



JOB CLASSIFICATION

Job Title	Principal Engineer	Job Code	401
Department	Public Works	Pay Band	414
FLSA Status	Exempt	Union Status	Non-Union
Prepared	06/18/2018	Adopted	12/17/2018
Amended	06/21/2021, 12/4/23		

Class specifications are intended to present a descriptive list of the range of duties performed by employees in the class. Specifications are not intended to reflect all duties performed within the job.

POSITION DEFINITION

Perform highly complex professional civil engineering work including designing various projects, preparing cost estimates, drafting specifications, and collecting site data; to supervise the design and construction of public infrastructure projects; to review and approve consultant design plans for new City subdivisions; and to provide highly complex staff support to the City Engineer.

DISTINGUISHING CHARACTERISTICS

This is a senior level class in the Engineer series. Employees within this class perform the full range of engineering duties as assigned, including oversight of design projects, preparations of specifications, and cost estimates. Employees at this level receive little instruction or assistance unless new or unusual situations arise and are fully aware of the operating procedures and policies of the work unit.

SUPERVISION RECEIVED AND EXERCISED

Receives direction from the City Engineer or the Director of Public Works.

Exercises direct supervision over positions such as: Civil Engineer I, Civil Engineer II, Engineering Technician I, Engineering Technician II, and Civil CAD/GIS Technician.

EXAMPLES OF RESPONSIBILITIES AND DUTIES

Important responsibilities and duties may include, but are not limited to, the following:

ESSENTIAL DUTIES AND RESPONSIBILITIES

- Assist the City Engineer with all services and activities of the Engineering Division including mapping, construction projects, field survey, and contractual agreements and assist other city departments with related responsibilities.



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- Plan, prioritize, assign, oversee and review the work of staff responsible for providing technical services within the Engineering Division of the Public Works Department; work with City Engineer to determine procedures, policies, objectives and work practices for staff.
- Develop plans and implement projects from the City's Capital Improvements Program (CIP); coordinate, monitor, and administer capital projects involving engineering consultants.
- Oversee the planning, initial cost estimation, design, and construction of a variety of capital improvement projects within the City, including but not limited to underground utility installation, road reconstruction, trail construction, traffic signal installation, box culvert installation, bridge repair and maintenance, and subdivisions.
- Responsible for the review of: plans, preliminary and final plats, construction, and the final acceptance of new subdivisions; complete the recommendation of new subdivisions to the City Council.
- Compose, evaluate, and review plans, specifications, designs and related documents, technical reports and letters, proposals, reports and studies; supervise the preparation of plans, specifications and cost estimates for proposed and public improvement projects.
- Assist City Engineer in the selection, supervision, and evaluation of professional and technical staff; provide or coordinate staff training; work with employees to correct deficiencies; implement discipline procedures.
- Recommend and implement goals, objectives, and practices for providing effective and efficient services.
- Administer and monitor construction contracts including city, state and federal projects; inspect and investigate construction activities and complaints; monitor and ensure contract compliance with construction specifications and plans and federal, state and local codes, regulations and ordinances.
- Coordinate engineering projects with other city divisions and departments, utility agencies, and other outside agencies.
- Prepare preliminary plans, and cost estimates; prepare grant proposals; prepare complex reports on solutions to municipal engineering problems; monitor construction costs; review pay estimates; negotiate change orders.
- Answer questions and provide information to city staff, private contractors and developers and the general public; respond to city staff and the general public concerning developments; respond to and resolve sensitive citizen inquiries and complaints.
- Act as construction liaison for federal and state projects.
- Review site plans for storm water detention requirements.
- Coordinate with Cedar Falls Utilities regarding all municipal utility design and construction.
- Prepare or review easement and property acquisition documents.



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OTHER DUTIES AND RESPONSIBILITIES

- Provide responsible staff support to the City Engineer; conduct special projects and research; make recommendations about sensitive or complex projects.
- Responsible for hiring part time engineering personnel.
- Conduct presentations; attend and participate in professional group meetings; stay abreast of new trends and innovations in the field of engineering.
- Supervise and implement the city's pavement management program.
- Coordinate engineering public files and records.
- May act as City Engineer in their absence.
- Perform other duties as assigned.

MINIMUM SKILLS AND QUALIFICATIONS

REQUIRED KNOWLEDGE

- Principles, practices, and techniques of civil engineering and construction.
- Principles and techniques of construction cost analysis and estimates.
- Public infrastructure construction materials, methods, procedures, and applications.
- Principles and procedures of construction and engineering inspections.
- Public works construction materials, methods, procedures, and applications.
- Urban planning and zoning principles and practices.
- Procedures related to administering city, state, and federal aid construction contracts.
- Modern office procedures, methods and computer equipment including AutoCAD for the implementation of computer-generated drafting and design.
- Advanced drafting methods and techniques.
- Hydraulic analysis.
- Geometric design.
- Principles of report preparation.



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- English usage, spelling, grammar, and punctuation.
- Basic principles of supervision, training, and performance evaluation.
- Pertinent federal, state, and local laws, codes, and regulations including safety regulations.
- Civil engineering theory, principles, construction, and maintenance practices and their application to a wide variety of civil engineering programs and projects.
- Operations, services, and activities of a municipal engineering program.

ABILITY TO PERFORM

- Develop, review, and document specifications for assigned projects.
- Recommend, goals, objectives, and practices for providing effective and efficient engineering services.
- Plan, assign, and supervise the work of technical engineering personnel.
- Prepare clear and concise administrative reports.
- Analyze problems, identify alternative solutions, and project consequences of proposed actions and implement recommendations in support of goals.
- Design and oversee construction of engineering plans.
- Work within the framework of local government to develop and manage City projects from preliminary design to final completion.
- Handle complex problems and enforce necessary regulations professionally and with firmness, tact, and respect.
- Interpret and apply federal, state, and local policies, procedures, laws, and regulations.
- Communicate clearly and concisely, both orally and in writing.
- Establish and maintain cooperative-working relationships with those contacted in the course of work including city staff and the general public.



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EXPERIENCE AND TRAINING GUIDELINES

MINIMUM EXPERIENCE

Five years of professional civil engineering experience.

MINIMUM EDUCATION OR FORMAL TRAINING

Bachelor's degree from an accredited college or university with major course work in civil engineering.

LICENSES/CERTIFICATIONS REQUIRED

Possession of an appropriate, valid driver's license.

Possession of an Iowa Professional Engineering license or the ability to obtain within six months of hire.

WORKING CONDITIONS AND ENVIRONMENT

ENVIRONMENTAL CONDITIONS

Office environment with exposure to standard office equipment, such as computer screens, phones, and photocopiers. While performing fieldwork-related duties, the employee in this position may occasionally be subject to outdoor and potentially extreme weather conditions, loud noises (>85dB), electrical hazards, and close proximity to moving machinery and/or equipment, working alongside moving traffic on roads; travel from site to site.

PHYSICAL CONDITIONS

Functions of this position require maintaining physical condition necessary for walking, standing, or sitting for prolonged periods of time; squatting, crouching, kneeling, or bending while performing work activities; pushing, pulling, and reaching above the shoulder motions; ability to distinguish color; and general manual dexterity.