



June 2008

## **PROJECT ENGINEER**

### **DEFINITION**

Under general supervision, performs a variety of field and office engineering work, which may include assisting in the management, planning, design, construction, and maintenance of City capital improvement projects, City public works infrastructure, and daily departmental operations; confers with developers, contractors, and representatives of other agencies regarding facility and infrastructure development; assists in administering professional services and construction contracts; provides complex assistance to department management in areas of expertise; performs a variety of studies and prepares and presents staff reports; and performs related work as required.

### **SUPERVISION RECEIVED AND EXERCISED**

Receives general supervision from assigned supervisory or management personnel. Exercises technical and functional direction over and provides training and guidance to assigned technical and administrative support staff.

### **CLASS CHARACTERISTICS**

This is the fully experienced class in the professional engineering series, with responsibilities spanning the entire spectrum of the City's engineering function. Successful performance of the work requires an extensive professional background as well as skills in project management and administration of capital improvement projects, coordinating work with other City departments and public agencies, as well as dealing with the public. This class is distinguished from Senior Project Engineer in that the latter is the highest-level class in the professional engineering series responsible for organizing, assigning, supervising, and reviewing the work of assigned staff involved in engineering operations.

### **EXAMPLES OF ESSENTIAL FUNCTIONS (Illustrative Only)**

*Management reserves the rights to add, modify, change, or rescind the work assignments of different positions and to make reasonable accommodations where appropriate so that qualified employees can perform the essential functions of the job.*

- Plans, designs, and inspects all phases of civil engineering public works construction projects, including defining the scope of the project; securing adequate funding from Federal and State grant programs and other funding sources; coordinating with permitting and public utility agencies; performing historical document research and review; surveying and engineering analysis of alternatives; preparing plans, specifications, and cost estimates; performing research, map, and field studies and surveys; drafting site plans with specialized computer software; applying engineering principles and practices to specific problems; coordinating construction schedules with other projects and agencies, preparing and reviewing cost estimates and inspecting construction of projects to ensure compliance with construction documents; and other related engineering and design work.

- Reviews construction plans prepared by consulting engineers and private contractors to verify compliance with City sidewalk, public utility, and improvement requirements; checks plans for conformance with regulations regarding line, grade, size, elevation, and location of structures; reviews engineering calculations of other engineers or engineering technicians; participates in pre-design, construction, and utility coordination meetings and issues construction permits.
- Provides construction administration, public relations, management, and inspection of public works construction projects, including coordinating work with other divisions and City departments, reviewing and inspecting work to ensure conformance with plans and specifications, tracking and maintaining all project accounting, coordinating schedules, and providing public notices of projects.
- Investigates field problems affecting property owners, contractors, and maintenance operations; responds to citizen inquiries and complaints; provides information to the public at the front counter in person, via telephone, or other means of communication regarding grading, encroachment permits, right-of-way and property line information, utility information, slope stability and groundwater issues, improvement plan check, and payment processes.
- Participates in the development of consultant requests for proposals for professional and/or construction services and the advertising and bid processes; evaluates proposals and recommends project award; negotiates and administers contracts for construction projects; ensures contractor compliance with City standards and specifications, time, and budget estimates; analyzes and resolves complex problems that may arise; recommends and approves field changes as required.
- Provides technical review for construction plans for private developments to ensure adherence to City rules and standards; recommends changes as necessary.
- Keeps immediate supervisor and designated others accurately informed concerning work progress, including present and potential work problems and suggestions for new or improved ways of addressing such problems.
- Attends meetings, conferences, workshops, and training sessions and reviews publications and audio-visual materials to become and remain current on principles, practices, and new developments in assigned work areas.
- Communicates and coordinates regularly with appropriate others to maximize the effectiveness and efficiency of interdepartmental operations and activities.
- Provides technical direction and training to other engineering and technical staff.
- Performs other duties as assigned.

**In addition to the above, when performing the right-of-way administration assignment:**

- Coordinates long-term, short-term, and day-to-day operations of rights-of-way activities to ensure adherence to Federal, State, and local laws and City policies and procedures; monitors program and project budgets; develops, implements, and updates policies, procedures, methods, practices, techniques to support efficient use and management of the public right-of-way; performs short- and long-range planning; analyzes program and project alternatives and advises management on recommendations for improvements and changes.
- Ensures efficient and effective implementation of major projects and programs to enhance the management of public space, structures, and right-of-ways.
- Recommends, implements, and monitors right-of-way permit fees and charges in compliance with City policy; makes recommendations for changes; initiates periodic reviews of public space permit issuance and inspection fees to ensure public space management costs are fully recovered; provides guidance to the Permit Technicians regarding permits to access rights-of-way issues.

**QUALIFICATIONS**

**Knowledge of:**

- Civil engineering principles, techniques, policies, and procedures.

- Methods, materials, and techniques used in the construction of public works projects, including water and wastewater systems, stormwater, street, and traffic systems design.
- Basic principles, practices, procedures, and standards related to City public works and engineering infrastructure development and maintenance.
- Basic principles and practices of capital improvement program budgeting, cost estimation, funding, project management, and contract administration.
- General design, layout, and construction practices for public improvements such as streets, storm drains, grading, and landscaping.
- Subdivision engineering, plan review, mapping, and construction practices.
- Bidding requirements for public works projects.
- Engineering plan types, review practices, and permit filing and approval procedures.
- Applicable Federal, State, and local laws, codes, and regulations.
- Modern developments, current literature, and sources of information regarding engineering.
- Principles of advanced mathematics and their application to engineering work.
- Practices of researching engineering and design issues, evaluating alternatives, making sound recommendations, and preparing and presenting effective staff reports.
- Methods and techniques of effective technical report preparation and presentation.
- Modern office practices and technology, including personal computer hardware and software applications related to the work, such as computer-aided drafting concepts and applications, and Geographic Information Systems (GIS) programs.
- English usage, grammar, spelling, vocabulary, and punctuation.
- Techniques for effectively representing the City in contacts with governmental agencies, community groups, various business, professional, educational, and regulatory organizations and with property owners, developers, contractors, and the public.
- Techniques for dealing effectively with the public, vendors, contractors, and City staff, in person and over the telephone.
- Techniques for providing a high level of customer service to public and City staff, in person and over the telephone.

**Ability to:**

- Conduct complex civil engineering research projects, analyze complex problems, evaluate alternatives, make sound recommendations, and prepare effective technical staff reports.
- Prepare, understand, and interpret engineering construction plans, specifications, and other contract documents.
- Conduct comprehensive engineering studies and prepare reports with recommendations.
- Assist in and develop and administer contracts for professional services and construction in a public agency setting.
- Read, interpret, apply, and explain technical written material and complex laws, codes, regulations, ordinances, and City engineering policies and procedures.
- Design engineering projects.
- Read and understand technical drawings and specifications.
- Perform mathematical and engineering computations with precision.
- Recognize discrepancies from as-built to contract specifications and recommend reconciliation of any discrepancies.
- Make engineering design computations and check, design, and prepare engineering plans and studies.
- Effectively represent the department and the City in meetings with governmental agencies, community groups, and various business, professional, and regulatory organizations and individuals.
- Coordinate assigned activities with other City departments and agencies as required.
- Direct the work of contract consultants.

- Prepare and present clear, concise, and logical written and oral reports, correspondence, policies, procedures, and other written materials.
- Establish and maintain a variety of filing, record-keeping, and tracking systems.
- Make sound, independent decisions within established policy and procedural guidelines.
- Organize and prioritize a variety of projects and multiple tasks in an effective and timely manner; organize own work, set priorities, and meet critical time deadlines.
- Operate modern office equipment including computer equipment and specialized software applications programs.
- Comprehend and use English effectively including producing all forms of communication in a clear, concise, and understandable manner to intended audiences.
- Use tact, initiative, prudence, and independent judgment within general policy, procedural, and legal guidelines.
- Establish, maintain, and foster positive and harmonious working relationships with those contacted in the course of work.

### **Education and Experience:**

*Any combination of training and experience, which would provide the required knowledge, skills, and abilities is qualifying. A typical way to obtain the required qualifications would be:*

Equivalent to graduation from an accredited four-year college or university with major coursework in civil engineering or a related engineering field and three (3) years of increasingly responsible experience in professional engineering design, plan review, and project administration experience, preferably in a public agency setting.

### **Licenses and Certifications:**

- Possession of a valid driver's license with a satisfactory driving record.
- Within six (6) months of appointment into the class, must obtain Registration as a Professional Civil Engineer license to practice in the State of Oregon.

### **PHYSICAL DEMANDS**

Must possess mobility to work in a standard office setting and use standard office equipment, including a computer; to operate a motor vehicle; and to visit and inspect various City development and meeting sites; vision to read printed materials and a computer screen; and hearing and speech to communicate in person, before groups, and over the telephone. This is primarily a sedentary office classification, although the job involves field inspection work requiring frequent walking at inspection sites to monitor performance and to identify problems or hazards; standing in work areas and walking between work areas may be required. Finger dexterity is needed to access, enter, and retrieve data using a computer keyboard or calculator and to operate standard office equipment. Positions in this classification occasionally bend, stoop, kneel, reach, push, and pull drawers open and closed to retrieve and file information. Employees must possess the ability to lift, carry, push, and pull materials and objects weighing up to 25 pounds.

### **ENVIRONMENTAL ELEMENTS**

Employees work in an office environment with moderate noise levels and controlled temperature conditions; but may occasionally be exposed to loud noise levels, cold and hot temperatures, inclement weather conditions, road hazards, vibration, confining workspace, chemicals, mechanical and/or electrical hazards, and hazardous physical substances and fumes. Employees may interact with upset staff and/or public and private representatives in interpreting and enforcing departmental policies and procedures.