

## Appendix D

# Standard Snowmobile Trail Bridge Design and Use of Natural Materials for Design and Construction, APA State Land Master Plan Interpretation and Staff Guidance


Issued: June 2006


APA/DEC MOU

**Adirondack Park Agency  
Policy, Procedures & Guidance  
System**

**Agency  
Guidance, State  
Land - 2**

**Topic: State Land Master Plan Interpretation – Standard  
Snowmobile Trail Bridge Design and Use of Natural Materials  
for Design and Construction**

  
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Ross Whaley, Chair

Issued: June 8, 2006

**I. Purpose**

The purpose of this staff guidance is to ensure a consistent, timely process for the Agency's review of individual bridge projects identified as ordinary maintenance, rehabilitation or minor relocation according to the DEC/APA Memorandum of Understanding, State land jurisdictional inquiries or proposed in unit management plans prepared by the Department of Environmental Conservation. The intent of the staff guidance is to assure the Agency's review and advice to the Department on each individual unit management plan and specific snowmobile construction projects is uniform, accurate, and fair. This guidance implements the provisions of the Adirondack Park State Land Master Plan and the DEC/APA Memorandum of Understanding regarding State Lands and is not intended to modify, contradict, or supercede the provisions of either in any way, nor should it be viewed as guidance which presumes an interpretation of any other provision of the State Land Master Plan regarding motorized use of the Forest Preserve.

**II. Background**

The management of the Adirondack Forest Preserve is directed in the first instance by Article XIV of the New York State Constitution which states that all such lands "shall forever be kept as wild forest lands."

The Adirondack Park Agency Act directed the Adirondack Park Agency to develop, in consultation with the Department of Environmental Conservation, a Master Plan for the Management of State Lands (Forest Preserve and non-Forest Preserve lands) in the Adirondack Park for approval by the Governor. The Act directs that the Master Plan classify all such lands and provide guidelines and criteria for their use and management.

The Adirondack Park Agency Act further directs that the Department of Environmental Conservation develop, in consultation with the Adirondack Park Agency, individual management plans for units of State land classified in the Master Plan and that the individual unit management plans conform to the guidelines and criteria set forth in the Master Plan. Finally, the Adirondack Park Agency Act directs that the Master Plan and the individual unit management plans shall guide the development and management of State land in the Adirondack Park.

The Department of Environmental Conservation and the Adirondack Park Agency have entered into a Memorandum of Understanding which establishes procedures for coordination and communication between the agencies on Master Plan activities, including the preparation of individual unit management plans. With respect to unit planning, the Memorandum provides: (1) informal consultation with unit management plan teams; (2) Agency review and comment on an "initial draft" plan submitted to the Agency prior to preparation of a draft plan for public review; and (3) formal Agency review of a "final draft" unit management plan as proposed for the approval of the Commissioner and a determination regarding its compliance with the guidelines and criteria of the Master Plan.

### **III. State Land Master Plan References: Definition, Use of the Term Natural Materials and Other Significant References**

**Natural Materials** - construction components drawn from the immediate project site or materials brought into the construction site that conform in size, shape and physical characteristics to those naturally present in the vicinity of the project site. Such materials include stone, logs, and sawn and treated timber. Natural materials may be fastened or anchored by use of bolts, nails, spikes or similar means.

**Wilderness Structures and Improvements** - foot trail and cross-country ski trail bridges constructed of natural materials and, where absolutely necessary, ladders constructed of natural materials; horse trail bridges constructed of natural materials; existing or new fish barrier dams constructed of natural materials wherever possible; existing dams on established impoundments except that, in the reconstruction or rehabilitation of such dams, natural materials will be used wherever possible and no new dams will be constructed.

**Snowmobile Trail** - a marked trail of essentially the same character as a foot trail designated by the Department of Environmental Conservation on which, when covered by snow and ice, snowmobiles are allowed to travel and which may double as a foot trail at other times of year.

**Foot Trail** - a marked and maintained path or way for foot travel located and designed to provide for reasonable access in a manner causing the least effect on the surrounding environment.

**Snowmobiles** - a motor vehicle designed solely for travel on snow or ice by means of a combination of tracks and a ski or skis.

**Motor Vehicle** - a device for transporting people, supplies or material, incorporating a motor or an engine of any type for propulsion and with wheels, tracks, skids, skis, air cushion or other contrivance for traveling on or adjacent to land and water or through water. The term includes such vehicles as automobiles, trucks, jeeps, motorbikes, dirt or trail bikes, any type of all-terrain vehicles, duffle carriers, snowmobiles, snowcats, bulldozers and other earth-moving equipment and motorboats.

**Road** - an improved or partially improved way designed for travel by automobiles, and which may also be used by other types of motor vehicles except snowmobiles, unless the way is a designated snowmobile trail.

#### IV. Policy Considerations

In order to provide a consistent approach to the use of natural materials for construction of snowmobile trails on Forest Preserve lands within the Adirondack Park, to recognize that a bridge design for a snowmobile will have much different design criteria than bridge construction on a foot trail and to utilize design standards that, to the extent practical, utilize natural materials which are in harmony with the wild and undeveloped character of the Adirondack Park, the following guidelines will be utilized in order to ensure consistency with the above terms and State Land Master Plan guidelines for snowmobile trail bridge construction in Wild Forest, Primitive and Intensive Use Areas:

1. All management and design decisions related to snowmobile trails and bridges on State lands should give due consideration to the unifying theme of the Master Plan which states: "...the protection and preservation of the natural resources of the state lands within the Park must be paramount. Human use and enjoyment of those lands should be permitted and encouraged, so long as the resources in their physical and biological context as well as their social or psychological aspects are not degraded...the amount and variety of land and water within the Adirondack Park provide today and will provide in the future, with careful planning and management, a wide spectrum of outdoor recreational and educational pursuits in a wild forest setting unparalleled in the eastern half of this country."
2. Designated snowmobile trails not located on a road shall be designed to maintain the character essentially of a foot trail. Bridges for such trails shall also be designed to maintain such character.
3. Snowmobile bridge proposals shall be in conformance with the DEC/APA Memorandum of Understanding definition of ordinary maintenance, rehabilitation or minor relocation or shall be proposals identified and approved in a unit management plan or plan amendment.

4. Bridge designs shall provide a safe snowmobile crossing while maintaining the least intrusive, minimal design possible and should be comprised of natural materials. The psychological aspect of resource protection referred to in the Master Plan's unifying theme in part refers to wild forest character and limiting the works of man so as to not dominate the landscape. Engineered works such as long-span bridges with large abutments detract from the wild forest environment and, therefore, their scale should be minimized as much as possible. The design, location and construction of bridges shall attempt to minimize impacts to the area's physical and biological resources as well as the area's wild forest character, and should recognize the general Master Plan guideline for Wild Forest that interior facilities should be designed to emphasize the self-sufficiency of the user to assume a high degree of responsibility for their own health, safety and welfare. It should also be recognized that significant consideration should be given for the need to have backcountry facilities that are designed for minimum maintenance. Bridges at locations requiring long spans, heavy stringers and the use of guide rails have a greater negative impact on wild forest character than bridges that are lighter in profile and that do not require guide rails.

**V. Design Guidelines for Construction of Snowmobile Bridges Using Natural Materials**

1. The attached typical drawing of Forest Preserve Snowmobile Bridge design prepared by the Department of Environmental Conservation's Operations Division Bureau of Design and Construction, dated June 8, 2006, is generally considered to be the standard bridge design for Forest Preserve snowmobile trail projects subject to additional consultation between Department and Agency staff on site-specific design concerns. The design, as provided in the following specifications and attached diagrams, conforms to the natural materials guideline of the Master Plan for spans up to 32 feet in length for three standard loading conditions. Bridge designs for spans greater than 32 feet shall be evaluated on a case-by-case basis through formal consultation. For snowmobile bridge construction projects for spans greater than 32 feet, Agency staff shall consult with DEC staff to determine if the span requires the construction of cribbing or whether other design alternatives such as stone or steel girders covered with natural materials should be considered.
2. Round timber stringers, deck cross-section, detail 2, are more rustic in character and blend more effectively with wild forest character than the use of dimensional lumber as shown in the deck cross-section, detail 1. All effort should be made to use round timbers where practicable; however, cost, material availability, worker skill and ease of access must also be considered.
3. The selection of bridge loading conditions shall match the nature of trail use and character. Three loading conditions are identified in the General Notes and Specifications, item 2, Deck Live Loads:

- a) Minimum Loading
    - 85 PSF pedestrian load
    - Snowmobiles and snowmobile pulling a drag only
  - b) Moderate Loading
    - 4500 lbs. with snow load
  - c) Maximum Loading
    - 4500 lbs. to 10,000 lbs. with snow load
4. The loading design criteria is considered to be the appropriate design for bridges on snowmobile trails that are not also open to public motor vehicle use.
  5. The constructed bridge deck width shall be no greater than the nominal cleared trail width, plus two (2) feet on each side to allow for a snow ridge. The maximum constructed bridge deck width shall not exceed twelve (12) feet.

#### **VI. Staff Consultation**

1. As provided in the APA/DEC Memorandum of Understanding, the Deputy Director, Planning is the designated contact for communications between the Department and the Agency for the Agency's State Land program. The Executive Director may designate other staff to be the contact on specific issues as he determines appropriate and will so notify the Department.
2. The Department may conduct activities described in an approved unit management plan without prior consultation with the Agency unless the unit management plan specifically requires such prior consultation or unless the proposed activity may involve regulated activities in freshwater wetlands.
3. The attached snowmobile bridge designs are to be considered standard designs for use on snowmobile trails within the Adirondack Park. They may be used by the Department as part of applications submitted for wetlands permits from the Agency. The Department and Agency staff shall continue to consult on a site-specific basis to determine the appropriate width for a particular trail location. Department and Agency staff shall also continue to consult to reduce the use, size and reflective characteristics of signage while ensuring that adequate warning is provided for approaches to snowmobile bridges.
4. For consultation on bridge design other than the attached standard snowmobile bridge design, consultation procedures specified in the APA/DEC Memorandum of Understanding will be utilized. The Department will provide the Agency with the following information for review: a site plan and maps showing the area in which the bridge is to be constructed; a location map; a discussion of the design considerations for the proposed modified bridge design; photos of the area to be affected by the proposed bridge; basic plans showing what the structure would look like; and any additional information that is mutually agreed on.

## **VII. Legal Effect**

This guidance is not intended to set forth a fixed, general principle to be rigidly applied to a particular project or unit management plan under review at the Agency. Rather, it provides basic guidance to staff on snowmobile bridge design and the use of natural materials. This guidance should be applied after taking into account the specific facts and circumstances of each project location and identified needs within an individual unit management plan. The intent of the guidance is to ensure that the criteria of the State Land Master Plan are met in a manner which maximizes environmental protection, enhances the natural setting of the Forest Preserve and allows for appropriate recreational use of public lands within the Park.

## **VIII. Adoption**

The Agency's State Land Committee and the full Agency have reviewed and adopted this staff guidance, effective June 8, 2006.