



Standards for Snowmobile Trail Signing & Placement in British Columbia

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1.0 Introduction

Snowmobilers travel beyond their local trail systems much more frequently now than ever before. When traveling on unfamiliar trails a rider's enjoyment and safety are greatly enhanced by uniform trail marking, detailed information signage and careful identification of potential hazards. Few experiences in snowmobiling rival for unpleasantness the feeling of being lost, hungry and low on fuel, somewhere along a poorly marked trail system.

While there are many good reasons why grooming or trail routing in a particular area is less than optimum, there are very few acceptable excuses for the absence of basic signing. Every trail operator should make signing a priority. The trail administrator, land owner, rider, local club and organized snowmobiling in general all benefit from good basic signing practices.

The purposes of snowmobile trail signs are to:

- a. regulate the flow of traffic along the trails
- b. inform riders of trail characteristics and,
- c. provide information necessary to the enjoyment of the trail riding experience.

Uniform snowmobile trail signing will:

- a. enhance the safety and security of persons, vehicles and property,
- b. improve travel within and between districts and
- c. professionalize and promote recreational snowmobiling.

Many jurisdictions have developed and implemented excellent comprehensive signing programs. In other areas, local traffic conditions or limited resources make elaborate signing systems inappropriate or impossible. Regardless of local circumstance, every trail must be signed to a minimum level which exhibits a fundamental concern for the safety of those using it.

2.0 Purpose of this document

This document provides guidelines for the effective placement of signs on recreational snowmobile trails in British Columbia and is endorsed by the Ministry of Environment and the Ministry of Tourism, Sports and Arts. It should be seen as a process to improve snowmobile trail development in a safe and cost effective manner as opposed to a rigid policy statement. It is anticipated that as a result of ongoing communication and development, these guidelines will continue to evolve through time.

3.0 Trail Signing Requirements

Currently there are minimal sign requirements in British Columbia; therefore, these will be the standards for any signs being installed. The placement should follow the standards as described in section 4.0.

4.0 Trail Sign Placement

This section provides basic information on how snowmobile trail signs are to be oriented and installed.

4.1 Sign Orientation

The most critical part of sign mounting is understanding how reflective signs work. One good analogy is to think of reflective signs as mirrors. To maximize the nighttime view of the sign it must be placed at eye level, perpendicular to the direction of travel of the trail. This orientation also ensures that the sign is visible over the longest possible period so that the rider has a chance to understand the message and to react accordingly. This important concept is illustrated in Figures 1 and 2.

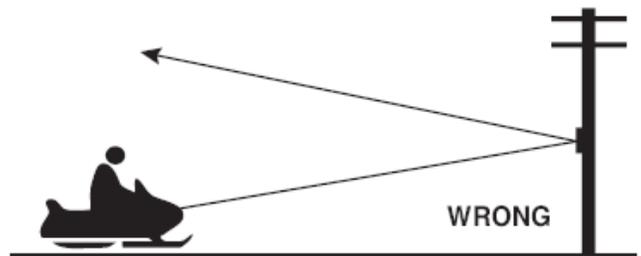
Figure 3 defines an imaginary “window” for sign locations. Signs should be oriented perpendicular to trail within a 5 ft x 5 ft area which starts 3 ft from the trails edge and 2 ft above the trail. Signs mounted outside the window will not perform as well.

4.2 Posting Distances

One of the most frequently asked questions in posting signs is how far in advance of the trail condition should the sign be placed. Table 1 below offers some guidance on what appropriate sign posting distances should be. These recommendations have been developed through a variety of snowmobile and traffic publications, including the Manual on Uniform Traffic Control Devices and field observations. The minimum sign posting distances recommended below pertain only to caution signs.

The sign posting table looks at two situations. The first is a situation where a caution sign is posted so that a snowmobile can come to a complete stop before the trail condition. The most common examples of this situation would be a “Stop Ahead”, “Bridge Ahead” and “Intersection Ahead”. The second signing situation is one where a caution sign is posted so that a snowmobiler might have to reduce speed, but not necessarily come to a complete stop. Examples of this situation might be “Logging Ahead”, “Left Curve”, “Steep Hill”, or “Dip”.

A key factor in using Table 1 is the judgement of the signing crew on what the speed of the majority of snowmobilers in that situation would be and what reduction in speed, if any, would be necessary for the snowmobiler to comfortably and safely negotiate the trail condition.



- A. Signs placed too high do not reflect headlights beams back to the rider.



- B. Signs placed at the rider's eye level reflect back correctly and are much easier to see.

Figure 1: sign orientation, side view



- A. Signs facing the trail do not reflect headlight beams back to the rider.



- B. Signs placed perpendicular the trail reflect headlights back to the rider correctly.

Figure 2: Sign orientation, plan view

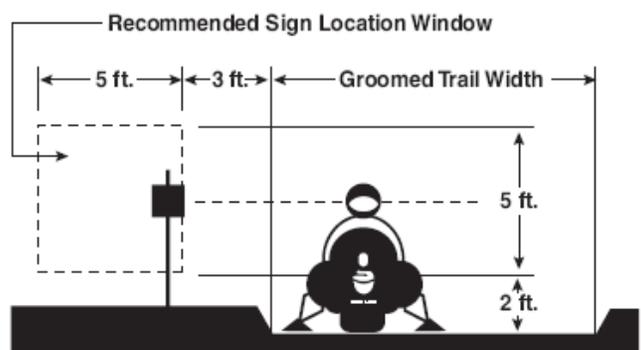


Figure 3: Recommended Sign Location Window

Table 1: Caution Sign Placement

Suggested Minimum Posting Distances for Snowmobile Caution Signs					
Judged Speed (mph)	Condition Requiring Stop "X" =	Deceleration Distance to Desired Speed (mph) "Y" =			
		10	20	30	40
20	*	**			
25	*	100	**		
30	175	150	100		
35	225	200	175	**	
40	300	275	250	175	
45	350	350	300	250	**
50	425	400	400	325	225
55	500	500	475	400	300

* No suggested minimum distance recommended. At these speeds, sign location depends on physical conditions at the site.

** No suggestion minimum distance. At these 5 mile per hour reductions in speed, location depends on the physical conditions at the site.

Examples showing the use of Table 1 above can be found on pages 12 through 17.

Regulatory signs shall be placed to the side of the trail in accordance with the section 4.1. Unlike caution signs, regulatory signs are located where the desired action is to take place

4.3 Mounting Considerations

The methods used to mount trail signs vary greatly depending on the intended permanence of the installation. The following points provide guidance in selecting an appropriate mounting method to suit your circumstance.

- Generally, signs should be placed to the right of the trail to conform with the riders familiarity with highway signs.
- The sightline from the driver to the sign must be clear for the entire distance through which the sign is intended to be viewed. This requires routine monitoring.
- On private property, signs should be placed as late in the fall as possible and removed promptly at the end of the season. This reduces vandalism, reduces potential trespass and conserves sign life by reducing exposure to the sun and elements.
- Mounting signs on living trees is not recommended. If it is the only alternative, use aluminum nails. Ensure that all nails are removed when the signs are removed.
- On posts, use bolts or screws instead of nails to reduce vandalism and theft. A cordless drill with spare battery packs is an idea tool to drive screws providing the sign holes are predrilled.
- Using an existing mounting object, such as a fence post, only if it is within the recommended sign location window and the permission of the landowner has been obtained
- Use durable materials for permanent installations, i.e. flexible plastic, fiberglass, steel or wooden post.
- If more than one sign is used at the same location, they should be placed vertically with the most important sign on top.
- It must be remembered that the trail will be used in both directions. Separate and often different signing is required for each direction of travel.
- Signing should be done by persons who are familiar with the trail and who know where they are and where they are going. When putting up signs, imagine that you have never been in this area or on this trail before. Try to picture what signs would be necessary to get you safely to your destination.
- Have your signage reviewed by someone less familiar with the area to identify locations that need improvement.
- Overuse of signs should be avoided. Only authorized trail signs should be allowed to avoid clutter and confusion. Signage posted by business should be carefully controlled by the trail operator.
- Extra regulatory and caution signs should be carried on grooming equipment and by trail patrollers to replace those which have been vandalized.
- Maintaining visibility of signs in areas of heavy snowfall accumulations poses additional challenges in terms of sign mounting techniques and materials. These signing situations will require periodic inspections and adjustment of sign poles or stakes throughout the winter to keep signs from being obliterated by snowfall.

5.0 Standard Trail Sign List

The key to establishing a uniform signing system is the development of a list of standard signs. The list has to be complete enough to account for the signing needs of most clubs without being overly long. Clubs are encouraged to use additional signs appropriate to the conditions in their part of the province whenever necessary.

5.1 Regulatory Signs

5.2 Caution Signs

5.3 Trail Markers

5.4 Land-Use Signs

5.1 Regulatory Signs

Typical Design	Name and Use	Usual Characteristics
	Stop Instruct riders to bring their snowmobile to a complete stop before proceeding with caution.	12 x 12 in octagon. Red background with white lettering.
	Yield Instructs riders to yield the right of way to vehicles traveling on the other trail.	12 x 12 in triangle. Red/white background with red lettering.
	Snowmobiling Allowed Identifies areas where snowmobiling is allowed.	12 x 12 in square. Yellow background, black graphic with white circle.
	No Snowmobiling Identifies areas where snowmobiling is not allowed.	12 x 12 in square. Yellow background, black graphic with red circle and slash.
	Stay On Trail Reminds riders of the importance of staying on the designated trail.	Square or rectangle. Yellow background, black lettering.

The following are examples of additional regulatory signs for consideration:



Speed Limit

Reminds riders not to exceed the speed limit indicated.

8 in x 12 in rectangle. Yellow background, black lettering.



One Way

Identifies sections on the trail where snowmobiles may travel in one direction only.

8 in x 12 in rectangle. Black arrow on Yellow background with black lettering



Do Not Enter

Instructs riders not to enter a particular road or trail. Typically used in conjunction with one way trails.

8 in x 12 in rectangle. Yellow background, red circle with black lettering.



Snowmobile Trail No Wheeled Vehicles

Informs drivers of wheeled vehicles that they are not permitted on this trail.

8 in x 12 in rectangle. Yellow background, black lettering.



Other Regulatory Signs

Other regulatory signs may be needed as necessary.

8 in x 12 in rectangle. Yellow background, black lettering.

5.2 Caution Signs

Typical Design

Name and Use

Usual Characteristics



Stop Ahead

Informs riders that they are approaching a stop sign.

12 x 12 in diamond. Yellow background, red octagon, black arrow.



Caution

Use this sign to warn of a hazard when no specific sign is available for that hazard. The specific hazard should be printed on the space provided on the sign.

12 x 12 in diamond. Yellow background, black lettering.



Slow

Instructs riders to temporarily slow their vehicle.

12 x 12 in diamond. Yellow background, black lettering.



Hazard Marker

Identifies a fixed object at the side of the trail. Used any time the fixed object narrows the normal width of the trail such as bridge railings. The stripes slope down towards the trail.

12 x 12 in square. Yellow and black stripes.



Right or Left Turn

Informs the rider that the trail ahead makes significant changes in direction.

12 in x 12 in diamond. Yellow background, black arrow.

The following are examples of additional caution signs for consideration:



Gate Ahead

Informs riders that they are approaching a gate across the trail.

12 in x 12 in diamond. Yellow background, black lettering.



Junction Ahead

Informs riders that they are approaching a trail intersection.

12 in x 12 in diamond. Yellow background, black lettering.



Bridge Ahead

Informs riders that they are approaching a bridge which is narrower than the trail.

12 in x 12in diamond. Yellow background, black graphic and black lettering.



Winding Trail

Informs riders that they are approaching a series of curves.

12 in x 12 in diamond. Yellow background, black arrow.



Bump

Informs riders that they are approaching a spot that is abruptly higher or lower than the trail on both sides.

12 in x 12 in diamond. Yellow background, black graphic and black lettering.



Chevron

Provides additional guidance to the rider in a sharp turn.

12 in x 12 in square. Yellow background, black graphic.



Steep Hill

Informs the rider that they are approaching a section of trail with an exceptionally steep grade.

12 in x 12 in diamond. Yellow background, black graphic and black lettering.



Ice

Informs the rider that they are approaching a section of trail that may be ice covered and slippery. Proceed with caution.

12 in x 12 in diamond. Yellow background, black graphic and black lettering.



Ice Crossing

Informs the rider that they are approaching a section of trail which crosses a frozen body of water.

12 in x 12 in diamond. Yellow background, black graphic and black lettering.



Caution Grooming At Any Hour

Informs the rider that trail grooming may be done at any hour of the day.

12 in x 12 in diamond. Yellow background, black graphic and black lettering.



Caution Logging Operations

Informs the rider that logging operations are taking place in the area and trucks may be on or crossing the trail.

12 in x 12 in diamond. Yellow background, black lettering.



Skiers On Trail

Informs the rider that other recreationists are frequently encountered on this section of trail.

12 in x 12 in diamond. Yellow background, black graphic.



Right Hairpin Curve

Informs the rider that they are approaching a sharp right turn of or close to 180 degrees.

12 in x 12 in diamond. Yellow background, black arrow.



Left Hairpin Curve

Informs the rider that they are approaching a sharp left turn of or close to 180 degrees.

12 in x 12 in diamond. Yellow background, black arrow.

5.3 Trail Markers



Reassurance Blazer

Informs the rider that they are on a designated snowmobile trail.

5 in x 7 in uneven diamond. Orange with reflective border.

5.3 Land-Use Signs

Signs are only to be used when authorized by the local Ministry of Environment office, in locations agreed to by MOE.



Wildlife Closure Snowmobiles Not Permitted

Instructs snowmobile riders not to enter a particular area because of a wildlife closure.

12 in x 12 in square. Yellow background, black and red lettering.



Caribou Habitat No Snowmobiling

Instructs the rider not to ride into the caribou habitat area.

12 in x 12 in square. Yellow background, black and red lettering.



Sensitive Area Closed to All Motorized Vehicles

Instructs all motorized vehicles not to enter the sensitive area.

12 in x 12 in square. Yellow background, black and red lettering.



This Trail Accesses Areas Closed to Snowmobiles Please Follow Signs

Informs the rider that they are entering an area where closures are in effect and to follow the posted signs.

12 in x 12 in square. Yellow background, black lettering and red lettering.



Do Not Follow Caribou Tracks

Instructs the rider not to follow caribou tracks.

12 in x 12 in square. Yellow background, black lettering.



Closed Snowmobile Area

Informs the rider that the area is closed and to observe and report all animal sightings.

12 in x 12 in square. Yellow background, black and red lettering.



This Trail Accesses Areas Closed to Snowmobiles Please Stay On Trail

Informs the rider that they are entering an area where closures are in effect and to stay on the trail.

18 in x 12 in rectangle. Yellow background, black and red lettering.

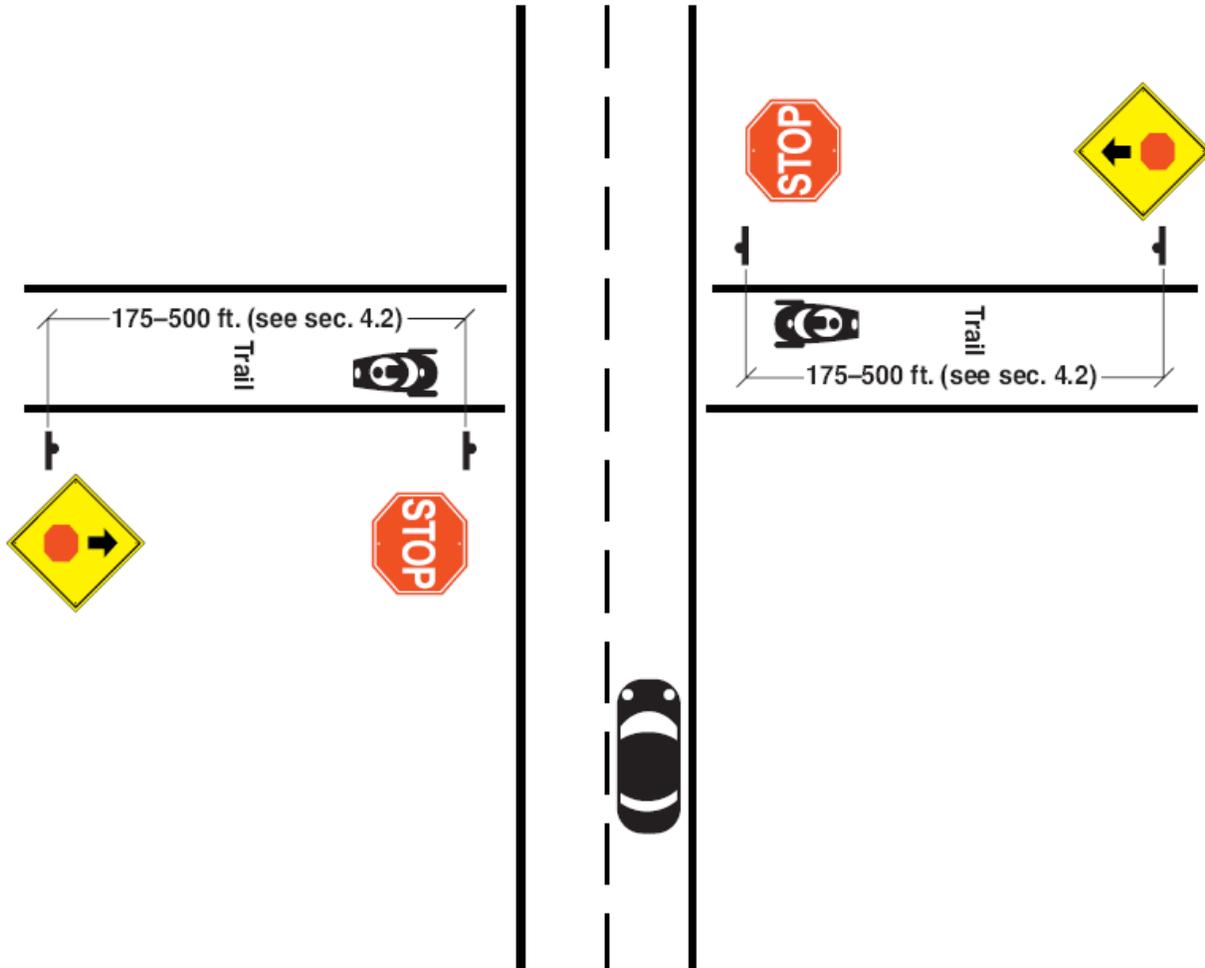


Do Your Part Report Non Compliant Riders

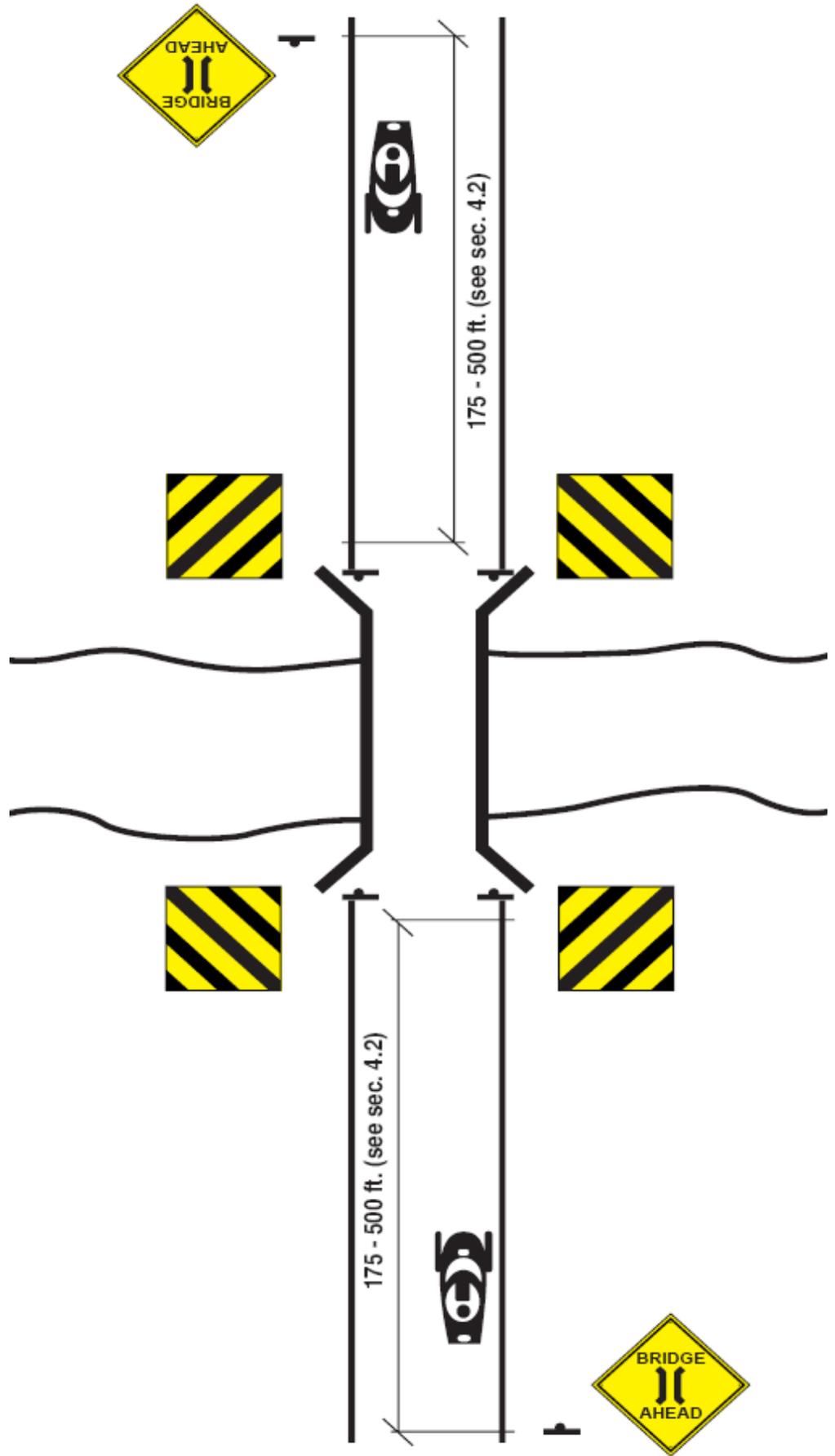
Informs the rider to report non compliant riders.

12 in x 12 in square. Yellow background, black and red lettering.

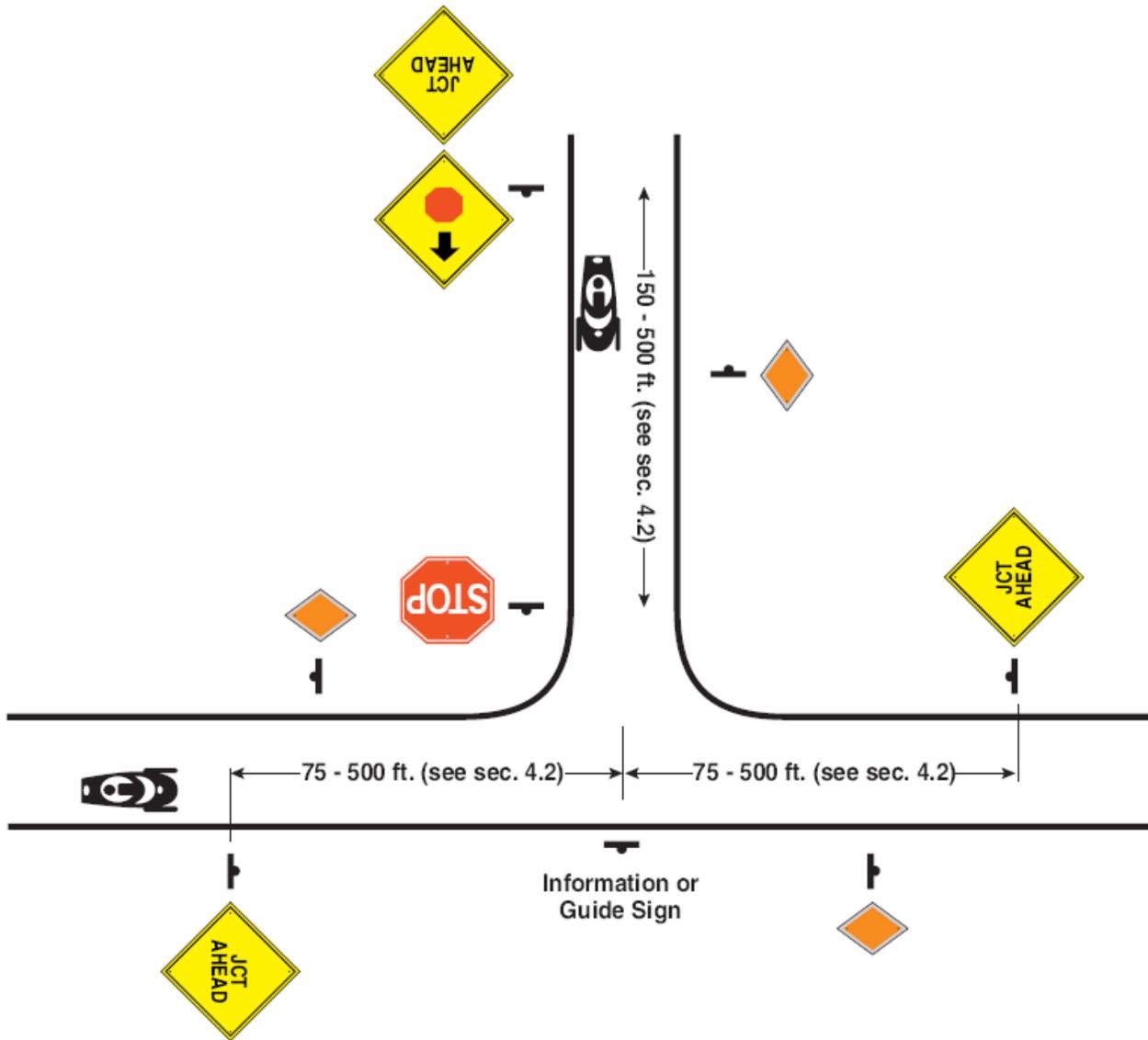
6.1 Road Crossing



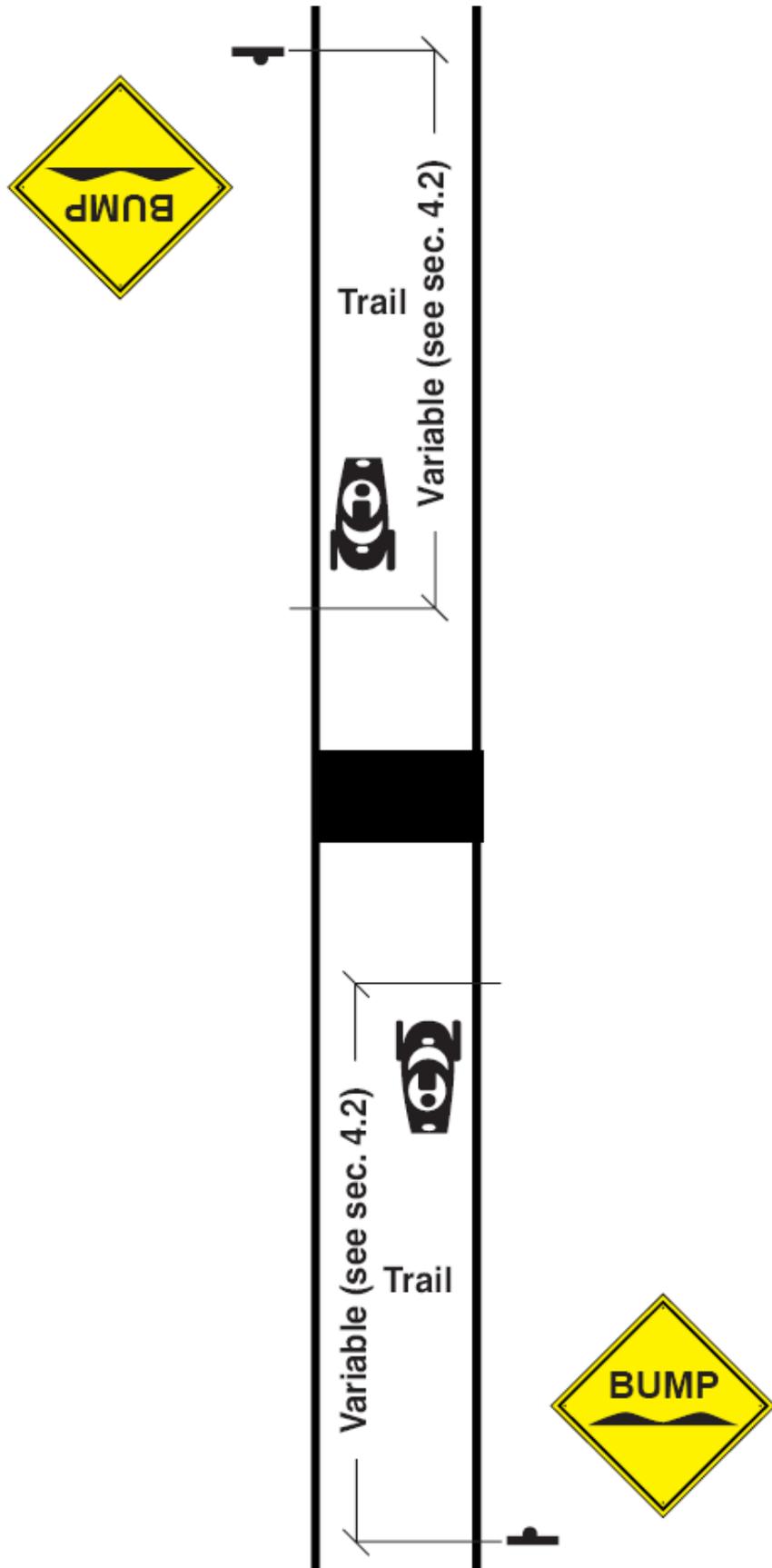
6.2 Bridge



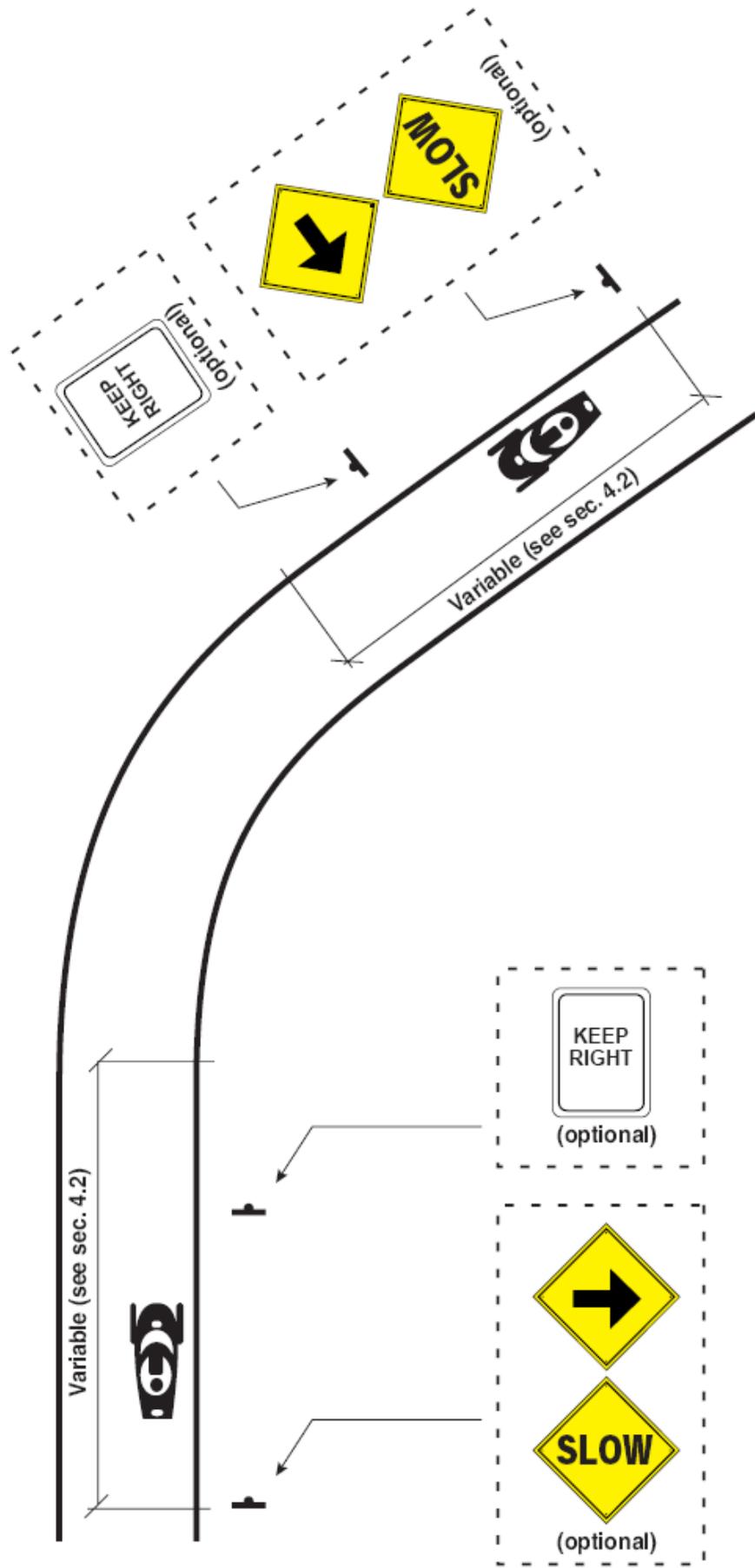
6.3 Trail Intersection



6.4 Bump



6.5 Curve



7.0 Corridor Setting

In forested areas, following the trail may be a fairly obvious and straightforward task. However, when trails cross fields, lakes, meadows or other cleared areas, trail routing may not be at all obvious. Relying on the groomed track for trail routing is not adequate since even a well-established trail can be quickly obscured by a heavy snow fall.

Both snowmobilers and groomer operators need continuous reference points to navigate the trail confidently. A simple method of identifying the trail corridor in open areas is to use stakes or poles that are mounted into the ground or snow adjacent to the trail.

7.1 Stakes/Poles

In areas where snow depths are low to moderate, a typical stake is a 2" x 2" (minimum) piece of inexpensive lumber sharpened at one end to allow for mounting into the ground. A minimum of 12" at the top of the stake is painted a color that offers high contrast to the background, e.g. blaze or fluorescent orange. This will make the stake more visible during the flat light conditions that can occur during daylight hours.

At least 3 square inches of reflective material should be attached on both sides of the stake at a point 2 inches down from the top of the stake. This will make the stake more visible at night from both directions of travel. The length of the stake is selected so that when it is driven into place, a minimum of 40" of stake remains visible above the top of the snow with the reflective material being as close to eye level as possible. Stake lengths in these snow conditions are typically 4, 5 or 6 feet.

Figure 4 shows a recommended configuration an inexpensive wooden stake.

Stakes are driven into the snow or ground within the sign location window previously defined in figure 3. A commercial post drive is a simple and inexpensive toll that makes this task much easier.

In areas where snow depths are moderate to heavy (6' - 12'+) it may not be practical to use stakes that are driven into the ground. Large seasonal snow depths may dictate the use of plastic fence posts, PVC tubing or similar commercially manufactured synthetic products that are mounted in the snowpack adjacent to the trail. The characteristics of contrasting color and reflectorization mentioned in the previous paragraphs apply. The major differences are the typical lengths of the material, 6' - 12', and the necessity for inspection and occasional readjustment to reflect changes in snow depth.

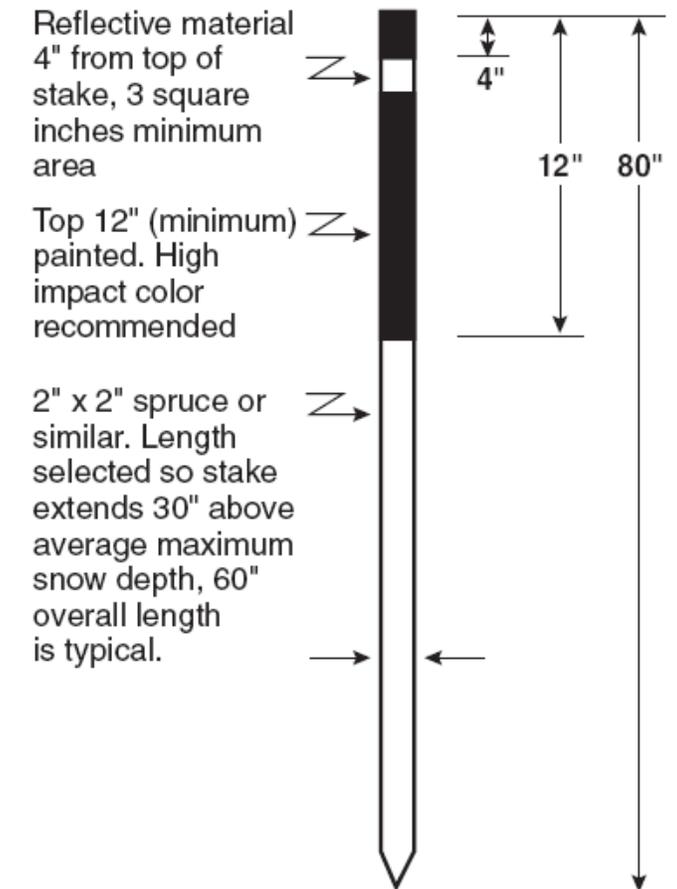


Figure 4: Typical Stake



- A. Single Stake used to augment an existing fixed object such as a fence post. Note the use of a blazer to provide a second reference point.



- B. Standard two stake configuration leaves no doubt as to the intended trail routing.

Figure 5: Examples of Staking

7.2 Setting the Corridor

There are two generally accepted methods of establishing a corridor: (a) placing stakes or poles in pairs at right angles to the trail to set a “gate” through which a snowmobiler passes through or (b) setting a single line of single stakes or poles with periodic pairs of stakes or poles to reinforce which side of stake or pole line is intended for the flow of traffic.

In either case the next stake/pole or stake/pole pair must be easily visible after passing by a stake/pole or stake/pole pair. This spacing will vary on the nature of the terrain being marked. The frequency of stake/pole sets should be increased significantly to indicate a turn, although if the turn is sharp, the signing requirements for curves discussed earlier should be used. Figure 5 illustrates these concepts.

8.0 Acknowledgments

This document consists of materials previously developed by the International Association of Snowmobile Administrators and its various working committees as well as materials developed by a number of snowmobile trail operating organizations. Thanks to the Trail Committee of the Provincial Government of British Columbia and the British Columbia Snowmobile Federation.



British Columbia
Snowmobile Federation