

Update

Ministry

Environment and Protected Areas

Describe: Basic Job Details

Position

Position ID

Position Name (30 characters)

Resilience Infrastructure Eng

Current Class

Job Focus

Supervisory Level

Agency (ministry) code

Cost Centre

Program Code: (enter if required)

Employee

Employee Name (or Vacant)

Organizational Structure

Division, Branch/Unit

☐ Current organizational chart attached?

Supervisor's Position ID

Supervisor's Position Name (30 characters)

Resilience Infra Eng Team Lead

Supervisor's Current Class

Design: Identify Job Duties and Value

Changes Since Last Reviewed

Date yyyy-mm-dd

2024-06-03

Responsibilities Added:

Updated to reflect Minister's mandate and current priorities.
No significant changes in responsibilities.

Responsibilities Removed:

Job Purpose and Organizational Context

Why the job exists:

Reporting to the Resilient Infrastructure Engineering Team Lead, the Resilience Infrastructure Engineer is responsible for supporting the delivery of high priority resilience infrastructure projects, including a strategic review of water storage opportunities in Alberta and the Ardley Reservoir Scoping and Feasibility Study, and providing technical review and advice on drought and flood management infrastructure.

As an experienced engineer with a background in geotechnical, water resources, civil, or a related field, the Resilient Infrastructure Engineer will provide project management and technical support on a variety of section, branch and department initiatives, including the Bow River Reservoir Options and watershed infrastructure grants, such as the new five year, \$125-million, Drought and Flood Protection Program.

Responsibilities

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

Deliver strategic assessments of water storage opportunities that aligns with provincial priorities and overall provincial resilience

- Provide project management and subject matter expertise to develop and maintain a list of strategically valuable water storage opportunities that have the potential to enhance water security and community resilience to drought and flood.
- Collaborate with subject matter experts in other business areas (e.g., EPA's Lands, Water Policy and Air and Watershed Stewardship teams; and other departments, such as Agriculture and Irrigation and Transportation and Economic Corridors) to ensure alignment with other government led projects and programs (e.g., Eyremore reservoir feasibility study, Bow River Reservoir Options initiative, Dam and Canal Safety, Water management plans, etc.).
- Engage with external stakeholders to understand their water management infrastructure priorities (e.g., local governments, Indigenous groups, Watershed Planning and Advisory Councils, Alberta irrigation districts and industry groups).
- Provide technical advice and assist in preparing briefings senior government officials, including the Minister, on provincial water storage opportunities to improve community resilience.

Deliver feasibility assessments of potential major new water management infrastructure

- Apply sound project management practices, including leading project teams, to determine viable options for major water management infrastructure that will reduce the flood and drought exposure in a cost-effective and expeditious manner (e.g., Ardley Reservoir Scoping and Feasibility Study, Bow River Reservoir Options Initiative)
- Retain services of consultants by developing Request for Proposals, project terms of reference, and leading the consultant selection process.
- Manage multiple contracts, budgets, and timelines to successfully deliver high profile projects on-time and on budget.
- Review and provide feedback back on draft and final deliverables to ensure consultants meet contract requirements.
- Provide technical response to queries from external parties with concerns regarding impacts of water management infrastructure projects and assist in assessing the role of the department in any required action.
- Provide technical support for effective engagement with Indigenous communities, stakeholders, and the public, ensuring they understand the projects' benefits, impacts, and risks.

Provide engineering or technical advice to enhance provincial resilience to flood and drought

- Provide expert advice and support flood and drought resilience strategies, program development,

implementation, communications and innovation.

- As a leading technical expert in water storage infrastructure and flood and drought resilience, this position will be expected to represent the branch in a variety of internal or external forums related to flood and drought management.
- Monitor and ensure provincial alignment with strategic federal trends in disaster risk reduction, water infrastructure trends and nature-based solutions.
- Maintain knowledge of provincial flood drought policies and program to maintain alignment with other ministries (e.g. Public Safety and Emergency Services, Municipal Affairs, Agriculture and Irrigation) and agencies (i.e. Alberta Emergency Management Agency).
- Where appropriate, recommend natural, non-structural flood and drought mitigation projects to improve overall aquatic ecosystem health and increase the capacity of the province's watersheds to reduce the intensity, magnitude and duration of drought and flooding.
- Assist in planning and co-ordination for the development of long-term planning and budget requests (capital and operating).

Providing technical support to assist communities developing comprehensive plans to ensure long-term drought and flood mitigation is achieved within manageable risk levels

- Support the department's grants programs (e.g., Drought and Flood Protection Program) by providing engineering review and input on grant applications, amendments and design changes.
- Develop and maintain productive relationships to support communities with their resilience strategies and plans, as well as investigating options for critical infrastructure protection.
- Provide subject matter expertise to inform provincial risk assessments, including consideration for current and future flood and drought risk.
- As required, support community level emergency management programs.

Lead and develop team members to ensure effective delivery of projects and programs

- Lead technical staff and project teams to effectively deliver a range of projects and assignments.
- Engage in on-going communication, coaching, feedback and mentoring of junior technical staff to ensure they receive the appropriate support to be productive and successful.
- Gather and synthesize information from various staff members, other government departments, agencies and stakeholders as required.
- Maintain awareness and work within the parameters of established legislation, policies, plans (including Government of Alberta strategic business plan, Ministry business plan, Minister's mandate letter), guidelines and standard practices.
- Ensures an understanding of assigned work and priorities, including checking in with the director when clarification is required.
- Develop Briefing Notes, information for decisions, and responses to Action Requests, ensuring issues are appropriately researched and responses are clear and in line with expected requirements and timelines.

Problem Solving

Typical problems solved:

- Completing high-profile government projects that include a wide range of stakeholder perspectives, complex engineering and environmental considerations and unknowns (e.g., future federal regulatory legislation, climate change, future flood or drought events).
- Providing clear and timely direction to consultants to ensure they can deliver their services in a manner that provides high value to the department and Albertans.
- Preparing and updating briefing materials, budgets and financial reporting under short timelines.
- Building effective alliances and teams with individuals who possess different perspectives and business areas to facilitate planning, consensus building, and decision-making processes for major water infrastructure projects.
- Managing resources and competing resource demands from the multiple departments who share responsibility for delivering water infrastructure planning, construction and operations.

Types of guidance available for problem solving:

- Ongoing, or recently completed, water infrastructure project materials, including reports, terms of reference and technical guidelines will inform daily actions.
- Guidance is available from the director and executive director of the branch. The branch also has a range of flood and drought subject matter experts who can be called upon for scientific and engineering advice.
- Subject matter experts from other departments are available, including Agriculture and Irrigations' Water Infrastructure and Operations branch and Transportation and Economic Corridors' Water Management Capital Project's branch.
- Access to guidance from various teams with legal, hydrology, water management, water policy, transboundary waters, and flood and drought mitigation expertise.

Direct or indirect impacts of decisions:

- The position has direct influence over high profile projects that could include the construction of new water management infrastructure that is potentially worth a billion dollars or more. These projects may have major impacts on the provincial water supply, flood protection, drought mitigation, and interprovincial commitments.
- Direct engagement with elected officials and staff all levels of government, including municipalities, Metis and First Nation groups.

Key Relationships

Major stakeholders and purpose of interactions:

- Branch management team and staff -collaborative with leadership and staff to deliver projects, provide advice and recommendations for water infrastructure to protect Albertans from drought and flood impacts.
- Other GoA branches and Ministries - align with ongoing and planned water infrastructure projects (i.e., Agriculture and Irrigation, Transportation and Economic Corridors).
- Project stakeholders - engage with stakeholders to maintain strong relationships, provide project information, collaborate on issue identification and resolution, and represents the ministry's perspectives

and directions.

Required Education, Experience and Technical Competencies

Education Level	Focus/Major	2nd Major/Minor if applicable	Designation
Bachelor's Degree (4 year)	Engineering	Science	PEng

If other, specify:

PMP is an asset

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

The position requires a post-secondary degree in engineering or related degree, with specialization in civil, geotechnical, hydrotechnical or related field, plus a minimum of ten years of relevant experience. A graduate degree and/or extensive directly related work experience is a significant asset.

Registered or eligibility for immediate registration as a Professional Engineer (P.Eng) with the Association of Professional Engineers and Geoscientists of Alberta (APEGA) is required.

The ideal candidate will have sound knowledge and understanding of:

- Supervising junior engineers, scientists and technologists
- Leading project teams.
- Knowledgeable and experienced in water storage infrastructure for drought and flood protection.
- Flood protection measures, including diking and flood proofing
- Project management, including procurement and contract management.
- Issues management related to high profile or contentious projects.
- Related legislation, regulations, directives and policies related to water management (e.g. Water Act, Dam Safety Regulations, Water for Life)
- Government strategic business plans, goals, policy direction and mandates.
- Effective communication skills to develop and maintain relationships with partners, the department, and other government ministries, municipalities, and the public.
- Experience working with Indigenous groups, directly impacted stakeholders (e.g., landowners) and the public.
- Strong, effective written and verbal communication skills.
- Strong interpersonal, leadership, and conflict resolution skills.
- Self motivated, able to prioritize work, establish and meet deadlines, and achieve expected results.

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		
Creative Problem Solving	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Focuses on continuous improvement and increasing breadth of	Works with stakeholders understand their concerns.

		<p>insight:</p> <ul style="list-style-type: none"> • Asks questions to understand a problem • Looks for new ways to improve results and activities • Explores different work methods and what made projects successful; shares learning • Collects breadth of data and perspectives to make choices 	<p>Consults with subject matter experts and staff to find and implements appropriate changes to project design/delivery to improve project and relationship outcomes.</p>
Build Collaborative Environments	○ ● ○ ○ ○	<p>Facilitates open communication and leverages team skill:</p> <ul style="list-style-type: none"> • Leverages skills and knowledge of others • Genuinely values and learns from others • Facilitates open and respectful conflict resolution • Recognizes and appreciates others 	<p>Foster learning and a total project view, encouraging creative thinking, when considering project outcomes.</p> <p>Collaboration with other ministries to ensure optimal project outcomes. Promote partnering when key elements of the project require multiple points of view.</p>
Systems Thinking	○ ● ○ ○ ○	<p>Considers inter-relationships and emerging trends to attain goals:</p> <ul style="list-style-type: none"> • Seeks insight on implications of different options • Analyzes long-term outcomes, focus on goals and values • Identifies unintended consequences 	<p>Many water infrastructure projects will have multiple phases. A systems view and consideration of long-term objectives will be required ensure the success of subsequent phases.</p>
Agility	○ ○ ● ○ ○	<p>Identifies and manages required change and the associated risks:</p> <ul style="list-style-type: none"> • Identifies alternative approaches and supports others to do the same • Proactively explains impact of changes • Anticipates and mitigates emotions of others • Anticipates obstacles and stays focused on goals • Makes decisions and 	<p>Assess potential issues related to project complexity and develop approaches to achieve program and project goals.</p> <p>Respond to rapidly changing situations during the project Use past experience and skills to assess the situation, seek input, and provide direction.</p>

		takes action in uncertain situations and creates a backup plan	
Drive for Results	○ ● ○ ○ ○	<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 	<p>Many of the projects are complex and happening within a complicated environment of stakeholders, rights holders and community groups with opinions and vested interests in preferred outcomes. The project timelines and budgets are tight and the role will require flexibility and a constant focus on the end deliverables.</p>

Benchmarks

List 1-2 potential comparable Government of Alberta: [Benchmark](#)

Assign

The signatures below indicate that all parties have read and agree that the job description accurately reflects the work assigned and required in the organization.

Employee Name

Date yyyy-mm-dd

Employee Signature

Supervisor / Manager Name

Date yyyy-mm-dd

Supervisor / Manager Signature

Director / Executive Director Name

Date yyyy-mm-dd

Director / Executive Director Signature

ADM Name

Date yyyy-mm-dd

ADM Signature