



SENIOR STRUCTURAL ENGINEER

JC: EF275
PB: 7
FLSA: Exempt

BU: 92 (NR)
Created: January 2001
Revised: June 2019

*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.*

DEFINITION

Under direction, performs complex professional structural engineering design project duties for the design and construction of District stations, buildings, foundations, supports, tunnels, and other structures; ensures work quality and adherence to established specifications; and performs related duties as assigned.

CLASS CHARACTERISTICS

This is the advanced journey level class in the Structural Engineer series. Positions at this level possess a specialized, technical or functional expertise within the area of assignment or may exercise lead supervision over assigned lower level staff. This class is distinguished from the Principal Structural Engineer in that the latter performs the most complex work assigned to the series or serves in a working supervisory capacity over lower level District or contracted staff.

REPORTS TO

This position reports to a higher level engineer or a manager.

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

1. Performs complex and advanced structural engineering duties in the preparation of structural engineering design plans and specifications for the District facilities such as stations, buildings, aerial structures, and other structures.
2. Performs engineering design calculations, prepares engineering design drawings and specifications, and construction cost estimates; provides design support during construction.
3. Inspects equipment or facility; analyzes and makes recommendations on engineering solutions for repair, modifications or maintenance.
4. Prepares and coordinates the preparation of construction feasibility studies and cost estimates; defines scope and develops conceptual plans; prepares structural engineering design project proposals for management review and approval.

Senior Structural Engineer

Page 2

5. Provides assistance in obtaining outside consultant services; schedules consultant proposal submissions; participates in evaluation of consultant proposals.
6. Coordinates engineering work with that of other engineering divisions and public agencies; administers control of required documentation for assigned structural engineering design project contracts.
7. As assigned, may participate in the selection of engineering staff; provides engineering guidance to lower level staff in their area of work including structural engineering design methods, procedures and techniques.
8. Reviews contractor submittals for conformance to drawings and specifications; interprets plan and specifications to construction staff; prepares design contract revisions and change orders.
9. Initiates and evaluates design and field engineering changes during construction; takes field measurements of completed items of work; inspects construction at substantial and final completion stages.
10. Prepares engineering reports, manuals and other correspondence related to work activities.
11. Participates in the preparation and administration of the structural engineering design program budget; submits budget recommendations; monitors expenditures.
12. Prepares analytical and statistical reports on operations and activities.
13. Attends and participates in professional group meetings; stays abreast of new trends and innovations in the field of structural engineering.
14. As assigned, conducts field inspections, site investigation and field materials testing duties.

QUALIFICATIONS

Knowledge of:

- Operations, services and activities of a comprehensive structural engineering design and construction program
- Principles and practices of structural engineering design and construction
- Principles and practices of project scheduling and management
- Principles and practices of project budgeting
- Principles and practices of engineering cost estimating
- Methods and techniques of field measuring and testing
- Advanced mathematical principles
- Principles and practices of contract preparation and administration and management
- Terminology, methods, practices, and techniques used in structural engineering report preparation
- Current office procedures, methods, and equipment including computers
- Specialized computer programs or systems utilized in structural engineering project design including CADD
- Principles of lead supervision and training
- Related building codes, regulations, and provisions

Senior Structural Engineer

Page 3

- Related Federal, State and local laws, codes and regulations

Skill/Ability in:

- Developing, reviewing, and modifying complex structural engineering design drawings, specifications, and plans
- Leading, organizing and reviewing the work of lower level engineering staff
- Interpreting and explaining District policies and procedures
- Developing engineering project work scopes, criteria, budgets and schedules
- Analyzing structural engineering problems, evaluating alternatives and recommending solutions
- Managing and administering structural engineering contracts
- Preparing clear and concise reports
- Performing field inspections and taking measurements
- Understanding and following oral and written instructions
- Communicating clearly and concisely, both orally and in writing
- Establishing and maintaining effective working relationships with those contacted in the course of work

MINIMUM QUALIFICATIONS

Education:

Possession of a Bachelor's degree in structural engineering or a closely related field from an accredited college or university.

Experience:

Three (3) years of (full-time equivalent) verifiable professional structural engineering experience.

License or Certificate

Registration as a professional engineer in the State of California.

Other Requirements:

- Must possess a valid California driver's license and have a satisfactory driving record
- Must be physically able to conduct field inspections and investigations as assigned

Substitution:

Additional professional experience as outlined above may be substituted for the education on a year-for-year basis. A college degree is preferred.

WORKING CONDITIONS

Environmental Conditions:

Office environment; field environment; construction site environment; exposure to noise, dust, grease, smoke, fumes, gases, heat, cold, and inclement weather conditions when conducting field inspections.

Physical Conditions:

Requires maintaining physical condition necessary for walking, standing or sitting for prolonged periods of time.

EEO-1 Job Group: 3000 - Engineers

Senior Structural Engineer

Page 4

Census Code: 1360 – Civil Engineers

Safety Sensitive: **N**