

JUNIOR ENGINEER  
ASSISTANT ENGINEER  
ASSOCIATE ENGINEER (PE)

DEFINITION

To perform professional engineering work in the investigation, planning, design, construction, and maintenance/operation of a variety of public works facilities, systems, projects, traffic, floodplain and/or private development projects. Positions will be assigned a functional area. Periodically employees may be temporarily assigned duties of other functional areas or rotated based on operational needs.

DISTINGUISHING CHARACTERISTICS

Junior Engineer - This is the trainee level in the professional engineering series. Positions in this class possess the applicable educational background required of classes in the professional engineering series, yet typically lack practical professional engineering experience. Incumbents learn and perform less complex office and field engineering work in preparation for advancement to the Assistant Engineer level. Assignments are generally limited in scope and are performed within a procedural framework established by higher level staff. Employees work under immediate supervision while learning job tasks.

Assistant Engineer – This is the entry level in the professional engineering series. This class is distinguished from the Junior Engineer by the performance of the more routine tasks and duties assigned to positions within this class. Employees at this level are not expected to perform with the same level of independence of direction and judgment on matters allocated to the Associate Engineer. Since this class is typically used as a training class, employees have only limited professional engineering work experience. Employees work under general supervision while learning job tasks.

Associate Engineer (PE) - This is the journey level class within the professional engineering series. This class is distinguished from the Assistant Engineer by assignment of the full range of professional engineering duties. Employees at this level receive only occasional instruction or assistance as new or unusual situations arise and are fully aware of the operating procedures and policies within the work unit. Incumbents may exercise direct supervision over technical engineering staff.

This class is distinguished from that of the Senior Engineer in that the latter is an advanced journey level class responsible for complex and difficult engineering projects and programs and exercises direct supervision over professional engineering staff.

SUPERVISION RECEIVED AND EXERCISED

Junior Engineer

Receives immediate supervision from higher level engineering staff.

Assistant Engineer

Receives general supervision from higher level engineering staff.

Associate Engineer (PE)

Receives direction from higher level engineering staff.

May exercise direct supervision over technical engineering staff, as assigned

EXAMPLES OF ESSENTIAL DUTIES - Duties may include, but are not limited to, the following:

All Assignments:

Research project design requirements and perform routine calculations; conduct plan checks to ensure contractor and/or enforce compliance with City and various environmental regulatory standards; prepare time and material cost estimates, especially as related to existing or anticipated project budgets.

May delegate routine research, design, and drafting tasks to technical staff; review completed work and assist in identifying solutions for solving routine problems; research publications and industry information sources as needed.

Survey, map, and collect data related to area of assignment, as appropriate; perform field inspections, including survey work as necessary, to investigate and resolve routine field problems affecting property owners, contractors and maintenance operations; prepare estimates and feasibility reports for new or modified services and structures.

Participate in or prepare engineering studies and reports; participate in coordinating public works-related activities with other City departments, divisions, and sections, outside agencies, citizens, consultants, and developers; provide staff support to a variety of City boards, commissions, and committees as assigned.

Build and maintain positive working relationships with co-workers, other City employees, and the public using principles of good customer service.

Perform related duties as assigned.

When Assigned to Development Services:

Review private development construction documents related to City Engineering and Building Permits to ensure compliance with City standards and requirements as related to roadway design, traffic/transportation, systems. water/wastewater utilities, solid waste systems, storm drains, and storm water management

Review subdivision maps, parcel maps and public easements to ensure compliance with City standards and Subdivision Map Act.

Issue permits; review and process agreements, and review and process project related fees.

Coordinate with developers, design engineers, contractors and construction inspectors during project design and construction.

Attend and participate in meetings and provide creative solutions.

Provide customer service via email, and in person services.

Review, meet and condition newly proposed improvement projects as part of the entitlement process.

#### When Assigned to Long-Term Transportation Planning:

Perform transportation planning work of moderate difficulty; participate in development and implementation of city and regional traffic impact fee programs; review proposed development projects and calculate associated vehicle trips; prepare traffic impact fee estimates; analyze Traffic Analysis Zone (TAZ) trip capacities.

Coordinate with engineering staff to develop cost estimates for capital improvement projects; review construction invoices for accuracy and eligibility for reimbursement via traffic mitigation fee program funds; monitor construction status of capital improvement projects and maintain list of future capacity improvements to be funded via the city traffic impact fee program.

Serve as a liaison to City departments, other agencies, residents, businesses and project applicants on general traffic fee related matters.

#### When Assigned to Environmental Utilities:

Participate in or prepare plans and specifications for the design, construction, and maintenance/operation of a variety of environmental utility facilities and projects, including, but not limited to, water and wastewater utility and solid waste systems; ensure conformance to City standards and practices.

Gather and analyze a variety of technical data for feasibility; coordinate with subject matter experts as necessary to design effective solutions.

#### When Assigned to Floodplain Management:

Review development and building permits for conformance with City design standards, flood prevention ordinance, and impact to floodplains and provide comments.

Monitor stream levels and report potential flooding issues; monitor the City's Flood Alert System and oversee repairs and troubleshoot software issues.

Assist with the preparation of FEMA audit materials.

Assist with hazard mitigation plan updates including preparation of Request for Proposal,

participating in consultant selection, preparation of Council Communication, and assisting with data review and analysis.

Assist with the annual inspection of levee and floodwall systems.

Receive and respond to resident requests for flood hazard information regarding their property or prospective property and provide information regarding risk and mitigation options.

Review hydrology and hydraulic models for development plans for conformance with City design standards.

#### When Assigned to City Projects:

Prepare plans and specifications for the design, and construction of a variety of public works facilities and projects, including, but not limited to, streets, bridges, storm drains, bikeways and other City owned infrastructure; ensure conformance to City standards and practices.

Receive and respond to questions from the public regarding City projects.

Review permit applications from various local, State and Federal agencies; coordinate with outside consultant for the completion of the permit application process.

Serve as project manager for a variety of construction projects, ensuring compliance with City standards; coordinate with other City departments as required.

#### When Assigned to Traffic:

Participate in or initiate and complete traffic studies; evaluate sight distance, signage and striping; review and update traffic signal Improvement Standards; recommend corrective measures as warranted; design and bid minor signal improvement projects; generate and manage annual signal service agreements.

Perform signal and striping plan review for external projects.

Develop and implement systems for the collection and analysis of traffic engineering information such as accident records, traffic volume count programs, speed limits, road classifications, planning studies, design studies and operational studies and inventories.

Advise on traffic control, geometrics, signing and illumination; provide advisory assistance and technical guidance on traffic-related matters to interested parties.

### MINIMUM QUALIFICATIONS

#### Junior Engineer

##### Knowledge of:

##### All Assignments:

Principles and practices of professional engineering.

Basic surveying, drafting, computer-aided design and modeling techniques and technology.

Current developments and trends related to professional public works engineering.

Modern office procedures, methods and computer equipment, including use and application of word processing, spreadsheet, graphics, and database programs.

English usage, spelling, punctuation, and grammar.

Principles and practices of work safety.

When Assigned to Development Services:

Basic methods, materials, and techniques used in the design, construction, and maintenance/operation of private development programs and activities.

When Assigned to Long-Term Transportation Planning:

Basic processes and general practices of transportation planning, including a basic understanding of traffic modeling and nexus based traffic mitigation fee programs

When Assigned to Environmental Utilities:

Basic methods, materials, and techniques used in the design, construction, and maintenance/operation of utilities programs and activities.

When Assigned to Floodplain Management:

Principles of hydrology and hydraulics.

When Assigned to City Projects:

Basic methods, materials, and techniques used in the design, construction, and maintenance/operation of public works programs and activities.

When Assigned to Traffic:

Basic methods, materials and techniques used in the design, construction, and maintenance of traffic systems.

Ability to:

All Assignments:

Perform professional engineering computations and learn to check, design, and prepare engineering plans, studies, profiles, and maps.

On a continuous basis, know and understand all aspects of the job; intermittently analyze work papers, reports and special projects; identify and interpret technical and numerical information; observe and problem solve operational and technical policy and procedures.

On a continuous basis, sit at desk for long periods of time; intermittently bend, squat, climb, kneel or twist while performing field work; intermittently twist to reach equipment surrounding desk; perform simple grasping and fine manipulation; use telephone, and write or use keyboard to communicate through written means; and lift or carry weight of 10 pounds or less.

Use and care for engineering surveying instruments and computer equipment.

Learn modern office procedures and computer equipment and software such as AutoCAD, GPS, GIS, ArcView, ArcInfo and software related to specific department operations.

Learn and understand City standards and regulations and engineering policies and procedures.

Learn applicable laws and regulations related to area of assignment.

Learn to prepare accurate cost estimates and make related recommendations.

Learn to analyze and prepare technical reports.

Learn to obtain information through interview, to handle multiple assignments, to work with interruption, and to deal firmly and courteously with citizens, developers, consultants, and contractors.

Establish and maintain effective working relationships with those contacted in the course of work.

Prepare clear, complete, accurate, timely and concise written correspondence and reports. Communicate clearly and concisely, both orally and in writing.

#### When Assigned to Development Services:

Learn to apply principles and practices of professional engineering associated with the design and construction of water and wastewater utilities, grading, drainage facilities, storm water quality, building, plumbing and fire suppression, roadways, solid waste facilities, and traffic/transportation systems.

#### When Assigned to Long-Term Transportation Planning:

Learn to apply principles and practices of professional traffic engineering, transportation planning, and management and implementation of nexus based traffic mitigation fee programs.

#### When Assigned to Environmental Utilities:

Learn to apply principles and practices of professional engineering as applied to a variety of utility projects involving pipelines, lift stations, water and wastewater treatment facilities, storage tanks and related infrastructure.

When Assigned to Floodplain Management:

Learn to apply principles and practices of professional engineering associated with floodplain management.

Learn methods of hydrological and hydraulic modeling.

Learn to apply techniques for levee and floodwall inspection.

When Assigned to City Projects:

Learn to apply principles and practices of professional engineering associated with the design and construction of streets, storm drains, bridges and other public works facilities.

Learn to apply principles and practices of the planning process for planning-oriented projects in Public Works.

When Assigned to Traffic:

Learn to apply principles and practices of professional engineering associated with the design and construction of traffic systems.

Experience and Training

Experience:

No professional experience is required; one year of technical engineering experience is desirable.

Training:

A Bachelor's degree, at the time of appointment, from an accredited college or university, preferably with major course work in civil, environmental engineering or a closely related field.

License or Certificate

Possession of a valid California driver's license by date of appointment.

Assistant Engineer

In addition to the qualifications for the Junior Engineer:

Knowledge of:

All Assignments:

Methods, materials, and techniques used in the area of engineering assignment.

Procedures and requirements used in preparing and administering Federal and State grant applications.

When Assigned to Development Services:

Pertinent local, State, federal rules, regulations and laws related to the design and construction of water and wastewater utilities, grading, drainage facilities, storm water quality, building, plumbing and fire suppression, roadways, solid waste facilities, and traffic/transportation systems.

When Assigned to Long-Term Transportation Planning:

Standard processes and practices of transportation planning, including a strong understanding of traffic modeling and nexus based traffic mitigation fee programs.

Pertinent local, State, federal rules, regulation and laws related to the development, management, and implementation of nexus based fee programs

When Assigned to Environmental Utilities:

Pertinent local, State and Federal rules, regulations and laws related to the design and construction of utility projects involving pipelines, lift stations, water and wastewater treatment facilities, storage tanks and related infrastructure.

When Assigned to Floodplain Management:

Pertinent local, State and Federal rules, regulations and laws related to floodplain management.

When Assigned to City Projects:

Pertinent local, State and Federal rules, regulations and laws related to the design and construction of streets, storm drains, bridges and other public works facilities.

When Assigned to Traffic:

Pertinent local, State and Federal rules, regulations and laws related to the design and construction of traffic systems.

Ability to:

All Assignments:



Interpret and explain City policies, procedures, regulations and engineering policies and procedures.

Obtain information through interview, to handle multiple assignments, to work with interruption, and to deal firmly and courteously with citizens, developers, consultants, and contractors.

When Assigned to Development Services:

Check engineering plans and specifications; prepare and check engineering reports and studies involving private development programs and activities.

When Assigned to Long-Term Transportation Planning:

Apply principles and practices of professional traffic engineering and transportation planning.

Comprehend and understand nexus based traffic impact fee programs and participate in the development and implementation of these programs.

Prepare detailed construction cost estimates; review construction invoices for accuracy and track reimbursements.

When Assigned to Environmental Utilities:

Check engineering plans and specifications and prepare; check engineering reports and studies involving utilities programs and activities. Design and supervise design for water and wastewater treatment and conveyance facilities, solid waste and recycled water facilities.

When Assigned to Floodplain Management:

Effectively inspect levee and floodwall systems.

Understand and interpret hydrology and hydraulic modeling.

When Assigned to City Projects:

Check engineering plans and specifications and prepare; check engineering reports and studies involving public works programs and activities.

When Assigned to Traffic:

Check engineering plans and specifications and prepare; check engineering reports and studies involving traffic systems.

Experience and Training

Experience:

One year of responsible professional engineering work similar to that of a Junior Engineer with the City of Roseville.

Training:

A Bachelor's degree from an accredited college or university, preferably with major course work in civil, environmental engineering or a closely related field;

License or Certificate

Possession of a valid California driver's license by date of appointment.

Associate Engineer (PE)

In addition to the qualifications for the Assistant Engineer:

Knowledge of:

All Assignments:

Budgeting techniques and capital project management.

Pertinent local, State, federal rules, regulations and laws related to area of engineering assignment, including those specific to City policies and practices.

Computer-aided design and modeling techniques and technology.

Modern office procedures and computer equipment and software such as AutoCAD, GPS, GIS, ArcView, ArcInfo and software related to specific department operations.

Supervision, training, and evaluation of staff.

English usage, spelling, punctuation, and grammar.

Principles and practices of work safety.

When Assigned to Development Services:

Principles and practices of professional engineering as applied to a variety of private development projects.

Methods, materials, and techniques used in the design, construction, and maintenance/operation of private development programs and activities.

When Assigned to Long-Term Transportation Planning:

Standard processes and practices of transportation planning, including a strong understanding of traffic modeling nexus based traffic mitigation fee programs.

Pertinent local, State, federal rules, regulation and laws related to the development, management, and implementation of nexus based fee programs

Pertinent City, regional, and inter-agency traffic mitigation fee programs and policies.

When Assigned to Environmental Utilities:

Principles and practices of professional engineering as applied to a variety of water, wastewater, solid waste and recycled water utilities, projects.

Methods, materials, and techniques used in the design, construction, and maintenance/operation of utilities programs and activities.

When Assigned to Floodplain Management:

Principles and practices of professional engineering as applied to floodplain monitoring and management.

Methods, materials, and techniques used in the design, construction, and maintenance/operation of levees and floodwall systems.

When Assigned to City Projects:

Principles and practices of professional engineering as applied to a variety of public works projects.

Methods, materials, and techniques used in the design, construction, and maintenance/operation of public works programs and activities.

When Assigned to Traffic:

Principles and practices of professional engineering as applied to a variety of traffic projects.

Methods, materials, and techniques used in the design, construction, and maintenance/operation of traffic systems.

Ability to:

All Assignments:

On a continuous basis, know and understand all aspects of the job; intermittently analyze work papers, reports and special projects; identify and interpret technical and numerical information; observe and problem solve operational and technical policy and procedures.

On a continuous basis, sit at desk for long periods of time; intermittently bend, squat, climb, kneel or twist while performing field work; intermittently twist to reach equipment surrounding desk; perform simple grasping and fine manipulation; use telephone, and

write or use keyboard to communicate through written means; and lift or carry weight of 10 pounds or less.

Control a project from conception to completion with limited direction; plan and oversee permit acquisitions; lead the evaluations of consultants and contractors; manage contracts; manage funding and expenses throughout the project.

Plan, oversee permit acquisitions,

Demonstrate command of the City's design and construction standards and industry best practices.

Perform complicated plan reviews and communicate directly and independently with applicants to resolve issues.

Exercise independent judgement in resolving complex engineering issues during plan review or in the field, designing solutions as needed, and coordinate with inspection staff to resolve field conflicts.

Demonstrate thorough understanding of topside and underground improvement construction means and methods.

Interpret and apply City standards and regulations and engineering policies and procedures as well as applicable laws and regulations related to area of engineering assignment.

Prepare accurate estimates of costs, schedules, personnel/materials and other resources related to engineering project responsibilities; make recommendations related to existing or anticipated project budgets.

Work effectively with a variety of internal and external customers to accomplish goals and objectives; deal firmly and courteously with citizens, developers, consultants, and contractors.

Establish and maintain effective working relationships with those contacted in the course of work.

Prepare concise and understandable written reports, studies, and other written materials, including requests for qualifications/proposals

Prepare and present oral presentations to a variety of internal and external customers.

Select, train, review, and evaluate technical engineering staff, as assigned.

#### When Assigned to Development Services:

Independently perform the full range of professional engineering duties in support of private development projects with only occasional instruction or assistance as new or unusual situations arise.

When Assigned to Long-Term Transportation Planning:

Independently perform the full range of professional traffic engineering and transportation planning duties to monitor and administer city, local, and regional traffic impact fee programs; act as a technical expert and assist in the development and management of such fees.

When Assigned to Environmental Utilities:

Independently perform the full range of professional engineering duties in support of utilities projects with only occasional instruction or assistance as new or unusual situations arise.

When Assigned to Floodplain Management:

Independently perform the full range of professional engineering duties in support of floodplain monitoring and management with only occasional instruction or assistance as new or unusual situations arise.

When Assigned to City Projects:

Independently perform the full range of professional engineering duties in support of public works projects with only occasional instruction or assistance as new or unusual situations arise.

When Assigned to Traffic:

Independently perform the full range of professional engineering duties in support of traffic systems with only occasional instruction or assistance as new or unusual situations arise.

Experience and Training

Experience:

Two years of responsible professional engineering work similar to that of an Assistant Engineer with the City of Roseville.

Training:

A Bachelor's degree from an accredited college or university, preferably with major course work in civil, environmental engineering or a closely related field.

License or Certificate

Possession of a valid California driver's license by date of appointment.

Possession of a current certificate of registration as a Professional Civil Engineer or a

Professional Traffic Engineer in California by date of appointment.

09-15-23	
09-03-20	
01-29-20	
12-21-19	Junior Engineer/Assistant Engineer/Associate Engineer (PE)
08-24-18	
04-15-06	Junior Engineer/Assistant Engineer
10/20/03	
12-23-98	
06-27-95	
01-26-90	Assistant Engineer I/II
10-01-88	
07-01-79	
10-30-73	Assistant Civil Engineer
-67	
-65	
-64	Assistant Engineer