons to determine seasonal wind effects and snow displacement patterns. Even relatively minor shifts in the location of a ski trail can make a dramatic difference in the impact wind will have on it.

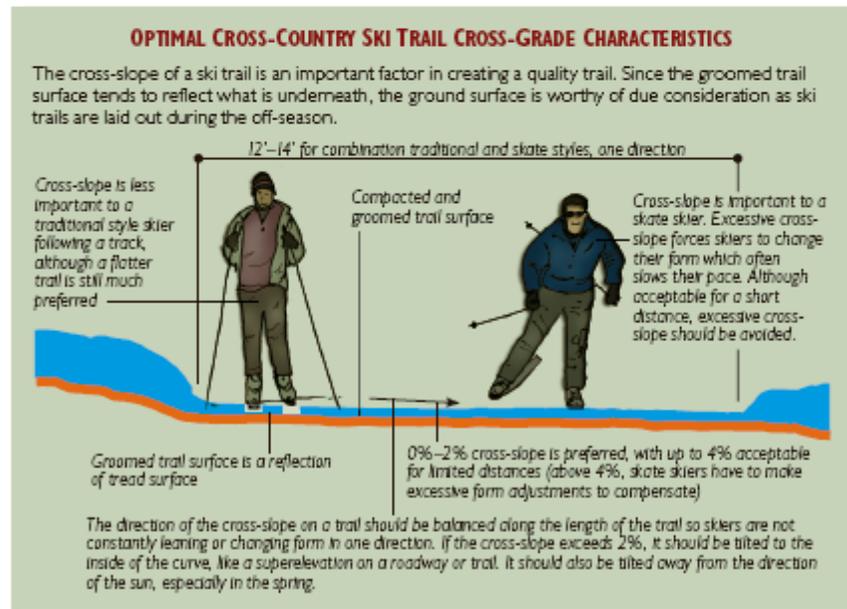
In tallgrass prairies, wind and sun are less of a concern since the grasses are high enough to shade the trail and reduce sun exposure. As with shortgrass prairies, field testing the alignment of a trail over one or two seasons can be beneficial to determining the most advantageous location to hold snow.

TREAD CHARACTERISTICS

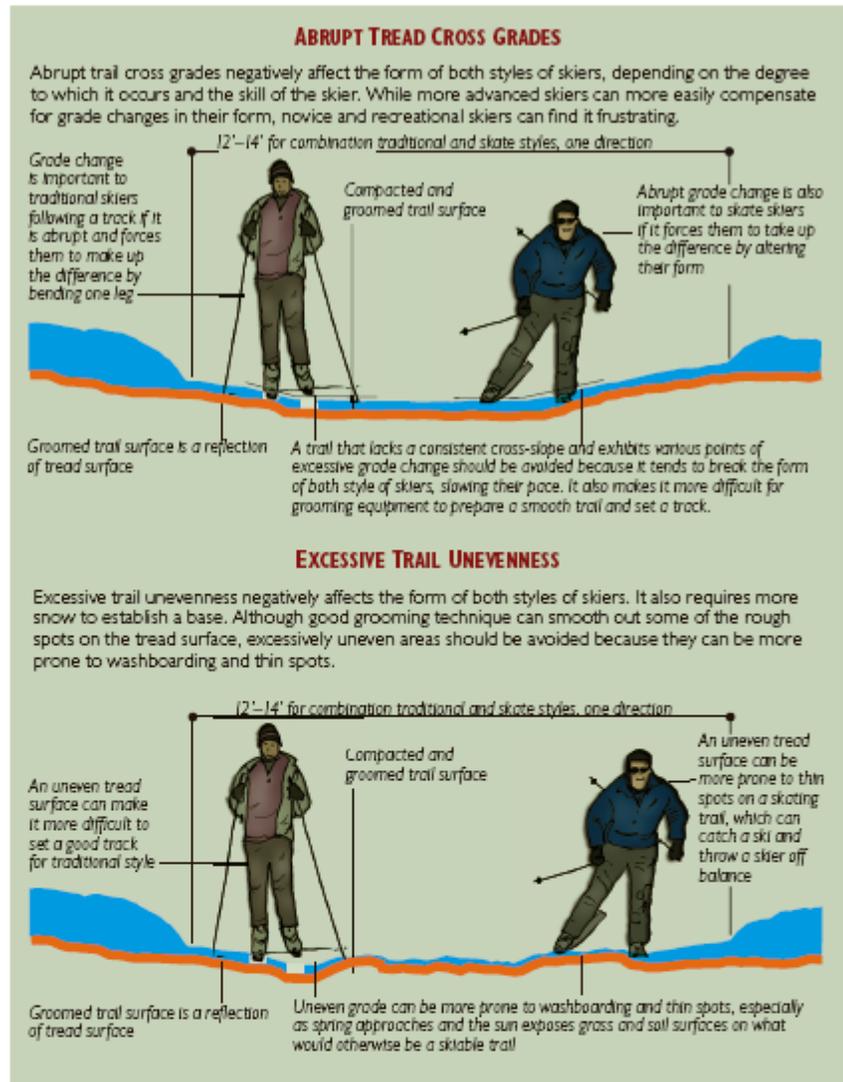
The trail tread is another major consideration in the development of quality ski trails. The cross-section, trail surface, summer uses, and erosion are all reflected in the groomed surface of the trail and factor into overall trail quality.

Trail Cross Grades

The optimal ski trail cross-section is of a consistent, even grade with a 0 to 2 percent cross-slope, as illustrated in the following graphic.



As illustrated, an evenly sloped grade across the trail is important to both styles of skiers in order to maintain an optimal skiing form. Abrupt grade changes or general unevenness across a trail should be also avoided to make trails easier to groom and more enjoyable to ski on. The following two graphics illustrate these conditions.



The following photos illustrate some of the previously described cross-section conditions.



The nice even trail tread with a slight cross-slope is well suited for a two-track set through the woods, making for easy grooming and fun skiing.



The cross-slope on this trail (arrow) is greater than desired but is not a major issue because it is only for a short distance. If this went on for a distance, skiers would find it annoying.



Even these simple ruts unintentionally caused by maintenance vehicles can cause an uneven surface that may be reflected in the ski trail, annoying both groomers and skiers.

APPENDIX B: TRAIL DESIGN & DEVELOPMENT GUIDELINES

A level, smooth trail with short grass cover is optimal

This combination provides the nicest cross-country skiing and should be the standard wherever possible.

Tread Surface Conditions

The tread surface is an important trail preparation and grooming consideration. A uniform, short-mowed grass surface is preferred across the entire width of the trail for a couple of reasons: 1) grass holds snow better than bare ground or paved surfaces, and 2) grass helps prevent off-season foot traffic and erosion from creating an uneven surface.

Optimally, grass should be mowed to a length of 3 or 4 inches. For trails in nonecologically sensitive areas, a park turf grass mix is often used to create a uniform surface that will consistently hold snow. This type of trail is often mowed once a month or every other month to maintain the turf during the off-season. Regular mowing also keeps woody plant growth under control and reduces the need for brush trimming in the fall. Routine trimming of the woody material on the edge of the clearance zone is also important to maintaining the tread surface.

In natural areas where native plant species are preferred and grasses are higher and thicker, a two-step approach to mowing is often used. The first mowing is undertaken in late September after the nesting season and used to cut the grass to the desired length. The second mowing a few weeks later is used to more finely mulch the debris left from the first pass. All protruding rocks, logs, and other woody debris should also be removed from the trail shortly before the season.

Although a grass surface is much preferred, other surfaces may also be used for ski trails, albeit with certain limitations as the following considers:

- Woodchip surfaces – are not as good as grass since chips can be dislodged during grooming and skiing and stick to skies or otherwise affect skiers' stride. Once established, woodchips hold snow better than bare ground or paved surfaces and are therefore considered the next best surface after grass.
- Bare ground and aggregate surfacing – are better than asphalt and concrete, but not as good as woodchips and far behind grass. Aggregate can also pose the same problems as woodchips and scratch skies once exposed or dislodged.

Surfaces that are least desirable include asphalt and concrete, because snow does not as readily stick to them and they absorb more sun energy and lose the snow earlier. These surfaces are also harder on certain types of ski poles and skis if snow cover is thin. Limiting sun exposure is very important if paved trails are used for ski trails.

As with summer-use natural surface trails, tread drainage and erosion are important considerations for cross-country ski trails. If drainage is poor and erosion pervasive, the tread surface will be compromised and be harder to groom. The most important factor in preventing erosion is making sure the trail is covered with a stabilizing ground cover during the off-season. Ski trails that follow the fall line of a slope should also not be used for summer uses to avoid creating a single track that exposes the soils to erosion.

Wetland areas should also be avoided when aligning ski trails since these surfaces are too inconsistent and unpredictable. Potential ecological impacts are another reason to avoid wetland areas. Lakes pose numerous safety issues and surface quality uncertainties, and should be avoided whenever possible. If a lake is crossed, vigilance is required to monitor the lake surface and provide adequate signage to warn skiers of poor ice conditions and trail closures. For this reason, many park districts simply do not place ski trails on lakes.

The following photos illustrate various tread surface conditions.



This maintained trail corridor with a grass surface is well suited for a cross-country ski trail. Although used in the summer for hiking, the use levels are not high enough to cause a major problem with depressions.



Although ground cover is sparser along this trail, summer use levels are light enough and the ground hard enough to limit depressions and erosion, making for a very suitable trail surface.



Paved trails are the least desirable because they do not hold snow nearly as well as grass surfaces. They also are harder on equipment when a bare spot is encountered or the base is too thin.



On this level trail corridor through the woods (left), shredded woodchips that bind together work reasonably well for multiseason use. However, even on a modest grade (middle), woodchips can pose problems because runoff dislodges them relatively easily and erosion occurs as if the ground were bare. The key is to align trails to avoid these situations in the first place, rather than dealing with ongoing problems during each season of use.



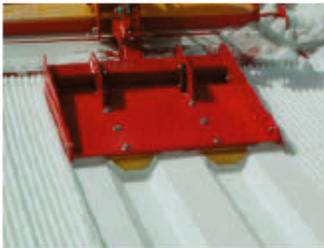
Trails through open prairies must be mowed a couple times prior to the ski season to create an acceptable surface. In sensitive areas, this should occur late in the season to avoid disrupting nesting birds.

TRAIL GROOMING

Grooming is a very important aspect of creating quality cross-country ski trails. Often considered as much art as technique, good grooming is a result of both specialized equipment and skilled operators. Whereas the following conveys some of the essential elements of trail grooming, there is no substitute for operator training and the experience gained from working with skiers to perfect grooming techniques.

GROOMING EQUIPMENT

Cross-country ski trail grooming equipment is very specialized, yet readily available. The most effective and economical system consists of a snowmobile and a tow-behind packer and track setter. This system works especially well when the snow base is limited and saving snow is critical to keeping the trails open. The most common pieces of grooming equipment are Tidd Tech and Ginzu Groomers, manufactured by different companies. The following photos illustrate each of these pieces of equipment and a few other pieces of equipment commonly used for grooming.



The Tidd Tech groomer (bottom photo) includes a flat pan with a grooved edge to create the desired trail texture for skate-style skiing. The pan can be tilted forward to till or peel up a layer of snow and grind it for repacking. The track setter (top photo) is the last grooming step and sets the track for traditional skiing. It is simply an attachment to the groomer that is lowered to set the track.



The Ginzu groomer has much in common with the Tidd Tech, with personal preference being the discerning factor on which groomer to use. A combination of weights, springs, and hydraulics are used to increase the level of compaction on the snow surface. One of the Ginzu's strengths is its ability to level out humps and cut hard pack snow.



A plastic roller is often used in warmer temperatures and for early season use to pack and settle snow by taking the air out of it.



A pan is used to compact and smooth a trail under various conditions. Weights can be added as needed to achieve the desired level of compactness.

Creating the "best line" is an important grooming consideration!

Groomers will sometimes set tracks as a separate operation from packing the trail to allow them to pick the "best line" for the skier to follow, especially through a curve.

APPENDIX B: TRAIL DESIGN & DEVELOPMENT GUIDELINES

For more specialized trail grooming, larger (and significantly more expensive) equipment is available. The most common machine is a tracked Piston Bully, which has all of the same capabilities as the previously defined equipment along with a variety of other attachments. Most notable of these is its front blade for moving snow around and a hydraulic grinder and packer for renovating hard-packed or crusted snow. This piece of equipment is best suited for grooming trails with artificial snow where the volume, depth, and texture of the snow warrant a bigger piece of equipment with greater snow moving capabilities. This type of equipment is not necessary for most applications and is only used when the snowmobile and tow-behind packer and track setter combination proves to be inadequate. The following photos illustrate this type of equipment.



The Piston Bully is an impressive piece of equipment that can be effective for certain types of conditions, especially moving around artificial snow, which is often heavier and deeper than natural snow. But for most applications, the more economical snowmobile and tow-behind packer and track setter produces excellent results under an experienced operator, especially when snow depths are limited and a larger piece of equipment is excessive.

BASIC GROOMING TECHNIQUES

Grooming ski trails starts with packing the first appreciable snowfall to establish a base. For skating trails, a minimum of 3 inches is typically needed to get started, assuming that the tread surface is level and covered with short grass. The flat pan on the grooming equipment is used to pack the snow, with the trailing edge corrugated to create a textured surface. With each new snowfall of 1-inch or more, the trail is again packed and textured for skate skiing. Once there is an adequate depth to the base, the traditional track can be set.

As the season progresses, trail groomers use a variety of techniques to keep the trail fresh. If there is adequate depth, teeth or spikes on the front edge of the groomer are lowered to fluff up the snow for repacking and texturing. For the avid skate skier, daily reworking the trail is especially desirable to get the right "bite" with the ski edge. Having a well-set track is also important to traditional skiers.

During seasons of limited snowfall, saving snow is one of the main challenges. This requires an intimate understanding of snow conditions and grooming when temperatures are just right to reshape the snow without losing it.

The ideal grooming time depends on the snow conditions and user expectations. Dry snow is best groomed during the day so the sun and increased temperature can help bind the snow once it is stirred up and compacted. Real fluffy and dry snow also takes some time to set up into a desirable consistency for skiing. Wet snow grooms better at night when temperatures are cooler.

User expectations can also be key factor in the ideal time for grooming. Grooming in the early morning is common to prepare trails for peak hours of use, with most skiers tending to get out between 10:00 A.M. and 3:00 P.M.

If moguls (snow bumps) appear on the trail, they should be cut out near or at their bases and the snow spread into a uniform layer and packed. Higher cuts will tend to leave the snow density uneven and moguls will simply reappear.

Hard-packed and icy trail conditions (especially with a thin base) are some of the most difficult trail conditions to groom. If the base is deep enough, a set of knives, tiller, or renovator is used to literally peel up a layer of snow and grind it up. A snowmobile with a tow-behind groomer can work up to a point, but harsh conditions sometimes require heavier equipment such as a Piston Bully to break up the surface, bring up the snow, and level it. The downside of the latter is that the heavier equipment requires a deeper base, which is usually not the case if the trail is icy and hard since the warmer weather likely melted some of it away.

"Snowball-technique!"

Some groomers will not groom if a snowball can be readily made, which usually means that there is too much moisture in the snow and grooming at that time would result in icy tracks or skating trails.



Under harsh trail conditions, some groomers focus on maintaining a shorter loop to a higher standard than attempting to groom an entire system to what will inevitably be a lower standard given groomer limitations. This is especially the case where skier expectations for trail grooming are high and quality is preferred over quantity. In general, a 5 kilometer loop is typically the minimum desired loop length.

Most experienced groomers at high-use facilities also make an extra effort to prevent ice or hard-packed conditions from getting established. For example, on warm days some groomers will groom the trail smooth, including the classical tracks, just as the temperatures begin to drop below freezing. If the trail is groomed too early it becomes very hard. If groomed too late it becomes rutted.

Under wet snow conditions, some groomers will wait until the day after the snow to give it some time to set up and become better suited for grooming and less prone to becoming hard pack. To preserve at least some trails during spells of warmer weather, some trail managers will rotate the use of trail loops to prevent overcompaction and icing. The following photos illustrate grooming under various conditions.



New snow cover waiting to be groomed. Depending on the moisture level in the snow, groomers will select equipment best suited to the conditions.



Grooming underway on this trail, with the left side packed under the first pass. Grooming technique is as much art as science, and "time on the machine" is the best training.



This perfectly set dual track is ready for skiers. Although the base in this case is quite thin, proper grooming technique maximizes the snow and allows for quality skiing.



(Left) This nicely groomed trail exhibits the optimal condition for skate skiers. The grooves provide perfect conditions for a ski edge to bite into the snow.



(Right) Even small amounts of debris, such as pine needles, can annoy the groomer and skier alike. Proper trail alignment and tread surface preparation before the season are critical to minimizing the likelihood of debris on the trail during the ski season.

LEVELS OF TRAIL GROOMING

In most cross-country ski trail systems, the level of grooming varies depending on the venue and user expectations. State, regional, county, and local parks each provide different venues offering contrasting experiences. Trail users seek out the venue that appeals to them on a given day, bringing with them certain expectations for the quality of the trail grooming.

Notably, most skiers do not expect all venues to have the same level of grooming. For example, skiers have different grooming expectations for back-country trails in remote areas (which usually means no grooming) than they do for two-track traditional trails in state parks or combination trails in regional parks. What is most important is maintaining a consistent level of grooming relative to the venue so that skiers know what to expect when selecting a trail.

A TIERED CROSS-COUNTRY SKI TRAIL SYSTEM

To stay within their working budgets, many park districts establish a tiered cross-country ski trail system based on the park setting, anticipated levels of use, and the skiing styles being accommodated. Typically, a limited number of "primary" venues are provided that target skiers with high expectations for trail-grooming quality. Most skate skiers and advanced traditional skiers seek out these venues because well-groomed trails are faster and more enjoyable to ski on. Grooming at these venues is often on a daily basis.

APPENDIX B: TRAIL DESIGN & DEVELOPMENT GUIDELINES

Secondary venues under a tiered system target the more casual or recreational skier where grooming is still important but less of a factor relative to other reasons for skiing, such as the experience of being in an outdoor setting. Grooming at these venues is often on a once-a-week or as-needed basis after a significant snowfall.

TRAIL GROOMING REPORTS

Trail grooming reports are an important aspect of managing user expectations and keeping skiers coming back. At primary facilities, daily reporting through official websites, voice recordings, and notice boards is recommended. Secondary facilities require weekly updates at a minimum, preferably on a Thursday or Friday for those that might want to travel for a weekend of skiing.

Venues that do a poor job of reporting are often less frequently used even if the grooming is known to be good. Given the irregularity of snow conditions, skiers are much more likely to go where ski conditions are routinely and accurately reported and they have a sense of what to expect. The accuracy of trail conditions is also important to skiers. To improve accuracy, some venues enlist skiers to report on trail conditions, rather than rely on nonskier attendants to describe the conditions.

LIGHTED CROSS-COUNTRY SKI TRAILS

With the short winter days in Minnesota, the idea of lighting ski trails has been around for many decades. Starting with candle or lantern trails (which continue to be used), trail lighting has progressed to more sophisticated electrical systems now found in larger regional and state parks. Although formal engineering is required, the basics of these lighting systems are fairly straightforward, as the following describes.

LIGHTED TRAIL LOOP LENGTH

A lighted ski trail must be long enough to attract enough skiers to the venue to justify the investment. As a general guideline, established ski venues have found a 5-kilometer loop to be reasonable for a lighted cross-country ski trail. This provides adequate length to incorporate a variety of terrain and challenge into the trail to be of interest to the skier, while still being economical enough to afford. Anything less than 5 kilometers is probably too short and skiers will lose interest if they have to make too many loops to get in a good workout.

Although a trail that is too short may not attract enough skiers, the costs and benefits of lighted trails longer than 5 kilometers should also be carefully scrutinized to avoid over-investment. Any lighting beyond 5 kilometers is recommended only when there is adequate evidence that skier satisfaction and use levels would go up enough to justify the additional costs for development and maintenance.

TECHNICAL REQUIREMENTS FOR LIGHTED TRAILS

Lighting systems for ski trails either use pole-mounted fixtures or lighted bollards that provide enough light for skiers to see the trail without unduly detracting from the experience of skiing at night. For pole-mounted systems, light standards are commonly spaced about every 100 feet or so, with additional lighting strategically placed adjacent to challenging areas. For example, increasing the level of lighting along a steeper downhill section or on the inside of tight curve at the base of a downhill is common practice. For lighted bollards, light spacing averages about every 80 feet. The spacing around sharp corners and along downhills is reduced to around 40 feet. Light spacing in prairie areas can be expanded to 200 feet.

Since there are no established standards for ski trail lighting per se, it is recommended that new systems be based on the existing systems to take advantage of actual field experience. Providing one-half foot candle of light along the trail is a common starting point for designing a system, although actual field conditions should dictate lighting levels needed to ensure skier safety. Fixtures should be shrouded to limit light spill into the ski and away from the trail. (Light pollution is an increasing important issue to park users.)

One of the major cost and technical considerations associated with lighting trails is the efficient use of transformers, power sources, and wiring. These are major considerations in determining which trail should be lit and the overall kilometers of lighted trails than can be afforded. Also, buried wire is preferred over above-ground lines for aesthetics and maintenance purposes. This is especially important in a natural park setting where above-ground wires would detract from the setting and also be subject to being taken out by falling trees and limbs.

The following photos illustrate a variety of trail lighting options found in parks across Minnesota.



The common pole-mounted high-pressure sodium fixture faces down the trail in the direction of travel to avoid putting light in the face of the skier and night ski. With buried wire, a natural-colored pole, and a small fixture, the light serves its purpose with minimal visual intrusion.



A down-facing box light is also occasionally used on ski trails, although the lighting is more apparent. This type of fixture is more commonly used at trailheads, where a larger pool of light is desired.



This bollard-mounted light is made of PVC and inserts into a ground socket. It is removed during the off-season.

SNOW MAKING FOR CROSS-COUNTRY SKI TRAILS

Although in its relative infancy and still uncommon, snow making for cross-country ski trails is being tested at a limited number of high-use venues where there is adequate demand to justify the investment in utilities, equipment, and maintenance. Typically, snow making occurs on lighted trails to maximize the hours of use during the course of a week, especially weekday evenings.

Although no standard has been established, a 5-kilometer loop coinciding with a lighted trail is probably the practical limit for snow making. Some venues have found that 2.5 kilometers is the minimum needed to make it worthwhile. Anything less will not likely attract enough skiers to justify the investment even when no other venues are open due to lack of snow.

The utilities needed to support snow making are extensive and consist of underground electrical and water supplies that connect to portable snow-making equipment. Water service and electrical pedestals are spaced approximately 300 feet apart, which makes it reasonably convenient to hook up the hoses and cords to the portable snow-making machines. The water supply system must self-drain to avoid freeze-up.

Artificial snow is often heavier than natural snow and snow-making machines are not overly accurate or uniform in laying it down on the trail. Moving snow-making equipment around and grooming the trail under these conditions requires heavier pieces of equipment with more attachments, such as the Piston Bully. This issue alone can be a significant consideration in the cost-benefit analysis for making snow for cross-country ski trails.

The following photos illustrate some of the infrastructure and specialized equipment needed to make snow for ski trails.



Snow-making equipment is typically portable and is moved along the trail from station to station. Wind and air temperature can greatly affect the quality and placement of the snow as it is created.



Water service and electrical pedestals are spaced along the trail at roughly 300-foot intervals. This makes the length of hose and electrical cord from the machines less cumbersome. Water is supplied from a pond or high-capacity well.



The end result of snow making can be well-groomed trails that extend the skiing season in years in which natural snow is limited.

APPENDIX B: TRAIL DESIGN & DEVELOPMENT GUIDELINES

Always be aware of the potential for erosion!

Although ski trails sometimes follow the fall line to add interest, this should only be done when there is relative assurance that erosion will not be an issue. This requires careful consideration of soil conditions and how likelihood of maintaining an adequate ground cover to prevent erosion from occurring.

SHARED AND SUMMER USES OF CROSS-COUNTRY SKI TRAILS

During the winter season, most cross-country ski trails are designated for skiing only to prevent nonskiers from displacing the groomed trail and set track. At popular, higher level venues, skiers are very intolerant about others being on the trail. In more remote or less frequented parks, snowshoeing is sometimes allowed on dual track trails as long as the snowshoer stays out of the traditional tracks. As a general practice, separating uses is recommended in most situations.

The compatibility of cross-country ski trails and summer natural surface trails following the same corridor should not be assumed. From an alignment standpoint, ski trails sometimes follow the fall line of a slope for challenge and excitement. In the winter, erosion on this type of trail is not an issue. In contrast, erosion is a serious consideration with summer-use natural surface trails and following the fall line is typically avoided. Also, hikers following a trail often prefer a more gradual and interesting route around a landform, rather than scurrying directly up a fall-line.

With respect to the trail tread, the bare ground and depressions associated with single- or dual-track summer use trails often make grooming more of a challenge in the winter. Summer users often find that the mowed width of the ski trail takes away some of the intimacy of the natural setting they are seeking.

For these reasons, using a common tread for summer hiking and winter cross-country ski trails has its limitations and requires careful consideration to avoid compromising both users. Some park districts simply keep the two separate, closing off the winter ski trails during the summer. Others take a modified, or hybrid, approach, whereby some sections of trail are common and others are not. In all cases, forcing incompatible uses onto the same tread should be avoided since it diminishes the value of each trail use. This is especially the case with OHV trails, where inevitable rutting and loss of vegetative cover caused by summer use greater impacts the grooming operation and the quality of the ski trail. These uses are generally considered incompatible.

An example of a hybrid approach is using an undulating trail through a prairie for hiking in the summer and skiing in the winter, assuming that grades are suitable for both uses and a grass tread can be reasonably maintained. When the trails traverse terrain where they are not compatible, they separate and each follows a suitable alignment. Given the smaller footprint than two entirely separate trails, the hybrid approach has particular application in settings where space is limited or where minimizing ecological impacts is a major consideration.

The following photos illustrate some of the issues associated with shared and summer uses of cross-country ski trails.



Use of cross-country ski trail corridors for motorized summer activities is generally to be avoided. The heavy machines simply compact the trail too much and cause dual tracks that make trails very hard to groom in the winter.



This wide corridor suits skiers well, but in the summer its width can make the trail less intimate and interesting to a summer hiker.



This steeper fall-line ski trail might be stable in the winter, but it could be susceptible to erosion in the summer if bare ground is exposed through use.

TRAILHEAD FACILITIES

There are no set standards for trailheads for cross-country ski venues, with each facility providing the level of service consistent with local expectations. In larger park settings at the county, regional, or state level, it is common for the main trailhead to be located adjacent to a visitor center or contact station. Equipment rental, ski passes, restrooms, warming area, and vending are provided to varying degrees in these situations. At the local level, it is much more common for a trailhead to consist of a parking area, self-registration station, and portable restroom. The following photos illustrate the varying approaches to trailheads, each of which meet the needs and expectations of local skiers.



Larger regional and state parks often combine the ski trail trailhead with a visitor center to gain needed efficiencies and control costs while providing a needed service. These facilities often rent equipment and provide restrooms and concessions.



At smaller venues, trailhead facilities are fairly basic and meet the need.



Providing ski trail information is one of the most important trailhead functions. This kiosk covers all of the information needed by a skier at a state park.

TRAIL SIGNAGE

The signage for cross-country ski trails should be generally consistent with the types and placement of signs for natural trails as defined in Section 6 – *Sustainable Natural Trails*. DNR's *Sign Manual* should also be referenced for ski trail signage and should be referred to for in-depth information. The manual includes requirements and recommendations for regulatory, warning, trailhead, orientation, and directional signs and route guides. With cross-country ski trails, orientation (mapping) and trail distance, and difficulty level and warning signs are the most important signs.

Trail orientation signs should be placed at all trailheads and trail intersections. These should include a map illustrating the layout, distance, and difficulty level of each trail loop. Along the trail, distance markers, difficulty level, and hazard warning signs should be placed as needed to keep the skier informed. The following photos illustrate common approaches to signing cross-country ski trails.



Trailhead signs can be very simple and give skiers only the information necessary for them to select the type of trail and distance they want to ski.



Signage along the trail should clearly illustrate which uses are allowed and not allowed on a given trail. This is especially important with cross-country ski trails, where skiers are very intolerant of nonskiers' impact on groomed trails.



Safety signage is very important and should be provided wherever necessary to highlight a hazard.



Route maps with clearly understandable "you are here" information is very important to skiers. Signage should also clearly illustrate the level of difficulty and length of trails to allow skiers to make informed decisions.



Clearly marking the trail name and level of difficulty is an important signage issue and should not be overlooked, since most skiers are not experts and do not want to get onto trails that are above their level of ability.

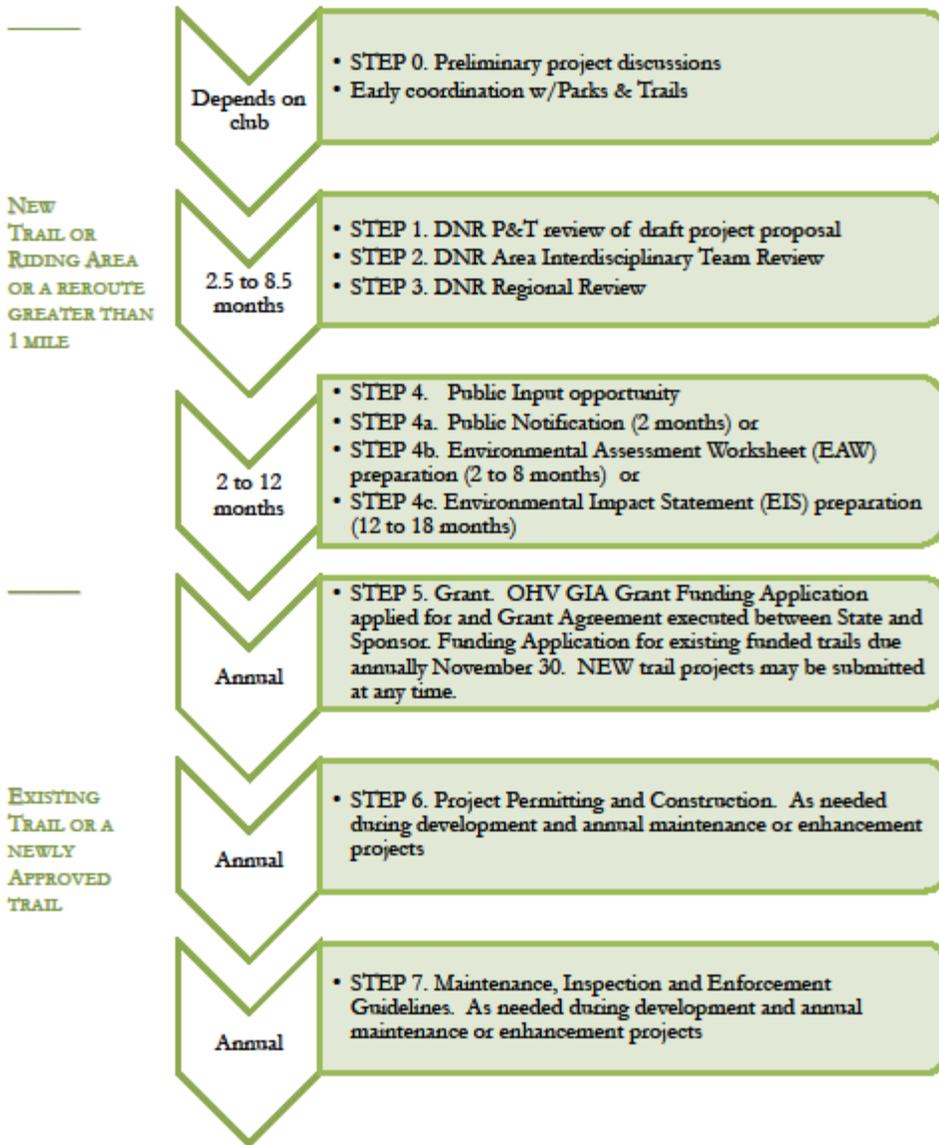


APPENDIX C: GIA TRAIL PROPOSAL REVIEW PROCESS

7 Steps for GIA trails

Outline of DNR review process and GIA trail management, inspection and enforcement

The outline below follows a proposal for a new trail from its inception (steps 0 to 4) through funding, development and ongoing maintenance (steps 5 through 7) with approximate timelines.



APPENDIX D: MN EQB RULES RELATING TO TRAILS

MINNESOTA ENVIRONMENTAL QUALITY BOARD

ADOPTED PERMANENT RULES RELATING TO MANDATORY EAW CATEGORIES AND EXEMPTIONS

[NOTE: The final adopted rule was published in the Minnesota State Register (29 SR 571 & 30 SR 319) and took effect Oct. 1, 2005]

4410.4300 Mandatory EAW categories

Subp. 37. **Recreational trails.** If a project listed in items A to F will be built on state-owned land or funded, in whole or part, by grant-in-aid funds administered by the DNR, the DNR is the RGU. For other projects, if a governmental unit is sponsoring the project, in whole or in part, that governmental unit is the RGU. If the project is not sponsored by a unit of government, the RGU is the local governmental unit. For purposes of this subpart, "existing trail" means an established corridor in current legal use.

A. Constructing a trail at least 10 miles long on forested or other naturally-vegetated land for a recreational use other than snowmobiling or cross-country skiing, unless exempted by part 4410.4600, subpart 14, Item D, or constructing a trail at least 20 miles long on forested or other naturally-vegetated land exclusively for snowmobiling or cross-country skiing.

B. Designating at least 25 miles of an existing trail for a new motorized recreational use other than snowmobiling.

In applying items A and B, if a proposed trail will contain segments of newly constructed trail and segments that will follow an existing trail but be designated for a new motorized use, an EAW must be prepared if the sum of the quotients obtained by dividing the length of the new construction by 10 miles and the length of the existing but newly designated trail by 25 miles, equals or exceeds one.

C. Paving 10 or more miles of an existing unpaved trail, unless exempted by part 4410.4600, subpart 27, item B or F. Paving an unpaved trail means to create a hard surface on the trail with a material impervious to water.

D. Constructing an off-highway vehicle recreation area of 80 or more acres, or expanding an off-highway vehicle recreation area by 80 or more acres, on agricultural land or forested or other naturally-vegetated land.

E. Constructing an off-highway vehicle recreation area of 640 or more acres, or expanding an off-highway vehicle recreation area by 640 or more acres, if the land on which the construction or expansion is carried out is not agricultural, is not forested or otherwise naturally-vegetated, or has been significantly disturbed by past human activities such as mineral mining.

F. Some recreation areas for off-highway vehicles may be constructed partially on agricultural naturally-vegetated land and partially on land that is not agricultural, is not forested or otherwise naturally-vegetated, or has been significantly disturbed by past human activities. In that case, an EAW must be prepared if the sum of the quotients obtained by dividing the number of acres of agricultural or naturally-vegetated land by 80 and the number of acres of land that is not agricultural, is not forested or otherwise naturally-vegetated, or has been significantly disturbed by past human activities by 640, equals or exceeds one.

4410.4600 EXEMPTIONS

Subp. 27. **Recreational trails.** The projects listed in items A to F are exempt. For purposes of this subpart, "existing trail" means an established corridor in current legal use.

A. Rerouting less than 1 continuous mile of a recreational trail if the reroute is necessary to avoid sensitive areas or to alleviate safety concerns. Multiple reroutes on the same trail must be treated as independent projects, except that where the cumulative length of currently proposed reroutes exceeds one mile on any five-mile segment of trail, as measured along the rerouted trail, those reroutes are not exempt.

B. Reconstructing, rehabilitating, or maintaining an existing trail involving no changes in designated use.

C. Constructing less than one continuous mile of trail for use by snowmobiles or cross-country skiers.

D. Constructing a trail for winter-only use across agricultural land or across frozen water.

E. Designating an existing trail for use by snowmobiles or cross-country skiers.

F. Constructing or rehabilitating a non-motorized trail within the Twin Cities Metropolitan Regional Park System.

APPENDIX D: MN EQB RULES RELATING TO TRAILS

(This Page for Reference Only)

'EXISTING TRAIL' - DEFINITION

For purposes of Subpart 37, "existing trail" means an established corridor in current legal use (*MR 4410.4300, Subp. 37. Recreational trails*). This definition does not apply to designated State Forest Roads which are, by definition, open to vehicular use.

As regards forest classification, motor vehicles (including OHV's, but not snowmobiles) may be operated on forest roads that are not posted closed in forests classified **managed** and **limited**, but not in a forest classified as **closed** (*MR 6100.1950 Motor Vehicles and Snowmobiles, Forest Lands*). An ATV may be ridden on a township road or city street unless prohibited by resolution or ordinance, or in the ditch or the outside bank or slope of a trunk, county state-aid, or county highway (*MS 84.928 Operation requirements; local regulation.*).

4410.4300 MANDATORY EAW CATEGORIES.

Subpart 1. Threshold test. An EAW must be prepared for projects that meet or exceed the threshold of any of subparts 2 to 37, unless the project meets or exceeds any thresholds of part 4410.4400, in which case an EIS must be prepared. If the proposed project is an expansion or additional stage of an existing project, the cumulative total of the proposed project and any existing stages or components of the existing project must be included when determining if a threshold is met or exceeded if construction was begun within three years before the date of application for a permit or approval from a governmental unit for the expansion or additional stage but after April 21, 1997, except that any existing stage or component that was reviewed under a previously completed EAW or EIS need not be included.

Multiple projects and multiple stages of a single project that are connected actions or phased actions must be considered in total when comparing the project or projects to the thresholds of this part and part 4410.4400.

4410.4600, EXEMPTION CATEGORIES.

Subp 2. Standard Exemptions The following projects are standard exemptions: (any project)

- A. projects for which no governmental decisions are required;
- B. projects for which all governmental decisions have been made. However, this exemption does not in any way alter the prohibitions on final governmental decisions to approve a project under part [4410.3100](#);
- C. projects for which, and so long as, a governmental unit has denied a required governmental approval;
- D. projects for which a substantial portion of the project has been completed and an EIS would not influence remaining implementation or construction; and
- E. projects for which environmental review has already been initiated under the prior rules or for which environmental review is being conducted pursuant to part [4410.3600](#) or [4410.3700](#).

Subp. 14. Highway Projects. The following projects are exempt: (trail-related excerpt)

- D. Roadway landscaping, construction of bicycle and pedestrian lanes, paths, and facilities within existing right-of-way are exempt.

Subp. 22. Land Use. The following projects are exempt: (any project)

- A. Individual land use variances, including minor lot line adjustments and side yard and setback variances not resulting in the creation of a new subdivided parcel of land or any change in land use character or density, are exempt.
- B. Minor temporary uses of land having negligible or no permanent effect on the environment are exempt.
- C. Maintenance of existing landscaping, native growth, and water supply reservoirs, excluding the use of pesticides, is exempt.

[For full text see MN Rules Chapter 4410.0200 – 4410.7500, Rules governing the Minnesota Environmental Review Program]

EQBFINAL.DOC

Rev. 28 Nov 05

FFI: Brian McCann, MN DNR Trails & Waterways, 651/259-5627

APPENDIX D: MN EQB RULES RELATING TO TRAILS

Appendix E. Examples of Forms

Minnesota Recreational Rules

Table

Environmental Review Rules for Recreational Trails*

Extracted from MN Rules Parts 4410.4300 – 4410.4600 (MN Environmental Quality Board)*

TRAIL TYPE / ACTION	EXEMPT	DISCRETIONARY REVIEW (Subject to Citizen Petition)	MANDATORY EAW	REMARKS
HIKE / BIKE / PED / HORSE (Non-Motor)				Rehabilitation, reconstruction and maintenance activities, with no changes in designated use, are exempt from review. **All non-motor trail projects in Metro Regional Parks are exempt from environmental review.
New Corridor (naturally vegetated)	No Exemption	< 10 Miles	≥ 10 Miles	
Existing Corridor Designation	No Exemption	All Projects Subject to Review	None	
Pave Existing Trail	No Exemption	< 10 Miles	≥ 10 Miles	
Re-Route	< 1 Continuous Mile	1–10 Miles	≥ 10 Miles (new corridor)	
MIXED-USE (Motor + Non-Motor)				Rehabilitation, reconstruction and maintenance activities, with no changes in designated use, are exempt from review.
New Corridor (naturally vegetated)	No Exemption	< 10 Miles	≥ 10 Miles	
Existing Corridor Designation	No Exemption	< 25 Miles	≥ 25 Miles	
Re-Route	< 1 Continuous Mile	1–10 Miles (new) or 1–25 (existing)	≥ 10 Miles (new); ≥ 25 Miles (exist)	
X-C SKI (Non-Motor)				Rehabilitation, reconstruction and maintenance activities, with no changes in designated use, are exempt from review.
New Corridor (naturally vegetated)	< 1 Mile	1–20 Miles	≥ 20 Miles	
Existing Corridor Designation	Exempt from Review	Exempt from Review	Exempt from Review	
Re-Route	< 1 Continuous Mile	1–20 Miles	≥ 20 Miles (new)	
SNOWMOBILE (Motor)				Rehabilitation, reconstruction and maintenance activities, with no changes in designated use, are exempt from review.
New Corridor (naturally vegetated)	< 1 Mile	1–20 Miles	≥ 20 Miles	
Existing Corridor Designation	Exempt from Review	Exempt from Review	Exempt from Review	
Re-Route	< 1 Continuous Mile	1–20 Miles	≥ 20 Miles (new)	
SKI / SNOWMOBILE - WINTER USE ONLY** Across agricultural land or frozen water only.				Rehabilitation, reconstruction and maintenance activities, with no changes in designated use, are exempt from review.
New Corridor	Any Length	Exempt from Review	Exempt from Review	
Existing Corridor	Any Length	Exempt from Review	Exempt from Review	
Re-Route	Any Length	Exempt from Review	Exempt from Review	

* Excludes discussion of Off-Highway Vehicle Recreation Area projects and mandatory EAW thresholds. There were no identified mandatory EIS categories or thresholds for either recreational trails or for OHVRA's.

APPENDIX E: MINNESOTA STATUTES

85.40 DEFINITIONS.

Subdivision 1. **Scope.** For purposes of sections 85.40 to 85.45 the following terms have the meanings given them.

Subd. 2. **Commissioner.** "Commissioner" means the commissioner of natural resources.

Subd. 3. **Cross-country ski grant-in-aid program.** "Cross-country ski grant-in-aid program" means a program administered by the department, as described in section 85.44.

Subd. 4. **Cross-country ski race.** "Cross-country ski race" means a timed skiing event organized for the participation of a large number of skiers at one time over a course prepared specifically for a ski race.

Subd. 5. **Cross-country ski trail.** "Cross-country ski trail" means a public pathway designated and promoted for cross-country skiing in state parks as defined in section 85.012, on state forest lands as defined in section 89.001, on state trails as defined in section 85.015, on elements of the regional recreation open space system as defined in section 473.147, or on trails within the cross-country ski grant-in-aid program as defined in section 85.44.

Subd. 6. **Cross-country skiing.** "Cross-country skiing" means traveling across country over snow by human power on skis. "Cross-country skiing" does not require the use of lifts, tows, or other mechanical devices.

Subd. 7. **Department.** "Department" means the Department of Natural Resources.

85.41 CROSS-COUNTRY SKI PASSES.

Subdivision 1. **Pass in possession.** While skiing on cross-country ski trails, a person age 16 or over shall carry in immediate possession a valid, signed cross-country ski pass. A landowner who grants an easement for a grant-in-aid ski trail is not required to have a pass when skiing on the landowner's property.

Subd. 2. **License agents.** (a) The commissioner may appoint agents to issue and sell cross-country ski passes. The commissioner may revoke the appointment of an agent at any time.

(b) The commissioner may promulgate additional rules as provided in section 97A.485, subdivision 11. An agent shall observe all rules promulgated by the commissioner for the accounting and handling of licenses pursuant to section 97A.485, subdivision 11.

(c) An agent must promptly deposit and remit all moneys received from the sale of passes, except issuing fees, to the commissioner.

Subd. 3. **Exemptions.** (a) Participants in cross-country ski races and residents of a state or local government operated correctional facility are exempt from the pass requirement in subdivision 1 if a special use permit has been obtained by the organizers of the event or those in an official capacity in advance from the agency with jurisdiction over the cross-country ski trail. Permits shall require that permit holders return the trail and any associated facility to its original condition if any damage is done by the permittee. Limited permits for special events may be issued and shall require the removal of any trail markers, banners, and other material used in connection with the special event.

(b) Unless otherwise exempted under paragraph (a), students, teachers, and supervising adults engaged in school-sanctioned activities or youth activities sponsored by a nonprofit organization are exempt from the pass requirements in subdivision 1.

(c) A resident that is in the armed forces of the United States, stationed outside of the state, and in the state on leave is exempt from the pass requirement in subdivision 1 if the resident possesses official military leave papers.

(d) A resident who has served at any time during the preceding 24 months in federal active service, as defined in section 190.05, subdivision 5c, outside the United States as a member of the National Guard, or as a reserve component or active duty member of the United States armed forces and has been discharged from active service is exempt from the pass requirement in subdivision 1 if the resident possesses official military discharge papers.

APPENDIX E: MINNESOTA STATUTES

Subd. 4. **Issuance.** The commissioner and agents shall issue and sell cross-country ski passes. The pass shall be with the skier and available for inspection by any peace or conservation officer. The pass shall include the applicant's signature and other information deemed necessary by the commissioner.

Subd. 5. **Issuing fee.** In addition to the fee for a cross-country ski pass, an issuing fee of \$1 per pass shall be charged. The issuing fee shall be retained by the seller of the pass. Issuing fees for passes issued by the commissioner shall be deposited in the cross-country ski account in the natural resources fund and retained for the operation of the electronic licensing system. A pass shall indicate the amount of the fee that is retained by the seller.

85.42 USER FEE; VALIDITY.

(a) The fee for an annual cross-country ski pass is \$19 for an individual age 16 and over. The fee for a three-year pass is \$54 for an individual age 16 and over. This fee shall be collected at the time the pass is purchased. Three-year passes are valid for three years beginning the previous July 1. Annual passes are valid for one year beginning the previous July 1.

(b) The cost for a daily cross-country skier pass is \$5 for an individual age 16 and over. This fee shall be collected at the time the pass is purchased. The daily pass is valid only for the date designated on the pass form.

(c) A pass must be signed by the skier across the front of the pass to be valid and becomes nontransferable on signing.

(d) The commissioner and agents shall issue a duplicate pass to a person whose pass is lost or destroyed, using the process established under section 97A.405, subdivision 3, and rules adopted thereunder. The fee for a duplicate cross-country ski pass is \$2.

85.43 DISPOSITION OF RECEIPTS; PURPOSE.

(a) Fees from cross-country ski passes shall be deposited in the state treasury and credited to a cross-country ski account in the natural resources fund and, except for the electronic licensing system commission established by the commissioner under section 84.027, subdivision 15, are appropriated to the commissioner of natural resources for the following purposes:

(1) grants-in-aid for cross-country ski trails to:

(i) counties and municipalities for construction and maintenance of cross-country ski trails; and

(ii) special park districts as provided in section 85.44 for construction and maintenance of cross-country ski trails; and

(2) administration of the cross-country ski trail grant-in-aid program.

(b) Development and maintenance of state cross-country ski trails are eligible for funding from the cross-country ski account if the money is appropriated by law.

85.44 CROSS-COUNTRY SKI TRAIL GRANT-IN-AID PROGRAM.

The commissioner shall establish a grant-in-aid program for local units of government and special park districts for the acquisition, development, and maintenance of cross-country ski trails. Grants shall be available for acquisition of trail easements but may not be used to acquire any lands in fee title. Local units of government and special park districts applying for and receiving grants under this section shall be considered to have cross-country ski trails for one year following the expiration of their last grant. The department shall reimburse all public sponsors of grants-in-aid cross-country ski trails based upon criteria established by the department. Prior to the use of any reimbursement criteria, a certain proportion of the revenues shall be allocated on the basis of user fee sales location.

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85.45 PENALTIES.

Subdivision 1. **Skiing without pass.** No person may ski on a cross-country ski trail without a valid, signed cross-country ski pass. Any person who violates this subdivision is guilty of a petty misdemeanor.

Subd. 2. **False statements.** A person who knowingly makes a false statement related to an application for a cross-country ski pass is guilty of a petty misdemeanor.