**Job Class Profile:** 

**Engineering Technician II** 

Pay Level:		CG-30			Point Band:			676-689		
						Accountability		Development	Environmental	
		Interpersonal				& Decision		and	Working	Total
Factor	Knowledge	Skills	Physical Effort	Concentration	Complexity	Making	Impact	Leadership	Conditions	Points
Rating	4	4	2	5	4	4	4	3	4	
Points	187	67	13	24	120	87	83	64	43	688

# **JOB SUMMARY**

The Engineering Technician II is responsible to provide sub-professional engineering and technical support services on capital construction and renovation projects. This may include supervising and participating in inspection work, planning and co-ordinating survey parties, assisting engineers in planning the annual work programme, reviewing shop drawings for accuracy and conformance to department specifications, preparing cost estimates, and providing advice relating to codes and standards.

# **Key and Periodic Activities:**

- Supervises and directs all inspection work on large or complex highway and bridge construction projects. Carries out inspection work on small to moderate construction projects to ensure adherence to prescribed specifications.
- Ensures all work carried out by contractors is in compliance with OH&S regulations and department's traffic control manual, and comply with Departmental and Engineering standards and specifications; reviews and approves contractor safety manuals.
- Plans and coordinates the work of assigned staff on projects; makes assignments to survey
  party chiefs; provides technical direction on difficult problems.
- Reviews shop drawings; inspects all construction materials to ensure conformance with drawings and specifications; ensures appropriate testing is conducted on those materials.
- Provides technical support on codes and standards issues and act as a designated coordinator for specific projects (i.e. asbestos abatement), including interpreting codes, standards and regulations, assessing buildings, responding to questions, maintaining records, and preparing plans
- Designs and develops signs, way-finding, fire safety and evacuation plans, including training and orientation to staff for facilities.
- Prepares estimates for capital works projects and adjusts scope of work to confirm to budgets allocated.
- Checks tender documents to ensure that all quantities are correct.
- Resolves major work problems with contractors on the job; maintains harmonious work relationships with land owners and general public, obtaining co-operation in highway, bridge or wharf construction.

# **Key and Periodic Activities:**

- Visits work sites, observes work in progress, and gives technical direction and reviews reports and records. Tracks contract quantities and costs to ensure project remains on budget.
- Prepares complete information for all reports, progress payments and final estimates. Prepares technical reports.
- Performs CSA testing on fresh concrete.
- Carries out inspections for crown land applications.
- Produces labels for equipment and maintain asset number records.
- Develops keying system for buildings.

# SKILL

#### Knowledge

#### General and Specific Knowledge:

- Knowledge of various software for spreadsheet, database and design applications
- Knowledge of construction contracts, specifications and standards
- Knowledge of various construction methods and practices

# Formal Education and/or Certification(s):

— Minimum: 3-year Diploma in Engineering Technology

### Years of Experience:

— Minimum: 3-4 years

# **Competencies:**

- Strong computer skills.
- Ability to interpret and apply contracts, specifications and standards.
- Ability to communicate with others.

#### **Interpersonal Skills**

- A range of interpersonal skills are used to listen to information, ask questions, provide routine information, gain the cooperation of others, and provide technical advice. Skills are most frequently used to listen to information and provide routine information and clear direction to others and may involve contentious issues.
- Communications occur with employees, supervisors/managers, contractors, general public, students and employees in other departments/agencies.
- The most significant interactions are with supervisor/Manager to inform on project progress and issues and to receive direction and assignments; employees in the immediate work area to schedule and delegate work and monitor progress and provide technical direction; and contractors to maintain good relations to ensure a project proceeds as planned on budget, to resolve differences on drawings, specs and contract language.

### EFFORT

### **Physical Effort**

- Work occasionally results in considerable fatigue requiring periods of rest especially during

- prolonged periods of driving, long concrete pours on bridge construction and large paving jobs.
- Work also requires occasional lifting of equipment, tools, samples of construction materials.
- Requires sitting, standing and walking and driving while using the computer and travelling to and inspecting construction sites and fine finger work when at the computer and using survey equipment and measurement instruments. Maintaining balance is required when climbing steep slopes or manoeuvring around construction.

# Concentration

- Visual concentration is regularly required while drafting and reviewing drawings, preparing spreadsheets, extended driving, reading/writing reports and conducting inspections.
- Auditory concentration may include listening to team and contractors where sites may be very noisy, and hearing for awareness to unsafe situations, listening to requests from clients and listening during meetings.
- Repetition requiring alertness is required during the inspection of construction materials for extended periods.
- Higher than normal levels of attentiveness are required to ensure personal safety and the safety of all on the site, eliminate hazards, ensure proper equipment is worn and safety procedures are followed. Monitoring traffic flow on highway projects is important.
- There are **deadlines to meet and interruptions** can be frequent depending upon activity. With construction work it is critical to meet timelines and budgets; inspections and testing must be carried out efficiently so as not to interrupt progress and get payments to contractors; tender documents must be prepared quickly to get contracts awarded. **Time pressures** are regular for example: progress estimates are required on time each month, safety meetings must be held biweekly, concrete tests must be made before curing takes place and before pouring is allowed.
- Exact results and precision, eye/hand coordination are required in design work, operating of
  materials testing and survey equipment, calculating quantities, taking field measurements and
  conducting inspections.

# Complexity

- Tasks are varied and range from regularly repetitive/well defined to occasionally different and unrelated. Work includes supervising and directing all inspection work on large or complex highway and bridge construction projects.
- Typically, work is performed with defined and standard work processes, have obvious or limited solutions and/or can be addressed by following procedures or guidelines, finding practical solutions or using creative problem solving with complex solutions. The most typical issues to solve are: accepting or rejecting materials used or determining if contractor's work meets specifications, standards and code.
- Departmental field manuals, Department Specifications and design standards, National Codes and regulations, OHS regulations, standards, and policies, precedents and professional Engineering and other expert staff are available as references or resources.

# RESPONSIBILITY

# Accountability and Decision-Making

- Work tasks are moderately prescribed or controlled.

- There are various decisions that can be made without written or verbal approval such as changes to contract quantities as long as the decisions stay within the scope of work of the contract. Can approve overtime for staff as long as it is for reasons outlined in the departmental field manual.
- An addition to the scope of work of the contract or in the unit price of the contract requires supervisory/head office approval.
- Independent discretion, judgement and latitude are exercised in managing projects making adjustments based on site conditions, conducting inspections and monitoring contractor activities, interpreting plans and specifications, solving technical problems and scheduling staff and in office work.

### Impact

- Results are directly felt within the immediate work area, department, within and outside the organization and by clients and the general public.
- Results directly impact equipment, processes, finances, material and human resources, contractors, the general public, and health and safety.
- Consequences of errors are moderate and felt outside the department by clients and the public but are mitigated by supervision and project progress updates/review.

# **Development and Leadership of Others**

 May provide project supervision to various staff engaged on maintenance, renovation and/or construction projects and/or serve as project leader.

# WORKING CONDITIONS

# **Environmental Working Conditions**

- Work tasks require protective gear and precautions.
- The likelihood of minor injury is moderate; major injury limited.
- Exposed to a variety of undesirable environmental conditions and hazards such as dust, fumes, wet or slippery surfaces, and temperature extremes, isolation, dangerous heights, infectious diseases and heavy machinery when on construction sites and performing inspections.