



POSITION DESCRIPTION Ministry of Transportation

POSITION TITLE:	Senior Avalanche Officer	POSITION NUMBER(S):	82276
DIVISION: (e.g., Division, Region, Department)	Construction and Maintenance		
UNIT: (e.g., Branch, Area, District)	Avalanche and Weather Programs	LOCATION:	Victoria
SUPERVISOR'S TITLE:	Manager, Avalanche and Weather Programs	POSITION NUMBER:	51587
SUPERVISOR'S CLASSIFICATION:	Management Level 5	PHONE NUMBER:	(250) 387-7523
FOR AGENCY USE ONLY		NOC CODE:	
APPROVED CLASSIFICATION:		CLASS CODE:	
ENTERED BY:		PHONE NUMBER:	

PROGRAM (OPTIONAL)

The Avalanche and Weather Program establishes operational policies for Ministry and Maintenance Contractor operations in order to ensure safety to provincial highway users, particularly in snow and avalanche conditions. This program provides technical direction and support for all provincial avalanche crews. The program coordinates resources that obtain and distribute weather, road condition and seasonal strength loss information in support of avalanche, maintenance contractor and Ministry requirements.

PURPOSE OF POSITION

Under the general direction of the Manager, Avalanche and Weather Programs, participates in the planning, development and implementation of the snow avalanche safety program for the Provincial highway network. This position is an expert in snow avalanche hazard management, and is responsible for technical and operational guidance and policy for the Provincial avalanche safety programs. This position has the responsibility and authority to ensure local programs and staff adhere to Provincial safety standards, through routine on-site visits and inspections and formal program reviews.

NATURE OF WORK AND POSITION LINKS

Key duties are to:

- Provide direction and experienced leadership for the Provincial snow avalanche safety programs through development of policy, operational procedures, and programs;
- Conduct formal avalanche program reviews and conduct avalanche program inspections involving HQ, Regional and District staff with the intent of developing plans to progressively enhance the technical and operational abilities of each local avalanche program;
- Manage and conduct reviews and evaluations, recommend and implement changes and improvements for operational snow avalanche hazard management for proposed or existing highways and other Ministry initiated projects;
- Manage professional consultant contracts and capital projects related to the Snow Avalanche Program hazard management and mitigation;
- Perform other duties.

SPECIFIC ACCOUNTABILITIES / DELIVERABLES

15% Provide direction and experienced leadership for the Provincial snow avalanche safety programs through development of policy, operational procedures, and programs by:

- Developing and implementing policies applicable to technical and operational aspects of avalanche hazard mitigation, for the public, maintenance contractor and Ministry;
- Developing and supervising the development and delivery of training programs, manuals and technical guidelines for all aspects of District and Regional avalanche safety programs;
- Developing maintenance contract guidelines and standards and recommending improvements to road maintenance contracts related to avalanche hazard management;
- Developing uniform standards for avalanche hazard forecasting, avalanche control and operational safety procedures;
- Developing emergency response plans in participation with Provincial and Federal agencies for explosive spills, avalanche burials, and search and rescue operations;
- Maintaining and updating protocol agreements with applicable private, provincial and federal government agencies;
- Developing operational policy for avalanche forecasting and control assessments based on ensuring appropriate levels of safety to highway users.

40% Conduct formal avalanche program reviews and conduct avalanche program inspections involving HQ, Regional and District staff with the intent of developing plans to progressively enhance the technical and operational abilities of each local avalanche program by:

- Ensuring that the Provincial Snow Avalanche Programs' operations are consistent with or exceed Ministry standards;
- Ensuring local avalanche programs adhere to the policies and procedures of the Snow Avalanche Programs including pertinent Provincial and Federal Acts and Regulations;
- Conducting on-site inspections of provincial avalanche programs to ensure compliance with Ministry policies and operational procedures and to ensure an ability to deliver the safest possible service to Highway Users;
- Conducting formal reviews of local programs to ensure consistency and adherence with provincial objectives, goals and compliance with current technical standards;
- Developing, implementing and maintaining training programs for specialized avalanche control systems and safety programs (e.g., 105 mm recoilless rifle and Gaz.Ex operations);
- Developing avalanche safety programs for new highways, industrial and ski area access roads.

20% Manage and conduct reviews and evaluations, recommend and implement changes and improvements for operational snow avalanche hazard management for proposed or existing highways and other Ministry initiated projects by:

- Providing avalanche hazard recognition and avalanche management expertise at all stages of the provincial Environmental Assessment process;
- Analyzing natural hazards on new and existing highway corridors, sub-divisions, access permits, and other development plans;
- Developing and recommending solutions for mitigation of avalanche hazards, such as the suitability of construction of snow sheds, stopping dams, deflecting dams, mounds, etc.;
- Working in conjunction with senior Regional and Headquarters planners to develop effective solutions for management of natural hazards on new and existing highway corridors, subdivisions, access permits, and other development plans;
- Investigating avalanche related accidents, formulating conclusions and implementing or recommending corrective actions;
- Designing, planning, and implementing hazard management and forecasting programs for residential communities, as directed by the Ministry;
- Researching and evaluating new avalanche control technology for application to provincial avalanche program requirements;

15% Manage professional consultant contracts and capital projects related to Snow Avalanche Program hazard management and mitigation by:

- Managing projects for the installation of new avalanche mitigation systems, in some cases unique to North America (projects range from 0.5 to 3 million dollars in value);
- Developing terms of reference, requests for proposals and evaluation criteria;
- Liaising with consultants and Ministry staff to ensure that requirements are met;

- Allocating work to Ministry staff or consultants and overseeing work conducted;
- Resolving contractor issues, monitoring progress, conducting on-site inspections, and recommending payments, inspecting and approving reports or products produced by the contractor;
- Evaluating participants, providing progress reports, evaluating effectiveness of, recommending modifications to, and implementing changes in training programs.

10 % Performs other duties, such as:

- Conducting public meetings;
- Writing Treasury Board submissions and project justifications;
- Writing and editing press releases for the public;
- Assuming the role of acting Manager as required;
- Defining requirements, organizing interviews and participating in evaluation of candidates who have applied for avalanche staff positions for programs throughout the province, and university and college co-op students for assistance in special projects.

FINANCIAL RESPONSIBILITY

DIRECT SUPERVISION (i.e., responsibility for signing the employee appraisal form)

Role **# of Regular FTE's** **# of Auxiliary FTE's**

Directly supervises staff

Supervises staff through subordinate supervisors

PROJECT /TEAM LEADERSHIP OR TRAINING (Check the appropriate boxes)

Role	# of FTE's	Role	# of FTE's
Supervises students or volunteers		Provides formal training to other staff	
Lead project teams		Assigns, monitors and examines the work of staff	

SPECIAL REQUIREMENTS

TOOLS / EQUIPMENT

WORKING CONDITIONS

WORK EXAMPLES

COMMENTS

PREPARED BY

NAME: DATE:

EXCLUDED MANAGER AUTHORIZATION

I confirm that:

1. the accountabilities / deliverables were assigned to this position effective: (Date).
2. the information in this position description reflects the actual work performed.
3. a copy has / will be provided to the incumbent(s).

NAME:

SIGNATURE:

DATE:

ORGANIZATION CHART

Deputy Minister, ML 12, 42396

Assistant Deputy Minister, Highways Department, ML 11, 42398

Director, Construction and Maintenance, ML 8, 51574

Senior Manager, Corporate Procurement and Avalanche Programs, ML 6, 41551

Manager, Avalanche and Weather Programs, ML 5, 51587

Senior Avalanche Officer, Proposed STO 27, 82276Senior

Senior Avalanche Officer, STO 27, 51588

Senior Avalanche Officer, STO 27, 51589

SELECTION CRITERIA

EDUCATION AND SPECIALIZED KNOWLEDGE

Education

Bachelor degree or college diploma in a technical discipline such as geoscience, physical geography, engineering or natural resource management with an emphasis on avalanches and the properties of snow; or equivalent combination of training and experience. Must be able to demonstrate the relevance of the program to the understanding of the principals of the snow avalanche phenomena.

Experience

A minimum of seven years experience in snow avalanche related work with four years in a supervisory position responsible for meteorological observations, snow stability analysis, avalanche hazard evaluation, the operation of an avalanche program that includes both permanent and temporary methods of control, and training of staff and members of the public.

RATED QUALIFICATIONS

Specialized Knowledge

In-depth knowledge of snow metamorphism and avalanche phenomena, meteorology, natural hazards identification, terrain evaluation, appropriate application of permanent and temporary methods of avalanche control, technical and incident report writing, emergency response protocols related to avalanche involvement and/or explosive spills on a highway. Knowledge of land use planning, hazard zoning, mapping, air photo interpretation, dendrochronology, avalanche runout modeling, highway engineering issues (traffic volume, road features, speed limits, etc) and how to incorporate all relevant variables in avalanche program design and management. Knowledge of the principles and practices of program planning, project management, staffing, training, supervision, winter highway maintenance requirements and instructional training techniques.

Ability to manage consultant contracts and to effectively work with other staff within Headquarters, Regions and/or Districts to plan, direct and design programs; to write clear, relevant technical reports; and to independently operate with sound judgment, tact and diplomacy. Must be able to resolve complex avalanche safety and land use related issues, being sensitive to constraints of time, resources and economics.

Ability to respond effectively in emergency situations.

Must be able to travel safely in mountainous terrain by skis and/or on foot at any time of the year under variable snow and weather conditions.

Occupational Certification

Required

Canadian Avalanche Association, Level 2;

Workers' Compensation Board Blaster's Certificate (with avalanche control endorsements);

Valid level 2 or 3 Occupational First Aid, E.M.T., or Standard Wilderness First Aid;

Valid B.C. Driver's License.

Preferred

Instructional Techniques Certificate;

Canadian Avalanche Association, Advanced Avalanche Hazard Mapping Course.

Professional Membership

Must be registered or eligible for registration as a Professional Member with the Canadian Avalanche Association.

COMPETENCIES