

New

Ministry

Transportation

Describe: Basic Job Details

Position

Position ID

Position Name (30 characters)

Bridge Technologist

Requested Class

Technologies 6

Job Focus

Operations/Program

Supervisory Level

00 - No Supervision

Agency (ministry) code

Cost Centre

Program Code: (enter if required)

Employee

Employee Name (or Vacant)

Organizational Structure

Division, Branch/Unit

C&M/Peace Region/Bridges

Current organizational chart attached?

Supervisor's Position ID

Supervisor's Position Name (30 characters)

Supervisor's Current Class

Design: Identify Job Duties and Value

Job Purpose and Organizational Context

Why the job exists:

Working within the current standards, funding policies, and program guidelines, the Bridge Technologist is responsible for assisting the Bridge Manager in the development, delivery and monitoring of the bridge construction, rehabilitation and maintenance programs within the Peace Region. This position engages Consultants and Contractors to perform inspections, construction, rehabilitation and maintenance, in a timely and cost effective manner on various bridge structures in the Peace Region. The purpose is to provide and safe and well-maintained bridge infrastructure to the travelling public.

Responsibilities

Job outcomes (4-6 core results), and for each outcome, 4-6 corresponding activities:

Oversees the delivery of the Bridge Maintenance Program on the Provincial Highways

- Reviews any Level I or Level II Bridge Maintenance Inspections for maintenance items and schedules there pairs.
- Develops plans or repair procedures to site specific conditions for 50 to 150 projects a year.
- Reacts to emergency repair situations for the Department's bridge infrastructure.
- Uses a variety of delivery methods to complete the work including preparing sole source invitational bids to the local Maintenance Contractors (from \$100 to \$100,000) and preparing (and administering) regional tenders (from \$50,000

to \$100,000).

- Prepares and obtains any necessary environmental approvals from external agencies, for each project.
- Prepares a cost estimate, completes negotiations for quote (from the Contractor) and submits them both to the Bridge Manager for approval.
- Initiates the funding approval process by completing the necessary forms for signatures.
- Attends any program meetings.
- Provides regular updates to the Bridge Manager.

Engage Engineering Consultants to provide Supervision and Technical Answers for a Variety of Maintenance Projects

- Defines the scope of the work and prepares the Terms of Reference for Consultant Agreements or Regional Services Agreements.
- Oversees the Consultant completing the Level 1 Bridge Inspection Program in the Region.
- Monitors the performance of the Consultant and acts as the Department's first contact for the contract administration.
- Provides any written performance evaluations of the Consultant.

Contract Administration

- Monitor the Contractor's work including traffic accommodation and environmental controls.
- Check for compliance to the specifications.
- Liaise with the Contractor to provide solutions to engineering and logistical problems.
- Prepare progress estimates, verify quantities and initiate payment procedures.
- Completes the final inspections for compliance.

Assist in the Delivery of Other Regional Bridge Programs

- Assists other Regional Technologists and Engineers in the delivery of the Rehabilitation and Construction programs for both the local roads and provincial highways.
- Liaise with both internal and external agencies on bridge related matters.

Provides Assistance to External Stakeholders

- Provide technical drawings, technical advice and file information to the Municipalities to assist in the delivery of their local road bridge program.
- Provide file information and review utility line installation approvals near bridge structures.

Problem Solving

Typical problems solved:

This position assists in the delivery of the bridge maintenance program for the entire Peace Region. The technologist is responsible for defining the scope of the work and engaging a contractor and/or consultant to complete it. Most projects are completed with the Local Maintenance Contractor with the technologist providing plans and specifications to the Contractor. Sufficient and innovative technical knowledge of repair procedures and how to oversee the work is essential. The number of projects each year range from 50 to 150 sites (with an individual cost of up to \$100,000). Timing the repairs to have the least impact on the public and organizing dozens of projects at different stages of assessment, tendering and construction is required. Liaising with all interested parties and stakeholders, including the Department of Fisheries and Oceans and Alberta Environment, utility companies, and the public is required for each site.

Types of guidance available for problem solving:

Guidance is available from Regional Staff of varying experience levels, Department Technical Leads, Consulting Engineering firms on regional retainer, Regional Maintenance Contractors.

Direct or indirect impacts of decisions:

Direct impacts include the operations of the provincial network and the state of condition of the bridge asset. Timely responses and prompt action is required for assurance that service is maintained. Indirect impacts of role is the roll up of information in the asset management strategy database. Bridge technologist role is first line in information flow.

Key Relationships

Major stakeholders and purpose of interactions:

Bridge, Road, Tunnelling Contractors
 Regional Engineering Firms
 Specialty Bridge Engineering Firms
 Various First Nations and Metis
 Various Municipal Districts, Townships, Cities
 Internal Department - Alberta Transportation
 External Departments - Alberta Environment
 Federal Departments - Transport Canada, DFO

Required Education, Experience and Technical Competencies

Education Level	Focus/Major	2nd Major/Minor if applicable	Designation
Diploma (2 year)	Engineering		Other

If other, specify:

Certified Engineering Technologist (C.E.T.)

Job-specific experience, technical competencies, certification and/or training:

Ideal candidate shall have a good understanding of the bridge inspection program and relevant Alberta Transportation Specifications. Candidate must have understanding of heavy civil construction (bridge, tunnel, road), contract management, and a technical and practical understanding of how to delivers solutions for rehabilitation and construction of the various types of structures in the Region. Creativity and innovation is required to prepare practical repair solutions.

A good knowledge on the application of various repair materials including wood, concrete, steel, adhesives, coatings and scalers is required. Effective communication, both written and oral is required. Skills in word processing, structural analysis, hydrology analysis, geo-technical analysis, drafting, surveying and people management are an asset.

An understanding of the following regulations are also an asset: Occupational Health and Safety Act, Bridge Size Culverts and Design and Drafting Guidelines, Highway Geometric Design Guide, Standard Specifications for Highway Construction, Alberta Environment's Code of Practice for Water Crossings.

Some media and public contact and a valid driver's license are also required.

Behavioral Competencies

Pick 4-5 representative behavioral competencies and their level.

Competency	Level					Level Definition	Examples of how this level best represents the job
	A	B	C	D	E		
Systems Thinking	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Takes a long-term view towards organization's objectives and how to achieve them: • Takes holistic long-term view of challenges and opportunities	Working through asset management planning for repairs aligned with long term strategies. Able to use critical thinking to evaluate fit for purpose solutions for

		<ul style="list-style-type: none"> • Anticipates outcomes and potential impacts, seeks stakeholder perspectives • Works towards actions and plans aligned with APS values • Works with others to identify areas for collaboration 	construction and maintenance.
Drive for Results	<input type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<p>Works to exceed goals and partner with others to achieve objectives:</p> <ul style="list-style-type: none"> • Plans based on past experience • Holds self and others responsible for results • Partners with groups to achieve outcomes • Aims to exceed expectations 	Takes ownership of bridge program and projects. Active participant in PRB process improvement initiatives.
Agility	<input type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<p>Works in a changing environment and takes initiative to change:</p> <ul style="list-style-type: none"> • Takes opportunities to improve work processes • Anticipates and adjusts behaviour to change • Remains optimistic, calm and composed in stressful situations • Seeks advice and support to change appropriately • Works creatively within guidelines 	Take opportunities to learn from teammates and others and also to learn to lead through influence - Owner's role has ability to set pace and expectations for outcomes.
Develop Networks	<input type="radio"/> <input type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/>	<p>Leverages relationships to build input and perspective:</p> <ul style="list-style-type: none"> • Looks broadly to engage stakeholders • Open to perspectives towards long-term goals • Actively seeks input into change initiatives • Maintains stakeholder relationships 	Participate in department and industry discussions on bridge and civil works.

Benchmarks

List 1-2 potential comparable Government of Alberta: