



Engineer

DEFINITION

Under general direction, perform civil engineering design, review, and construction inspection work and serve as Project Engineer.

SUPERVISION RECEIVED

Reports to the Assistant City Engineer.

SUPERVISION EXERCISED

May exercise technical and functional supervision of lower level staff.

EXAMPLES OF IMPORTANT AND ESSENTIAL DUTIES

Prepare and design projects; prepare construction plans and specifications; make preliminary and final estimates of work and material required.

Prepare bid documents.

Assist in the review of new project plans and specifications.

Establish grades for streets, curbs and gutters, alleys, and other paving projects, sewer lines, water lines, facilities, and similar projects.

Plot profiles; prepare maps and plans.

Provide information to contractors regarding requirements of codes, ordinances, specifications, and plans.

Design a variety of structural and pipeline projects.

Design, supervise, and inspect the construction of streets, sewer, and water lines, lift stations, curbs and gutters, sidewalks, and other public works and utilities construction projects.

Perform routine field surveys to verify compliance with construction plans, to develop base maps, to develop as-built drawings, and provide for construction control.

Act as project engineer on construction jobs and conduct field inspections of projects; make such changes for established grades as field conditions warrant; ensure that designs meet engineering, legal, and regulatory standards. Perform routine material tests and schedule contract materials testing.

Review contractors' estimates and requests for payment; assist the Public Works Director and the Assistant City Engineer in policy and procedures development, and in budgets.

Perform technical engineering design by calculating distances, ties, angles, traverses, and closures; plot cross sections and earthwork; gather and tabulate statistics in connection with engineering operations.

Prepare reports of inspections, construction progress completions, and other reports as required; maintain reports and records of activities; prepare preliminary pay estimates for construction projects.

Establish and verify street and utility grades; compile specifications for project construction.

Perform drafting duties including preparation of topographical maps, construction drawings, and facilities locations; use AutoCAD for drafting functions.

Coordinate with other departments on GIS system.

OTHER JOB RELATED DUTIES

Prepare spreadsheets and databases; represent the City on boards as assigned; perform related duties as assigned.

ESSENTIAL JOB RELATED QUALIFICATIONS

Knowledge of:

Current principles, techniques, and practices of civil and related engineering, planning, design, and construction.

Pertinent federal, state, and local laws, codes, regulations, and departmental policies governing the construction of assigned projects.

Engineering plans and specifications.

Principles and concepts of land surveying.

Occupational hazards and safety practices necessary in the area of public works maintenance and inspection.

Principles and practices of engineering construction inspection.

AutoCAD and ArcINFO and other related software and hardware tools.

Mathematical principles including algebra, geometry, and trigonometry.

Modern office practices, methods, and computer equipment.

Principles and procedures of recordkeeping.

Safe driving principles and practices.

Skill to:

Operate a wide variety of equipment and tools used in land surveying.

Use engineering and office instruments and computers including, but not limited to, engineering software and survey equipment.

Operate a wide variety of equipment and tools used in engineering construction inspection.
Operate a motor vehicle safely.

Ability to:

Observe and practice safe driving principles.
Review and analyze construction plans, specifications, and maps for conformance with City standards and policies.
Perform design projects effectively, efficiently, and in a timely manner to result in desired end products.
Apply laws, regulations, codes, and departmental policies governing land surveying.
Design projects effectively and efficiently and according to approved standards and procedures.
Prepare and maintain accurate and complete records.
Detect undesirable work results in a timely manner through inspections.
Prepare clear and concise technical records and reports.
Read and interpret engineering specifications.
Communicate clearly and concisely, both orally and in writing.
Establish, maintain, and foster positive and harmonious working relationships with those contacted in the course of work.
Prepare record drawings in a timely fashion.

MINIMUM QUALIFICATIONS

Experience:

Two years of professional engineering experience.

Training:

Any combination of education, training, and experience equivalent to a Bachelor's degree with major coursework in civil engineering.

License or Certificate:

Possession of a Professional Engineer's license is desirable.
An Engineer in Training certification is required if the employee does not have a Professional Engineer's license. Professional Engineer status must be achieved within three years.
Possession of a valid driver's license.

SPECIAL REQUIREMENTS

Essential duties require the following physical skills and work environment:

Ability to stand, walk, sit, climb, crouch, kneel, crawl, twist, stoop, squat, and to lift 50 pounds; exposure to cold, heat, noise, outdoors, vibration, confining work space, explosive materials, mechanical hazards, and electrical hazards. Ability to travel to different sites and locations.

Effective date: June 2007

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