



IDENTIFICATION

Department	Position Title	
Infrastructure	Senior Technical Specialist, Civil & Pavements	
Position Number	Community	Division/Region
33-1726	Yellowknife	Design and Technical Services – Air & Transportation

PURPOSE OF THE POSITION

The Senior Technical Specialist, Civil & Pavements, manages, coordinates and provides planning and program development for airport civil structures and pavements, ensuring that the infrastructure is efficiently planned, constructed and maintained in accordance with federal and territorial acts, regulations, policies and programs, Canadian Aviation Regulations, Canadian Aeronautics Act, (TP312) Aerodrome Standards & Recommended Practices, and other design, evaluation and construction standards.

SCOPE

Located in Yellowknife and reporting to the Manager, Design and Technical Services – Air & Transportation, the Senior Technical Specialist, Civil and Pavements, manages and implements the Airports Pavement Management System (APMS) for 6 paved and 21 gravel surfaced airports, including granular material inventory, located in 27 communities in the Northwest Territories.

The incumbent oversees the airport civil structures and pavement Capital and Operations and Maintenance (O&M) programs, and related technical programs by managing a discretionary O&M budget of approximately \$150,000 and a multi-year project plan involving 5-10 projects in different stages of development, with an annual project value of up to \$2 million dollars; monitoring project implementation, completion dates and resource allocations during all project phases; and approving expenditures of up to \$100,000 for contract initiation and up to \$250,000 for contract performance. The incumbent may be called upon to accept, on behalf of the airports program, completed construction and rehabilitation of airport civil structures and pavements at NWT airports.

The incumbent will work with the Department staff, other GNWT and federal departments, including Municipal and Community Affairs, Transport Canada, Environment Canada (federal



regulatory agencies), communities, and air carriers on matters of airport certification, flight operations, facility conditions and safety in order to implement the required projects.

RESPONSIBILITIES

1. Manages the investigation, research, development and implementation of technical programs for all airport civil structures and pavements.

- Monitors design standards and facility life-cycles, in order to determine appropriate maintenance, rehabilitation, restoration and replacement strategies.
- Supervises the on-going development and implementation of the Airport Pavement management System (APMS), and provides inspections, condition evaluations and reporting for civil structures and pavement at NWT airports.
- Develops and reviews policies, design standards and procedures for the operation, maintenance, rehabilitation and replacement of all airport civil structures and pavements.
- Recommends changes to Departmental policies and standards to improve cost effectiveness and quality.
- Coordinates the upkeep of current inventory of airport civil structures and pavements, including granular material inventories, with emphasis on pavement condition, load rating and life-cycles.
- Coordinates and obtains the collection of technical information and research of expertise required to assess the feasibility and practicality of proposed engineering designs, products or equipment, and supervises confirmation testing and evaluation.
- Evaluates and recommends changes to design standards and criteria that can improve safety, efficiency of design and economy of operations at NWT airports.
- Prepares technical and management reports, and recommendations to Divisional, Regional or corporate senior management.

2. Provides technical expertise to Superintendents, Airport Managers and private contractors, so that civil structures and pavements may be operated and maintained within Canadian and International standards and recommended practices, and that expected life-cycles are achieved through the application of sound asset management procedures.

- Provides functional advice, support and direction in respect of airfield surface maintenance standards, annual maintenance programs and procedures at all airports to ensure that operating requirements and certification standards are met.
- Investigates and diagnoses issues identified by regional personnel and develops solutions and repair strategies in respect to surface conditions, drainage, airfield grading, aircraft and vehicle movements, surface markings, signage and fencing.



- Interprets and implements policy and regulatory requirements and advises on development of Terms-of-Reference, proposal calls, technical specifications, contract documentation and airport Plans of Construction Operations.
 - Advises on appropriate preventative maintenance programs, performance monitoring procedures and determination of O&M resource requirements.
 - Provides technical briefs and presentations to regional staff, Airport Managers and staff, and occasionally to municipal councils, air carriers and other government departments.
- 3. Oversees and monitors the implementation of approved projects, programs and processes associated with all airport civil structures and pavements, for conformance to specifications.**
- Collaborates with the project managers, project officers, regional offices and Airport Managers, to determine project requirements.
 - Prepares project Terms-of-Reference for civil structures and pavement rehabilitation and replacement.
 - Advises Manager in respect of projects completed by staff and consultants.
 - Manages project implementation, physical progress and financial status.
 - Manages project change requirements (i.e. scope of work, resources and timeframes).
 - Conducts and leads project reviews and interim and final project acceptance inspections, identified deficiencies, and advises on actions required to correct deficiencies.
 - Recommends acceptance of completed consultant contracts and construction projects.
- 4. Contributes towards, evaluates and recommends acceptance of the airport civil structure and pavement recommendations contained in the airport Master Plans and Land Use Development Plans prepared for the airports program, to support continued cost-efficient and effective growth and development of NWT airports.**
- Develops Terms-of Reference and manages technical studies, to assess capacity of airside maneuvering surfaces, in terms of facility demands, performance and operational evaluations, by analyzing aircraft, passenger and cargo statistics.
 - Defines and recommends changes to life-cycle management, and replacement standards and criteria, for civil structures and pavements.
 - Develops parameters for planning and feasibility studies, benefit-cost analysis and data collection for technical, quantitative and/or comparative analysis of plan/design alternatives for projects.
 - Participates in technical staff consultations to provide feedback to consultants contracted to undertake planning and development studies.
- 5. Develops and maintains O&M and Capital program budget estimates, and project cost control procedures related to all airport civil structures and pavements, to ensure their timely and cost-effective development.**



- Coordinates development of preliminary cost estimates and consolidates capital and O&M budget requirements.
- Coordinates and participates in development of budgets and procedures, for reporting expenditures, commitments and projected resource requirements.
- Coordinates and prepares Capital project substantiations and ensures that budget requirements are appropriate and reasonable.
- Prepares monthly status/variance reports for all current Capital and O&M related projects that the Senior Technical Specialist, Civil and Pavements, is responsible for.
- Assists in the preparation of budgetary documents, contribution agreements and service contracts, required to appropriate Capital and O&M funds for projects within the Department.
- Prepares Deputy Minister authorizations and Financial Management board submissions, as required.

6. Develops and manages Capital, O&M and asset management programs for all airport civil structures and pavements, so that safety and level of service are maintained and community aviation needs are met.

- Coordinates reviews and recommends approval of technical requirements for projects, their scope, engineering and economic feasibility, including tender documents, technical specifications and design drawings.
- Participates in the definition of operational requirements and development of proposal calls and contracts, for professional and technical services, in consultation with headquarters, regional and airport management staff.
- Determines priorities for and recommends, rehabilitation, reconstruction and replacement of airport civil structures and pavements, in terms of a 20-year strategic investment plans a revolving 5-year Capital and O&M program plans in accordance with the asset management program.
- Reviews and evaluates plans and criteria for civil structures and pavement projects that may be implemented on airport property by other government departments and non-governmental agencies.
- Develops planning submissions and technical justifications for Capital and O&M projects supported by the asset management program.
- Develops, coordinates and compiles applications for federal Airports Capital Assistance Program (ACAP) funding.
- Incorporates recommendations from airport Development Plans and the Airport Pavement Management System regarding civil structures and pavements into the strategic and capital plans.



- Manages, coordinates and analyzes projects in terms of effective life-cycle management involving assessment of replacement criteria, determination of viable project alternatives, preliminary and final design solutions, specifications, transportation and construction logistics, project schedules, project cost estimates, and short- and long-term impacts on Capital and O&M project budgets.
- Evaluates and recommends approval of Capital and O&M project proposals submitted by headquarters staff, Superintendents and Airport Managers, and ensures that projects are compatible with operational requirements and Departmental policies and standards.

WORKING CONDITIONS

Physical Demands

The incumbent is required to walk considerable distances and carry out physical investigation on gravel surfaces during inspections, for approximately 40 days a year, for 8 to 10 hours daily.

Environmental Conditions

The incumbent is exposed to adverse weather conditions and insects during inspections, approximately 40 times per year, for 8 to 10 hours per occurrence. Exposure to aircraft noise requiring hearing protection occurs 10 times per year, for 1 to 4 hours.

Sensory Demands

Combined use of sight, hearing and touch is required during inspection to monitor details approximately 20 times per year, for 6 to 8 hours each time.

Mental Demands

Travel occurs 10 times per year, for a periods up to five days.

KNOWLEDGE, SKILLS AND ABILITIES

- Knowledge of pavement design and evaluation procedures, design standards and engineering practices.
- Knowledge of Capital planning, budget planning, asset management, financial control systems and project implementation processes.
- Knowledge of technical construction standards and practices.
- Knowledge of project management, control and construction.
- Knowledge of design, cost estimating, cost control and construction contract law.
- Knowledge of contract management and administration.
- Proficiency with Microsoft Office, Internet and communications software.
- Ability to identify and resolve common engineering civil engineering problems.



- Ability to communicate complex concepts, orally and in writing, to both technical and lay audiences.
- Ability to organize competing technical and personal interests while applying approved standards and procedures to achieve successful project completion.
- Ability to recognize the early signs of conflict and to adopt conflict resolution strategies.
- Ability to commit to actively upholding and consistently practicing personal diversity, inclusion and cultural awareness, as well as safety and sensitivity approaches in the workplace.

Typically, the above qualifications would be attained by:

A post-secondary diploma in Engineering Technologies, with five (5) years of relevant experience including experience in the planning, design, implementation and project management of civil engineering projects.

Equivalent combinations of education and experience will be considered.

ADDITIONAL REQUIREMENTS

Position Security (check one)

- No criminal records check required
- Position of Trust – criminal records check required
- Highly sensitive position – requires verification of identity and a criminal records check

French language (check one if applicable)

- French required (must identify required level below)

Level required for this Designated Position is:

ORAL EXPRESSION AND COMPREHENSION

Basic (B) Intermediate (I) Advanced (A)

READING COMPREHENSION:

Basic (B) Intermediate (I) Advanced (A)

WRITING SKILLS:

Basic (B) Intermediate (I) Advanced (A)

- French preferred

Indigenous language: Select language

- Required
- Preferred